A COMPARISON BETWEEN METROPOLITAN AND NON-METROPOLITAN RESIDENTIAL MORTGAGE FINANCING IN BRITISH COLUMBIA

by

DAVID O. BURNS
B.A., University of British Columbia, 1973

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE
in Business Administration
in

THE FACULTY OF GRADUATE STUDIES
(Faculty of Commerce and Business Administration)

We accept this thesis as conforming
to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

November, 1977

In presenting this thesis in partial fulfilment of the requirements for an advanced degree at the University of British Columbia, I agree that the Library shall make it freely available for reference and study. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by the Head of my Department or by his representatives. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Department of Urban Land Economics, Faculty of Commerce & Business Administration

The University of British Columbia
2075 Wesbrook Place
Vancouver, Canada
V6T 1W5

Date November 29, 1977

ABSTRACT

It is the purpose of this study to explore regional variation in the source, allocation, and characteristics of residential mortgage financing in British Columbia. In order to do so, the study compares and contrasts mortgage funds from two groups of communities. The two groups of communitites are representative of the Greater Vancouver area and the outlying, 'smaller' or non-metropolitan communities. While the outlying municipalities are generally referred to as 'smaller' than the Vancouver municipalities, this is not necessarily the relevant characteristic. What is perhaps more important is that the Vancouver municipalities fall within a metropolitan region and the others do not. This study finds that significant regional variation in mortgage financing characteristics does not exist in all cases. Nonetheless, there does exist some variation which seems to be the result of two factors: (1) the variation in lender-type from the metropolitan area to the non-metropolitan community and (2) the relative price of housing in Greater Vancouver versus the non-metropolitan communities.

TABLE OF CONTENTS

LIST OF TABLES

ACKNOWLEDGEMENTS

I would like to express my gratitude to a number of individuals and agencies for their advice and co-operation during the course of this study. From the time of the initial inspiration for the topic until the days of the final completion of the study, Professor Stanley Hamilton contributed his invaluable guidance and support to this project. My utmost appreciation is extended to Dr. Hamilton for his many efforts. For providing access to their internal records and equipment, and also for taking the time to explain the system of document registration and data retrival, I would like to thank the Registrars and staff of the Land Resigry Offices in Nelson, Prince George, Victoria, and Vancouver. I am also grateful to Daniel Ulinder, David Baxter, and Peter Cahoon, whose combined computer expertise enabled the raw data collected in the Land Registry Office to be transformed into meaningful information. The final draft of this report was edited by David Dale-Johnson and typed by Juliet Hearty. I wish to extend my gratitude to each of them for their efforts. Finally, I wish to express my appreciation to the British Columbia Real Estate Association, whose support was instrumental in enabling this study to be undertaken.

CHAPTER I

INTRODUCTION

The term 'imperfect' has frequently been applied to both the mortgage market in particular and the urban land market in general. These markets are classified as imperfect for several reasons, most of which stem from the physical characteristics of real property; its durability, immobility, and heterogeneity. However, the mortgage market is not a market for a tangible good, but rather for financial assets. Consequently many of the factors which characterize the real property market as imperfect apply only indirectly to the mortgage market. Nevertheless there is one imperfection which applies equally to both markets and that is the lack of a system by which information pertaining to aggregate transactions can be quickly and reliably obtained.

The system of land registration in the Province of British Columbia does generate information relating to specific real property transactions, but it is unfortunately of little practical value since the current information is not assembled in any convenient or usable form. Nevertheless the information system does exist and can be invaluable in assisting empirical studies where one can be satisfied with analysing and predicting from historical data rather than requiring precise and immediate information on current market behaviour. Thus the behaviour of the residential mortgage market in the metropolitan Vancouver area has become increasingly well

documented over the last decade.[1] As yet, however, little information has been sought regarding mortgage market behavior within the smaller urban communities. Moreover, the literature which does exist tends to emphasize the distributional, rather than the allocational, aspects of mortgage financing.

---

[1]See Philip H. White, Prologue to an Analysis of the Residential Mortgage Market in Vancouver, (Vancouver, B.C.: The University of British Columbia, 1965). This paper undertook an empirical analysis of the distribution of mortgage financing by income classification in Vancouver.

CHAPTER II

PURPOSE

The purpose of this study is to examine the source, allocation, and characteristics of residential financing within smaller British Columbian communities and to compare these findings to similar data assembled for the metropolitan Vancouver mortgage market. The parameters upon which the inter regional comparison focus are:

i) The source of mortgage funds;

ii) The amortization periods of mortgage debts;

iii) The loan to value ratios on mortgaged properties; and

iv) The interest rate or yield on mortgage investments.

Through examination of the above characteristics, this study attempts to reveal any discrepancies which may exist with regard to the source, terms, and price of residential financing between larger and smaller communities and to discover if there exists any regional variation which would not appear to be justified in terms of the cost or risk of mortgage lending. Furthermore, as the existence of submarkets are recognized within local real property markets, this study is extended so as to compare mortgage activity between higher and lower income groups, thus allowing for the possibility that any observed regional discrepancy or inequity may be attributable to mortgage activity within a particular income group.

Considering the highly local nature of real property markets, the existence of such information is not only valuable but imperative in analysing the effectiveness and equity of both present and future government policies directed toward the residential mortgage market.

It is the hypothesis of this study that no significant differences exist in the price of residential mortgage financing between smaller communities and metropolitan areas. However, the source of mortgage financing differs between larger and smaller communities due to variations in the size of the respective markets and the resultant economies of scale available to prospective lending institutions. Furthermore, it is hypothesised that the loan to value ratios will be higher in the smaller communities due to their generally lower level of housing prices.

CHAPTER III

THE NATURE OF MORTGAGES AND REGIONAL MORTGAGE MARKETS

In order to provide the reader with a more complete understanding of the parameters on this study, and also of the various regional aspects of the mortgage market, it would be beneficial to briefly discuss the characteristics of the mortgage instrument and of the market in which those instruments operate.

a) The Mortgage Instrument

A mortgage may be defined as the transfer of property as security for the payment of a debt or the discharge of some other obligation for which it is given, the security being redeemable on the payment of discharge of such debt or obligation. A mortgage creates two interests in property, the mortgage and the right of redemption in the borrower to get his property back upon payment of the debt. In a mortgage agreement, strictly speaking, the lender or 'mortgagee' acquires legal title while the borrower or 'mortgagor' retains equitable title. Customarily the lender attains ownership and the borrower maintains possession of the property concerned.

From the lender's standpoint, there are two dimensions to the risk factor associated with the debt. First, there is the borrower's promise, and his ability, to repay the loan. Second, in the event of

default, there is the mortgaged property and its ability to provide sufficient proceeds upon sale to cover the outstanding principal plus the cost of foreclosure. It is not certain as to which of these two risk components, that is, the 'personal covenant' aspect or the 'property' aspect, weighs most heavily in the lenders' evaluation of aggregate risk. However, the view held here is in agreement with Philip White's summation that "while the immediate security is the borrower, the utlimate, and therefore the primary, security is the property."[1]

A lender can react to the risk associated with a given individual or the property concerned in one of two basic ways. He may either attempt to reduce the risk by improving the 'quality' of the loan, or he may respond to the risk by requiring a higher yield or 'price'. There are two basic parameters on the quality of a mortgage. First, there is the value of the loan in relation to the value of the security, which is commonly referred to as the loan to value ratio. The lower the loan amount as compared to the value of the property, the greater the lender's margin of security and therefore his ability to recover his investment in the event of default, all other things being equal. Second, there is the length of the amortization period, which is the length of time over which the debt is to be repaid. The shorter is this period, the more quickly the investment is recaptured and consequently the lower the risk. However the two measures of mortgage quality are not necessarily as straightforward as they seem. For example, a decrease in the amortization period would reduce the risk through

---

[1] White, P.H. Prologue to an Analysis of The Residential Mortgage Market in Vancouver (The University of British Columbia, Vancouver, B.C., 1965) p.7.

accelerating the rate of recovery. However, given that the monthly payments by the borrower would increase, the possibility of his default would also increase and consequently the 'borrower risk' would rise.[1] Similarily, a reduction in the loan to value ratio would reduce the 'property risk' by increasing the margin of security, but if the borrower is then forced to obtain additional, and more burdensome, financing elsewhere, then again borrower risk may increase.[2]

As an alternative to reducing risk, the lender may simply 'trade off' risk against yield. That is, a mortgage of a higher risk can be compensated for by a higher price, with the sole measure of a mortgage's price being the interest rate which it bears. Interest, of course, is simply the financial return on the lender's investment. It should be noted that although the standard measures of mortgage quality are amortization period and loan to value ratio, the true quality of a mortgage is measured by the total risk, which is attached to the individual borrower and the security he offers. Therefore a mortgage which appears to be of a high quality in that it contains a low loan to value ratio and a short amortization period may in fact be of a low quality if the terms were drawn in response to either a high risk borrower, a high risk property, or a combination of both. Consequently one cannot expect that a mortgage which appears by its terms to be of a high quality has been accepted by a lender for a low price, and conversely that a mortgage with low quality terms will necessitate a higher price. What should more often be observed is that the

---

[1] White, op. cit. p. 6.

[2] Ibid, p. 7.

price of a mortgage and the quality of its terms will be positively related, given that a lender will desire some compromise between price and quality. For example, when confronted by a mortgage offer perceived to be of a high risk, a lender would attempt to partially reduce the risk by improving the quality of the terms while also raising the price as compensation for accepting a somewhat risky asset.

In view of the above relationship between the risk, price, and terms of mortgage financing, any observed regional variation in the terms and/or price of mortgages is expected to be the product of a regional variation in either risk or efficiency. Therefore, an understanding of the relevant regional aspects of mortgage markets is necessary in order to ascertain whether in fact risk or efficiency should be expected to vary between metropolitan and non-metropolitan communities.

b) Relevant Aspects of Regional Mortgage Markets

One of the most important and frequently emphasized characterisitics of the urban land market is that it is local in nature. Consequently one observes not one but a multitude of geographically separated markets. The supply of housing units within any one of these areas is highly inflexible, due largely to the time consuming and costly construction process combined with the durability and immobility of the standing stock. As the price of housing is determined by the interaction of both supply and demand, one can observe considerable price variation among the separate geographical areas due to variation in demand, or more accurately, variation in the rate of demand change. Areas which are experiencing rapid growth will, in all likelihood, possess more highly priced housing than slower growing areas

where the marginal supply can more easily accommodate the marginal demand.

Capital, on the other hand, is highly mobile and given a comparable risk factor it will flow from low yield investments, and low yield areas, into higher yield areas. Consequently the price of mortgages is expected to be reasonably consistent across geographical areas, even though the price of the housing product may vary considerably. In the absence of government intervention, any observed geographical discrepancies in the relative price and quality of financing should be accountable either to higher risk factors associated with particular areas or to a lack of demand sufficient to noticeably lessen any local economies of scale and consequently raise per unit administration costs.

Insofar as the element of risk is concerned, there are sound economic reasons for believing that the risk factor on both the personal covenant and the mortgaged property does vary, not only with geographic location, but also with city size. An urban area's existence is dependent upon external markets. For example, a city whose basic industry is forestry must rely upon a continued external demand for its forest products in order for that city to survive. A long run decline in the world demand for wood products would not only endanger the employment of those individuals directly involved in that export industry, but also those employed in the tertiary sector which services that primary industry and its employees. If job opportunities in an area are reduced, then it naturally follows that the demand for housing, and the price of housing will also decline. Consequently an individual's ability to repay a mortgage debt

through his employment income, and also the value of the property which he offers as security, is directly related to the demand for the basic product of his community.

Generally speaking, the diversity of a city's economic base should increase with the size of its urban population, although the causal relation would run in the reverse direction, that is, the more diverse is the economic base, the larger is that aggregated base and consequently the larger is the population which it can support. Furthermore, there is a positive feedback to this process in that a larger city often offers more attractions to new industries seeking an area in which to locate. A larger and more diverse economic base, if for no other reason than strict probability, will be more stable than a less diverse base.[1] That is to say, in the absence of a general depression, the probability of the world demand for several products declining is considerably less than the probability of the demand for one product declining. Therefore the risk of property values and incomes deteriorating in a large community is generally less than that in a smaller community.

It may, however, be premature to conclude that lenders will respond to higher risk communities by raising the price and quality of mortgages. An individual, when purchasing ahome, is usually concerned not only with the dwelling's value in use but also its value as an investment. If persons perceive that the community's property values may decline, then theoretically they should react by substituting other goods and services for housing and thereby offering less for the property. Therefore the property risk factor should be at least partially reflected in the sale price of the

---

[1]For discussion of the relationship between regional stability and the diversity of the economic base see Ernest M. Fisher and Robert M. Fisher Urban Real Estate, (New York: Henry Holt and Co., 1954), Chapter 12.

home. Hence if lenders also raise the cost of financing then the same property risk factor will have been dicsounted twice. Similarly, when considering the borrower risk element, it is possible, if not probable, that an individual will 'hedge' on an offer to purchase if he feels that his job security and consequently his ability to repay the debt is in danger. Again, through an attempt to reduce the monthly payment, the price of housing should decline. The question of course is not only whether lenders would perceive that borrower risk and property risk has already been discounted in the price of housing, but also whether or not lenders would feel that a lower price of housing was in any way a compensation for regional risk.

c) Government Intervention

It was earlier mentioned that the real property market is an imperfect market. The high degree of government intervention and regulation affecting the real property market is partially a means of redistributing income and partially an attempt to offset some of the undesirable effects of market imperfection. As this study is primarily concerned with mortgage lending activity, it should suffice to briefly examine government policies in regard to the mortgage market rather than to the urban land market in general.

During the period covered by this study (1974), government participation in the residential mortgage market assumed two basic forms. The government was either indirectly involved through the provision of insurance on loans given by private institutions, or it was directly involved through acting as a lending institution. The indirect activity of the government

results through the application of the National Housing Act. (NHA). Under this Act the federal government, through its agency the Central Mortgage and Housing Corporation (CMHC), insures loans made by 'approved lenders'[1]. These 'NHA' loans are given at market interest rates over what are usually 25 year periods. As indicated in Table 1, the government insurance policy, and the consequent reduction in risk, has resulted in the market interest rate on NHA loans being generally slightly lower than the rate for non insured, 'conventional' loans[2]. The maximum financing obtainable with NHA loans is 95 percent of the first $47,000 of the 'lending value' and 75 percent of the balance up to a maximum loan amount of $55,000[3]. In 1974, the limit was $49,000. Loans are available on any houses which meet the minimum quality standards but, in the case of fairly expensive homes, the loan ceiling could result in the loan advanced accounting for a rather low portion of the total purchase price of the dwelling. In such cases the borrower may be obliged to seek secondary conventional financing. Nevertheless, the government insurance policy should effectively eliminate any risk differential among NHA mortgages given in various locations.

---

[1] 'Approved Lenders' are limited to those authorized under the provisions of the National Housing Act to receive NHA insurance on mortgages received.

[2] 'Conventional' loans are those which do not take place under the regulations of the National Housing Act.

[3] 'Lending Value' may be defined as a long term, conservative estimate of the worth of a piece of real property, devoid of any speculative item of value. Lending value need not equal either selling price or market value.

TABLE 1

INTEREST RATES, NHA VS. CONVENTIONAL

Interest Rates on Conventional Mortgage Loans

1971	9.94	9.72	9.28	9.20	9.25	9.34	9.46	9.53	9.55	9.55	9.26	9.10
1972	9.04	8.93	8.97	9.03	9.16	9.37	9.41	9.41	9.38	9.35	9.30	9.22
1973	9.09	9.02	9.07	9.15	9.30	9.52	9.71	9.91	10.13	10.13	10.08	10.02
1974	10.02	10.01	10.04	10.70	11.26	11.37	11.60	11.85	12.05	12.05	12.00	11.88
1975	11.81	10.95	10.65	10.67	10.99	11.23	11.35	11.52	11.94	12.15	11.97	11.89

NHA Interest Rate on Approved Lenders Home-Ownership Loans

1971	9.65	9.47	8.98	8.84	8.79	8.80	8.88	8.99	9.05	9.09	9.05	8.91
1972	8.83	8.76	8.79	8.78	8.83	8.98	9.02	9.08	9.06	9.14	9.08	9.00
1973	9.06	9.00	9.02	9.01	9.07	9.25	9.42	9.59	9.72	9.98	9.80	9.88
1974	9.90	10.09	10.05	9.97	10.56	10.69	11.23	11.29	11.77	11.64	11.80	11.75
1975	11.68	11.02	11.04	10.40	10.52	10.68	10.90	11.16	11.32	11.55	11.90	11.89

*Source: Canadian Housing Statistics 1976 (Ottawa: CMHC).

Where borrowers were unable to secure mortgage funds from approved lenders, CMHC has been permitted to make a direct loan (NHA, Section 58) to individuals, provided all conditions prescribed for loans by approved lenders are met. This policy, called the Assisted Home Ownership Programme (AHOP), was intended to assist lower income families with one or more dependent children to become owners of adequate, but inexpensive, housing. The programme required an income check and introduced the concept of a 'basic house'. A 'basic house' came to be defined as the least expensive, adequate new unit that the local building industry could provide. Hence, housing price limits were established in Canadian communities for AHOP loans. (Unlike the NHA insured loan programme, where the limit applies to the amount of the loan, the AHOP limit applies to the selling price of the house.) The objective of AHOP was to enable families to own a house without spending more than 25 percent of their gross income in meeting the monthly costs of mortgage loan repayments and municipal property taxes. Under the AHOP policy, the borrower could obtain up to 95 percent financing at a lower than market interest rate and amortized over a 35 year period.

Although it is not a government institution and thus does not fall into the general category of government intervention, the operation of the Mortgage Insurance Corporation of Canada (MICC) should at this point be mentioned. The MICC is a private institution which, at a price comparable to that of the NHA, provides insurance on conventional loans. Although the MICC has been in existence since 1963, it was not until the early 1970's that it became a significant participant in the mortgage market. As MICC

is becoming increasingly active in the field of mortgage insurance, the regional risk differential on conventional mortgages is also becoming eliminated. Moreover, the current success of the MICC would suggest that this trend will continue in the future.

CHAPTER IV

A REVIEW OF PRIOR RESEARCH

The existing literature on the subject of inter regional mortgage financing is sparse, and for the most part is concerned with distributional rather than allocational questions. Nevertheless, a few studies have been conducted which do warrant some attention as they would provide the reader with a perspective in which to view the present study.

One of the few studies which utilizes British Columbian, or for that matter Canadian, data was conducted in 1965 by Professor Philip White and entitled "A Prologue To The Analysis Of The Residential Mortgage Market In Vancouver." The purpose of Professor White's study was to investigate the extent to which mortgage terms are distributed in a disproportionate manner among borrowers with varying levels of income. Although the purpose of the present study is to investigate inter regional, rather than inter income group mortgage activity, Professor White's study is nevertheless worthy of mention here for at least two reasons. First, both studies examine, from an allocational viewpoint, the behaviour of the Vancouver residential mortgage market, although Professor White's work does examine income group variation in considerably greater detail in that it is the primary focus of his effort, while being more of a secondary concern to the present study. Second, the method employed in the two studies is very similar, with perhaps the only significant exceptions being the earlier

study's more extensive investigation of income groups, and the fact that the former study was performed on first mortgages only while the current examination pertains to all forms of residential mortgages. The general conclusion of Professor White's investigation is that the attractiveness of mortgage terms varies directly with the borrower's level of income. That is, on the average, interest rates decline, amortization periods lengthen, and loan to value ratios increase as the level of borrower income increases. Of greater interest to the present study, the discrepancy between the treatment of income groups was found to be unjustified in terms of the risk and cost of mortgage lending.[1] Consequently it would appear as though monetary markets may indeed be imperfect, and could thus fail to respond equitably to regional circumstances.

In 1970, William Alberts and Allen Jung presented the results of a study which, at least in purpose, more closely resembles the present work. The purpose of the Alberts and Jung study was "to determine empirically the structure of interest rates ... in 'large' and 'small' cities ... "[2] Alberts and Jung attempted to provide some indication of the validity of an earlier hypothesis proposed by Jones and Grebler that, in most regional mortgage markets, interest rates charged on given residential mortgage loans in the smaller cities will usually be significantly greater than

---

[1]White, op. cit., p. 21.

[2]Alberts, W. and Jung, A., "Some Evidence of the Intra-Regional Structure of Interest Rates on Residential Mortgage Loans," Land Economics, May, 1970, p. 208.

interest rates charged on comparable loans in the large cities, in part because the allocation of funds for loans of a given quality between the larger and the smaller cities tends to be inefficient, and in part because the marginal cost of making a loan of a given quality tends to be greater in smaller cities than in larger cities.[1]

The Alberts and Jung study was conducted using several regions of the United States, each region containing both 'large' and 'small' cities. The present study, on the other hand, considers a 'region' to refer to either a metropolitan or non metropolitan area. Therefore, the Alberts and Jung use of the term 'intra-regional' is at all times analogous to present study's use of the term 'inter-regional'. Alberts and Jung concluded that "there is a biased structure of interest rates . . . in regional mortgage markets . . ., and they are consistent with the existence of systematic intra-regional differences in the cost of lending. But they do not offer impressive support to Jones and Grebler's implicit contention that a central mortgage bank could significantly reduce these differences by, in effect, arbitrating large and small cities. But before final judgement can be passed on their hypothesis we shall have to know considerably more about the intra-regional flow of mortgage funds than we know now . . . we shall need to discover precisely what intra-regional lenders perceive to be the intra-regional differences in the cost of lending. Finally, we shall need to develop a clearer understanding of the line that

---

[1]Jones, O. and Grebler L., The Secondary Mortgage Market (Los Angeles, California: Real Estate Research Program, University of California, Los Angeles, 1961), pp. 24-25, 49.

separates friction from inefficiency in the operation of regional mortgage markets . . . "[1]

In 1973, Manfred Peterson performed a follow up to the Alberts and Jung study. Peterson's purpose was "to present evidence on the existence of differences in gross yields on mortgages between urban and rural areas and to test whether any observed yield differentials remain after controlling for the direct costs of mortgage lending."[2] By taking into account the direct costs of mortgage lending, Peterson attempted to separate the dual contention of the original Jones and Grebler hypothesis that (1) the intra regional flow of funds from densely populated to remote areas is inefficient, and/or (2) mortgage lenders in remote areas are less efficient, that is, have higher costs, than lenders in more densely populated areas. The conclusion of the Peterson study was that "the gross yield results correspond closely to those of Alberts and Jung, indicating the existence of higher mortgage rates in rural than in urban areas . . . No significant differences in yields net of operating costs were found. This supports the conclusion of Alberts and Jung that there is no evidence to suggest that a central mortgage bank, operating through secondary markets, is necessary to reduce intra regional differences in mortgage rates. The results do provide some limited evidence on the higher costs of mortgage lending in rural areas. This suggests that policy designed to reduce rural-urban differences in mortgage rates should concentrate on

---

[1]Alberts, W. and Jung, A., op. cit., p. 213.

[2]Peterson, M., "Some Evidence on Intra-regional Differences in Yields and Costs of Mortgage Lending," Land Economics, Feb., 1973, p. 96.

promoting a structure of financial institutions which will encourage efficiency of lenders in rural as well as ubran areas, and ensure that mortgage borrowers will benefit from the increased efficiency. If significant economies of scale in mortgage lending exist, and if these economies accrue to the firm rather than to the individual plant, a branch banking system may successfully decrease any intra regional differences in operating efficiency. However, this does not guarantee that the benefits of greater efficiency, if any, will be passed on to mortgage borrowers in the form of lower mortgage rates, since a branch banking system could practice price discrimination against borrowers in rural areas."[1]

It should be noted that both the Alberts and Jung study and the Peterson study were conducted using U.S. data, whereas the present study uses Canadian data. The Peterson suggestion that a branch banking system may reduce the price differential between urban and rural areas is therefore of particular interest as the Canadian banking system in undoubtedly a branch system, as there are only eight banks in Canada as compared to over thirteen thousand in the United States.

---

[1]Peterson, M., op. cit., p. 98-99.

CHAPTER V

METHODOLOGY OF THE STUDY

It is the focus of this study to discover and explain any variation in mortgage activity between cities which form part of a larger metropolitan area and those which constitute the less populated and more isolated urban areas generally described as 'smaller communities.' For the purpose of simplicity, cities of the former type are referred to as 'Region 1' while cities of the latter type are designated as 'Region 2.' The Region 1 data were obtained solely from the Vancouver Land Registry office and relate to Vancouver City, North Vancouver City, North Vancouver District, and West Vancouver. The Region 2 data were provided by three separate Land Registry offices. From the Land Registry office in Nelson, data were obtained on the cities of Nelson, Castlegar, and Cranbrook. The Land Registry in Prince George provided the data for Prince George and Fort Saint John. Information pertaining to Courtney, Campbell River, Port Alberni, and Parksville was obtained from the Land Registry in Victoria.

The system for registering and recording mortgage transactions is relatively consistent for the various Land Registry offices. As each document is submitted for registration as a charge against the property concerned, it is issued a registration number and placed on file. After a period of several months, the documents are photographed and held on microfilm. Both the actual documents and the microfilm copies are filed in

order of their registration numbers, which are in turn dependent upon the time at which the documents were registered. Consequently all types of charges against property, such as deeds, mortgages, agreements for sale, leases, easements, and debentures are intermingled. Furthermore charges against properties located in all of the various cities and districts within the jurisdiction of the respective Land Registry are similarly intermingled. Therefore, in order to view the mortgages from a particular city, one must inspect all of the charges against all of the properties within the jurisdiction of the Land Registry concerned.

It should also be mentioned that the certificates of indefeasible title are not, in essence, charges against property and are thus filed separately in order of the property's legal description. As a result of this separate filing, it is difficult to ascertain the rank which should be assigned to the various mortgages. Fortunately, in the majority of cases involving a change of ownership, the deed and the respective mortgages are submitted for registration simultaneously, and thus are registered in juxtaposition by order of legal precedence.

The procedure for collecting the data was relatively simple, although very time consuming. Depending upon the availablility of microfilm reading machines, and also upon whether the documents had yet been filmed, the registered documents were either examined directly or viewed on microfilm. Prior to commencing the gathering of the data in each land registry, the total number of documents recorded in that registry for 1974 was estimated, along with an approximation of the number of documents which could be viewed per day. The sample percentage for each land registry was

then set so as to permit the data to be gathered in a period of about three weeks. As time was a constraining factor affecting the quantity of data which could be obtained from each land registry office, the samples from the various cities differ in regard to both their absolute size and their percentage representation. Within Region 1, the sample size consistently represented 10 percent of the total, while in Region 2, the sample representation was 20 percent for the four cities studied from Victoria, 50 percent for Prince George and Fort St. John, and 100 percent for Nelson, Castlegar, and Cranbrook. The total sample size was 2850, consisting of 1529 from Region 1 and 1321 from Region 2.

In order to qualify to form part of the sample, a document had to fulfill all of the following conditions:

- be a mortgage or an agreement for sale
- have the appearance of being a residential mortgage (all mortgages where the mortgagor was not a private individual, all mortgages over $100,000 in Region 2, and all mortgages over $150,000 in Region 1 were rejected)
- the subject property must be within the boundaries of the cities which were being examined
- the mortgages must have the appearance of being an arm's length transaction
- the mortgage must have an amortization period of at least one year.

Having located a document which fulfilled the above requirements, the following information was recorded:

- registration number
- city
- mortgage amount
- interest rate[1]

---

[1]As it is not the practise of Canadian lending institutions to bonus or discount mortgages in the primary mortgage market, it is felt that the contract rate appearing on the mortgage document is a valid representation of the effective cost for the type of mortgage loan sampled.

- monthly payment
- lender
- date

In addition to the above data which were extracted from the mortgage document, information regarding sale price and mortgage type was required. This latter data had to be obtained from the deed, which presented certain problems. As was mentioned earlier, in most instances where the mortgage was issued in conjunction with a property transaction, the deed was registered immediately prior to the mortgage. In such cases the 'declared value' of the deed was used as the sale price and recorded along with the mortgage information. It is felt that this procedure is reasonably accurate, for in the vast majority of transactions the sale price is used for the declared value. The mortgage, when accompanied by the deed, could also be identified as being either a first charge or, where two mortgages were registered, a first and second charge. However, if the deed does not accompany the mortgage(s), the only way in which the mortgage type and sale price can be determined is to record the legal description and subsequently refer to the certificate of indefeasible title. As these mortgages constitute nearly one-half of the qualifying documents, time prohibited title searching. Therefore the mortgages which were unaccompanied by a deed were simply 'flagged' as 'miscellaneous' and the sale price omitted. The miscellaneous category can thus include all types of mortgages, including first mortgages, second mortgages, mortgages of equity and refinancing.

In order to enable an appropriate calculation of the loan to value ratio on second mortgages, one of two procedures was followed. If the

mortgage was registered immediately subsequent to the first mortgage, then the amount of the first mortgage was denoted and added to the amount of the second when calculating the loan to value ratio for the second mortgage. However, if the second mortgage was issued in conjunction with the assumption of an existing first mortgage, then the original document had to be located and the necessary data extracted in order to ascertain the outstanding balance at the time of assumption, that amount being then denoted and added to the amount of the second mortgage when calculating the loan to value ratio.

The mortgage data were segregated on four basic parameters--region, lender type, mortgage type, and market. Originally the computer was programmed to segregate the data by city, rather than by region, but this resulted in sample sizes which were, as often as not, too small to provide reliable statistics. Consequently the thirteen city breakdown was changed to a two region breakdown, with the sample observations simply being assigned to their appropriate regions.

In order to examine the relative activity of the various lenders, the data were segregated into the following lender classifications: pension funds and co-ops, banks, life insurance companies, trust companies, mortgage loan companies, credit unions, CMHC, real estate companies, finance companies, and private individuals. (The CMHC lender classification at all times refers to CMHC direct lending under AHOP.) The private individual class was further broken down so as to reveal whether the mortgagee was the vendor of the property concerned, and also whether the mortgage was in the form of an agreement for sale. Data were also obtained on British Columbian Government second mortgags but, due to the irregular nature of these mortgages,

they were separated from the general body of data and retained for subsequent analysis.

The data were also segregated by way of the mortgage type so as to allow regional comparisons to be made of first mortgages, second mortgages, and the miscellaneous classification. In addition to examining the preceeding three mortgage types in isolation, the first and second mortgages were aggregated, as were the total mortgages.

The final manner of segregation pertains to what is here referred to as 'market type.' Subsequent to separating the data into various lender classifications, the lender types were aggregated so as to allow broader comparisons to be made. However, three separate market categories were formed. The first category contains the entire lender spectrum and is thus referred to as 'total market.' The second classification excludes the activity of the CMHC and is hence labelled as the 'private sector.' The third category excludes both the CMHC and the private individuals and is thus denoted as the 'private corporate sector.'

An additional programme was designed to examine the data with a view to discovering any possible regional variation in the treatment of higher and lower income groups. As an examination of income groups was an afterthought to the original study, no information had been obtained which would permit the application of census data to the observations. Therefore, the sale prices of the properties were used as estimates of the mortgagors' incomes. Recalling that the miscellaneous mortgage category contained no information relating to sale price, the income group examination could only be applied to the first and second mortgage classifications. The method by

which the sale prices were utilized to approximate mortgagor income was as follows: The mean sale price was calculated for each city in each month. Obtaining the mean for each city is felt to be necessary in order to avoid the possibility of comparing high priced cities to low priced cities, which could easily result if the entire region was treated as a unit. It was also felt that each month must be viewed separately in order to avoid comparing the high priced and low priced months. These several means having been calculated, the data were simply assigned to one of two groups depending upon whether the sale concerned was above or below the mean sale price for its particular city and month combination. Consquently only two groups, higher income and lower income are examined.

As it is the primary focus of this study to compare regional mortgage activity, rather than to compare income groups, the income group portion of the study is admittedly somewhat limited. As was stated above, the method for estimating mortgagor income results in a simple 'two group' approach for each region, rather than giving attention to a wider range of income classifications, while also enabling only first and second mortgage data to be examined. Furthermore, the various lender types are at all times aggregated so as to produce figures for only two market types, being the total market and the private sector. However, the most serious drawback of the income examination is the underlying assumption that the sale price is an accurate estimate of mortgagor income. Within any given city, this assumption is perhaps valid as the method of 'income averaging' by neighbourhood which is used by the census authorities.[1] However, between various cities the sale price method has a definite weakness, as it implies

---

[1]Statistics Canada, Dictionary of 1971 Census Terms, (12-540), Ottawa: Information Canada, 1974.

that an individual who purchases a home for $25,000 in one city would, with the same income, purchase a unit worth $40,000 in some other city. Unfortunately, the data available allow for little in the way of an alternate method of income estimation. Nevertheless, the rather dubious nature of the assumption should be borne in mind when analysing the results of the income data.

In all cases the data were weighted in respect to dollar amounts. For example, when calculating mean interest rates, each mortgage was weighted by its respective dollar value, rather than treating each mortgage as a single and equal observation. Furthermore, whenever the sample size was large enough to render the approach feasible, equal weighting was given to each month. That is, rather than treating the year as a unit, the yearly mean was determined by calculating the average for the various monthly means. (If the number of months for which data was available was less than ten, this method was not employed.) The reason for utilizing this approach was to minimize the possibility of any observed regional variance being simply the result of lending activity occuring at different times in different regions. In addition, the means produced by considering the year as a unit are also provided. As can be seen, the direction and magnitude of regional variance is, in the vast majority of cases, quite similar, with only the absolute values differing as a result of the method employed. However, as it is here believed that the figures produced by the monthly method are probably the most reliable, it is to those figures that references are made.

CHAPTER VI

RESULTS

a) The Sources of Mortgage Funds.

Inspection of Table 2 reveals what is perhaps the most noticeable discrepancy between Region 1 and Region 2, which is the significant variation in the source of mortgage financing. Examining Table 2, column (b), which shows the relative source of private sector funds, one is immediately confronted by the over-powering presence of the chartered banks in Region 2. With the banks possessing 54 percent of the regional private market, no other single lender type can manage to provide over 10 percent of the Region 2 financing, with the possible exception of private individuals who, when aggregated, supply 11 percent of the private sector funds. In Region 1, on the other hand, the banks' share is considerably lower at 30 percent, while the trust companies' portion rises from a Region 2 position of 8 percent to a Region 1 share of 27 percent, almost equalling that of the chartered banks. With the single exception of the mortgage loan companies, the percentage of the market of each non-bank private lender is higher in Region 1 than in Region 2 and, upon closer inspection, this solitary exception appears to be caused by the high level of activity of the Canada Permanent Mortgage Co. in Prince George, which accounts for 44 percent of the Region 2 mortgage loan company funds. Therefore, the very high market portion attributable to the banks in

TABLE 2

SOURCE OF MORTGAGE FUNDS

(share of sample)
(lender type/market type/region)

	(a)		(b)		(c)		(d)	
	Total Market		Private Sector		Private Corp. Sector		1st Mortgages only	
	Reg. 1	Reg. 2	Reg. 1	Reg. 2	Reg. 1	Reg. 2	Reg. 1	Reg. 2
Pensions Co-ops	.007	.004	.007	.004	.008	.005	.01	.004
Banks	.29	.50	.30	.54	.35	.60	.29	.55
Life Insurance Companies	.016	.003	.017	.003	.02	.004	.02	.005
Trust Companies	.27	.075	.27	.08	.31	.09	.30	.06
Mortgage Loan Companies	.04	.09	.04	.096	.05	.108	.03	.07
Credit Unions	.15	.09	.15	.10	.18	.11	.13	.05
CMHC	.015	.08					.02	.12
Real Estate Companies	.06	.05	.06	.055	.07	.06	.04	.02
Private -non vendor	.04	.03	.04	.035			.01	.01
Private -vendor	.05	.05	.05	.046			.07	.06
Private -agreement for sale	.04	.026	.04	.03			.07	.04
Finance Companies	.01	.01	.01	.01	.01	.01	.002	.007
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Region 2 appears to exist at the expense of all other private lender types, the trust companies being clearly the most pronounced.

The only other significant difference between the two regions concerns the relative activity of the CMHC as a source of mortgage financing. If one considers Table 2 column (a), which includes the CMHC's direct participation in the mortgage market, one can see that the CMHC provides a significant proportion of Region 2's funds. Supplying 8 percent of the total regional financing, the CMHC is one of the prominent sources of non-bank funds. Furthermore, if one considers Table 2 column (d) which gives the source of first mortgage only, it is observed that the CMHC is second only to the banks in the provision of first mortgages to Region 2, and moreover, the CMHC supplies nearly twice the market percentage than does any other non-bank lender type. Conversely in Region 1 the CMHC's portion of the market is an insignificant one and a half percent.

The apparent explanation for this discrepancy concerns the relative price of housing between the two regions. For the time period represented by the data (1974), the limit on the purchase price of a qualifying property under AHOP programme was $30,000 in Region 2 while the mean sale price, being $27,877, was 7 percent below that limit. Although in Region 1 the qualifying limit was $40,000, the mean sale price was $48,930, which was 22 percent above the CMHC limit. Consequently the percentage of homes which were eligible under the AHOP policy was considerably greater in Region 2 than in Region 1.

In an attempt to further support the above argument, a correlation coefficient was calculated to indicate the relationship between the CMHC's

percentage share of the market and the variance between the mean sale price of housing and the AHOP limit for each of the thirteen cities examined. The result was a coefficient of -.49, which tends to support, though rather weakly, the contention that the regional variance in the CMHC's lending activity is at least partially a result of inappropriate eligibility limits on the sale price of qualifying units. However, directly correlating the CMHC's percentage of the market with the mean sale price of housing produces a coefficient of -.58. Given that the correlation between the explanatory variables themselves is over +.9, one is now faced with several possible explanations for the CMHC's varying presence in the regional mortgage markets. First, all of the -.49 coefficient could simply be the result of the strong relation between the two independent variables, with the variance between housing prices and the AHOP limit in itself having no causal effect. Second, a large portion of the -.58 coefficient could result from the high correlation between the two explanatory variables, with the mean sale price of housing for its own part accounting for little of the causal effect on the CMHC's involvement. The third possibility, of course, allows for any combination in the range between the first two possibilities. It should be emphasised, however, that any attempt to argue that the CMHC's regional variance is all or in part a result of the regional variance in the price of housing must be accompanied by an explanation as to why housing prices would effect the CMHC's participation in the community market. If housing prices appear to relate to CMHC activity beyond what can be accounted for by the relationship between housing prices and AHOP limits, then possibly the relation between housing

prices and regional income may account for a portion of the CMHC variance.

b) Amortization Periods

Unlike the rather pronounced variation observable in the source of mortgage funds, a comparison of the amortization periods shown in Table 3 indicates that there is little if any difference between the repayment periods prevalent in the two regions. Whether one chooses to consider the markets in total, or whether one examines the results with the CMHC and/or the private individual lenders removed, the differences are very slight. With the singular exception of second mortgages considered in isolation, the amortization periods never differ by more than a year, and on the average they differ by considerably less that a year. The analysis of variance for amortization periods between the two regions produces an F ratio of .87 significant only to the .65 level of confidence. One may therefore conclude that individuals in aggregate receive similar treatment with respect to loan amortization regardless of whether they reside in smaller communities or larger urban areas.

However, it should be noted that where amortization differences exist, slight as they are, they tend to be both consistent and explainable. Wherever one includes the CMHC activity, the amortization period of Region 2 exceeds that of Region 1. Wherever the CMHC lending is removed, the difference, although still minimal, is in the opposite direction. That is to say, the practise of CMHC lending 'tips the scales' from being slightly in favour of the smaller communities. This, or course, is due to the subsidized terms of AHOP combined with its more extensive application in Region 2.

In order to further examine the effects on amortization periods of lender participation within the two regions, the analysis of variance was extended so as to control lender types. The result of this control was to increase the F ratio to 18.29, significant above the .999 level of confidence. Therefore there is a considerable amount of variation of amortization periods among lender types within regions, which supports the contention that the slight regional variation of amortization periods is the result of variation in the types of lenders active within the two regions.

In an attempt to ascertain whether the regional variation in amortization periods could be the result of regional variation in the extent to which NHA or privately insured loans are employed, an analysis of variance was applied which controlled for loan to value ratios. The reason for controlling loan to value ratios in order to test the effects of insured loan utilization is based on the assumption that lenders will not lend above 75 percent of the value of a property unless the mortgage is insured either privately or through the NHA. When controlling for loan to value ratio, the analysis of variance produced an F ratio of .45, significant at the .5 level of confidence. It would therefore appear the amortization periods do not vary as a result of insured lending policies.

The only truly noticeable discrepancy in the observed amortization periods between the two regions is found in the comparison of second mortgages, where Region 1 is shown to receive substantially longer amortization

TABLE 3

AMORTIZATION PERIODS (YEARS)
(mortgage type/market type)

	Total Market		Private Sector		Private Corp. Sector	
	Region 1	Region 2	Region 1	Region 2	Region 1	Region 2
First Mortgages	23.29	24.1	23	22.72	23.37	23.09
Second Mortgages	19.57	14.20	19.57	14.20	18.35	15.55
Misc. Mortgages	18.77	18.23	18.77	18.23	19.07	18.46
First plus Second Mortgages	23.15	23.84	22.87	22.48	23.26	22.97
Total Mortgages	21.55	21.66	21.35	20.70	21.60	21.00

periods. The aforegoing analysis of variance indicates that this is not the result of the abscence of insurance policies on second mortgages. Therefore the only conceivable explanation for the regional difference between second mortgage loans would stem from the higher price of housing in Region 1. Due to the existence of 'loan ceilings', borrowers in Region 1 are more often forced to seek secondary financing, while still remaining within acceptable gross debt service and loan to value ranges. Therefore the amortization periods on Region 1 second mortgages would more closely resemble those of first mortgages. However in Region 2 the lower price of housing reduces the necessity to use secondary financing. Where secondary financing is required, it could more often result from GDS and loan to value limitations on the first mortgage. Therefore the higher risk of secondary lending in Region 2 could serve to shorten the amortization periods allowed.

c) Loan to Value Ratios

Examination of the prevalent loan to value ratios indicates what is undoubtedly the most significant difference, at least from the consumers' viewpoint, between the two regions. Table 4 reveals that the loan to value ratio of Region 1 is between .69 and .7 while that of Region 2 is an absolute 12-13 percent higher, being between .81 and .83, depending upon whether or not one includes the CMHC mortgages. The analysis of variance produces an F ratio of 259.26, significant at well above the .999 level of confidence. The difference can be most fully appreciated when one views it in terms of the respective down payment requirements in the two regions. Referring to Table 6, the mean sale price of a home in Region 2

TABLE 4

LOAN TO VALUE RATIOS

(mortgage type/market type)

	Total Market		Private Sector		Private Corp. Sector	
	Region 1	Region 2	Region 1	Region 2	Region 1	Region 2
First Mortgages	.70	.83	.69	.81	.70	.82
Second Mortgages	.59	.75	.59	.75	.54	.72
First + Second Mortgages	.70	.83	.69	.81	.70	.82

is approximately $27,877 with the mean mortgage amount being $23,138. The required down payment is therefore $4,739. However, the mean sale price of a home in Region 1 is $48,930 with the mortgage being $34,250, thus the down payment remainder is over three times that required in Region 2.

The reason for the substantial difference in equity requirements is probably multifold. First, the upper limit on NHA insured loans in the smaller communities during the period considered was $30,000, while the mean sale price was $27,877, which allows a significant margin within which lenders can provide high ratio financing and still remain within the eligibility limits for NHA insurance. On the other hand, the mean sale price in Region 1 for the same period was $48,390 while the NHA lending limit was only $40,000. Although the limit was higher in Region 1 than in Region 2, the increase was not sufficient to offset the considerably higher price of housing. In Region 2 the lending limit was $2,123 higher than the mean sale price, while in Region 1 the limit was $8,930 lower than the mean sale price. A reluctance on the part of borrowers to procure higher interest conventional loans, or a similar reluctance by lenders to accept the higher risk debt during a period of 'tight' monetary supply could, assuming that a significant portion of the conventional loans were not privately insured, partially account for the regional discrepancy in loan to value ratios.

Another feature of the National Housing Act which could in part account for ther higher loan to value ratio of Region 1 is the gross debt service requirement which states that the maximum allowable yearly payment shall not exceed 30 percent of the mortgagor's annual gross income. There-

fore, regardless of the ceiling on the loan amount, the higher monthly payments associated with larger mortgages would effectively constrain the amount of funds which a lender could provide to an individual who chooses to purchase a more highly priced unit.

There is another form of government invervention, unassociated with the dictates of the National Housing Act, which may also account for a portion of the regional discrepancy in equity requirements. During the time period considered, the central bank, through 'moral suasion,' was discouraging institutional lenders from exceeding a $40,000 limit on their conventional loans.[1] Therefore, if lenders were cooperating with the monetary authorities, the effect would have been to lower the loan to value ratio in the higher priced areas.

However, a considerable degree of the loan to value variation may as accurately be attributed directly to the price differential between the two regions, regardless of the NHA requirements or any other form of government intervention. It is probable that lenders are reluctant to provide large sums of money to individuals for at least two reasons. First, they may feel that the individual will be unable to meet the onerous monthly payments. That is, lenders undoubtedly have their own judgements as to what is an acceptable GDS ratio. Second, for reasons of both risk and customer diplomacy, when funds become scarce lenders may prefer to ration smaller amounts among more persons than to commit larger amounts to less persons. In addition, it would seem likely that prudent mortgagors would be equally

---

[1]The Ministry of State for Urban Affairs may apply "Moral Suasion" by requesting conventional lenders to restrict privately financed high-ratio loans. This approach was undertaken in 1974 in the hope that lenders would channel more funds for moderately priced housing. See Canadian Housing Statistics - 1974 (Ottawa: CMHC, March 1956).

reluctant to request loans that are of such magnitude as to endanger their ability to meet the monthly payments. Consequently, they may prefer to abstain from entering the market until a sufficient down payment could be accumulated, or to liquidate other assets in order to reduce their mortgage commitment.

It should also be mentioned that the regional difference in loan to value ratio does not appear to result from any regional difference in lender type. When controlling for lender type, the analysis of variance produced an F ratio fo 63.26. Although significant at above the .999 level of confidence, the 63.26 F ratio is well below the F ratio of 259.26 which was produced in the analysis of variance which did not control for lender type.

The foregoing discussion suggests that the observed variation in the regional loan to value ratio is a direct result of the variation in the price of housing, and/or an indirect result of the price variation as it relates to the respective NHA lending limits. In an attempt to find support for one or both of these hypotheses, three correlation coefficients were calculated. First, the correlation between the loan to value ratio and the price of housing in the thirteen cities was determined. Second, the correlation between the loan to value ratio and the difference between the mean sale price of housing and the NHA lending limit in the sampled cities was calculated. Finally, the correlation between the above two explanatory variables was derived.

The first correlation performed produced a coefficient of -.77 which, as was expected, supports the contention that the mean sale price of housing in a community affects its loan to value ratio. The second calculation produced a coefficient of -.69 and hence the insensitivity of the NHA lending limit to local market conditions may also be a contributing factor in the regional loan to value variance. However, the correlation between the two independent variables was determined to be +.97. Consequently, as was the case in our investigation of CMHC activity, it becomes difficult, if not impossible, to precisely identify the individual contributions of the two explanantory factors other than to say that, as was expected, the mean sale price of housing does seem to have an effect over and above what can be attributed to its relation to the NHA lending limit, upon the loan to value ratio of a community.

It should also be mentioned that neither the -.77 nor the -.69 coefficients are exceedingly large, although the -.77 figure does approach an acceptable range. Consequently due caution should be exercised in forming any conclusions based upon these figures. Due to sampling error it is possible that the true relationships could be either considerably stronger, or much weaker, than is indicated here. Unfortunately, even if the coefficients obtained had been higher and more reliable, they would still not reveal the precise determinant of the loan to value ratio. For example, had one been able to reliably ascertain that the mean sale price had a strong affect upon the loan to value ratio, one would still be uncertain as to what portion of this was the result of the GDS requirements of the NHA, the self-imposed limits of the financial institutions, the

rationing policies of the lenders, the GDS preference of borrowers, and the moral suasion policy of the monetary authorities. Consequently, without the additional data necessary to separate the effects of the above forces, a precise explanation for the observed variation in loan to value ratios must still, to a large degree, be determined by the individual preference of the reader.

d) The Price of Mortgage Financing

Inspection of Table 5 indicates that the price of mortgages, as with amortization periods, appears to vary little between the smaller communities and the metropolitan area. If one combines the similarity in interest rates to the similarity in repayment periods, there remains little reason to suspect that lenders perceive the risk factor to be higher in the smaller towns than in the larger cities. Consequently the most predominant finding in respect to interest rates is quite simply that the mobility of capital, in a relatively equal risk and cost situation, will remove any sizeable regional variation in the price of mortgages.

Although the foregoing conclusion will be maintained throughout this disucssion, there is a slight degree of variance which perhaps warrants some elaboration. Again examining Table 5, if one considers first mortgages alone, we observe that the interest rate differential between Region 1 and Region 2 for all first mortgages is .23 percent. However it should be recalled that the CMHC is considerably more active in Region 2 than in Region 1. Moreover the CMHC lends at a subsidized rate. Therefore, if one removes the CMHC direct loans from the sample, the interest rate differential is reduced to an insignificant .08 percent. If one further subracts the activity of private individuals, so as to observe only private cor-

TABLE 5

INTEREST RATES

m - weighted monthly
y - weighted yearly

(mortgage type/market type)

		Total Market		Private Sector		Private Corp. Sector	
		Region 1	Region 2	Region 1	Region 2	Region 1	Region 2
First Mortgages	m	11.03	10.80	11.03	10.95	11.16	11.06
	y	10.91	10.73	10.91	10.87	10.98	10.97
Second Mortgages	m	13.43	12.83	13.43	12.83	14.34	14.22
	y	13.77	12.61	13.77	12.61	14.34	14.22
Misc. Mortgages	m	12.24	12.39	12.24	12.39	12.07	12.50
	y	11.94	12.08	11.94	12.08	11.70	12.12
First + Second Mortgages	m	11.12	10.85	11.12	11.01	11.23	11.11
	y	11.02	10.78	11.02	10.92	11.05	11.02
Total Mortgages	m	11.53	11.45	11.53	11.59	11.56	11.72
	y	11.37	11.29	11.36	11.41	11.31	11.50

TABLE 6

a) Mean Mortgage Amount

b) Mean Sale Price

(a)

	Total Market		Private Sector		Private Corp. Sector	
	Region 1	Region 2	Region 1	Region 2	Region 1	Region 2
First Mortgages	$34251	$23128	$34251	$23095	$33467	$23619
Second Mortgages	$11975	$7676	$11975	$7676	$11723	$8492
Misc. Mortgages	$23077	$16640	$23077	$16640	$23926	$16894
First + Second Mortgages	$32000	$21980	$31953	$21808	$32156	$22964
Total Mortgages	$28029	$20499	$27958	$20248	$28297	$20970

(b)

$48930	$27877	$49639	$28512	$47810	$28804

porate lenders, the differential remains at a rather insignificant .10 percent, being less than half the differential observed if the CMHC is included in the sample. It should perhaps be mentioned that this latter comparison, i.e., private corporate lenders, provides the most reliable measure for comparing the private sector of the two regions. In reference to Table 11, one observes that private individuals supply funds at the lowest interest rate of all lender types. Considering that the majority of these funds (Table 8) are supplied by individuals who are the vendors of the property concerned, then this result is understandable for the mortgagee has a vested interest in facilitating the property transaction and thus may provide low interest funds to further this end. That being the case, it is impossible to determine what the effective interest rates are, as a higher sale price for the unit must surely be considered as a bonus to the mortgagee. Therefore, due to the difficulty in identifying the true rate of return on mortgage loans made by private individuals, the analysis of variance examined only institutional (including CMHC) lending rates. The result of the analysis was an F ratio of .45, significant at the .5 confidence level.

If one adds the second mortgages into the sample and considers first and second mortgages in aggregate the results are very similar to that observed for first mortgages alone, with the mean interest rate being of course slightly higher as a result of the introduction of the higher interest second charges. Whether one considers the private corporate market alone or whether one chooses to add in the contribution of the private individuals, the differentials are relatively meager, being .11 percent and .12 percent res-

pectively. If, however, one adds in the activity of the CMHC the differential more than doubles to .27 percent. It appears, therefore, that the CMHC's more active role in the Region 2 market is the major cause of variation in the price of mortgages between the two regions.

If one refrains temporarily from including the 'miscellaneous' mortgages in the calculations, it is oberved that the regional variations, slight as they are, consistently favour Region 2. It was initially hypothesized that the NHA lending limit may have been a contributing factor in this discrepancy. As mentioned earlier, the NHA limit for Region 2 during the predominant part of 1974 exceeded the mean sale price by $2,123 while in Region 1 the limit was $8,930 lower than the mean sale price. Consequently, if persons in Region 1 are forced to seek secondary financing or to obtain conventional mortgages, then it is possible that the mean interest rate of Region 1 would exceed that of Region 2. Considering that the differential on first mortgages favours Region 2, it is possible that more persons in Region 1 are obtaining conventional mortgages. In addition, the fact that the second mortgages in Region 1 represent a 50 percent higher fraction of that total market than the second mortgages of Region 2 represent of their respective market would suggest that persons in Region 1 are more often obliged to seek secondary financing.

In order to test the above hypotheses, the mean sale price was correlated to the mean interest rate (first plus second mortgages minus CMHC) for the thirteen cities examined. Unfortunately, the results to not support the above hypothesis. The coefficient obtained is -.235, which is not

only too low in absolute value to have any explanatory power, but also is negative in value and hence is in the opposite direction as that which would be expected. Correlating the mean interest rate with the variance between the mean sale price and the NHA limit, rather than with the mean sale price directly, serves only to aggravate the situation by increasing the absolute value to .38 while maintaining the inverse relation.

In an attempt to further test the above hypothesis, the regional variation in interest rates was analysed through controlling the loan to value ratios, under the assumption that lenders will not loan over 75 percent of the lending value of a property on an uninsured loan. The result was to increase the F ratio to 1.26, significant at the .74 level of confidence. However, this confidence level is not here considered sufficiently high to conclude that insured lending is a casual factor in any observed regional variation in interest rates.

One possible explanation for the differential between the two regions is that a 'time lag' is in effect which results in Region 2 trailing slightly behind Region 1 in their ability to keep abreast of the then worldwide situation of rising interest rates. If the market had been falling during the period considered, the differential may have been in the opposite direction. Although this is possible if one considers strictly local lenders, it is unlikely to affect lenders which are part of national institutions, who would in all likelihood be equally in tune with the larger financial market whether they were located in small towns or

metropolitan areas. In reference to Table 10, if one compares the banks' interest rates in Region 1 with those of Region 2, we in fact see that the difference is negligible, being 10.79 percent for Region 1 and 10.82 percent for Region 2.

Another possible explanation for the regional difference in the price of mortgages results from the composition of the respective markets insofar as the active lenders are concerned. It was earlier noted that the banks comprised a considerably larger portion of the market in Region 2 than in Region 1. Given that banks tend to loan at a slightly lower rate than other private corporate lenders, it follows that Region 2's mean interest rate will be somewhat lower than Region 1's rate. However, in considering such an explanation one must be careful not to confuse cause with effect. There is little reason for assuming that banks provide lower interest rates 'per se'. Rather one should consider that banks provide loans to a different category of borrower, insofar as risk is concerned, than do other lending institutions. Consequently a more correct approach would be to conclude that banks provide a higher percentage of Region 2's loans as a result of a lower risk in that region rather than the lower interest being simply a result of the higher concentration of banks. Nevertheless it is possible that the interest differential is the product of an imperfection resulting from the banks overpowering presence rather than the banks' magnitude of business in itself being the result of an imperfection.

In order to isolate the effects of lender participation an analysis of variance was performed controlling for lender type. The

result was to increase the F ratio to 7.06, significant at the .992 level of confidence. It would therefore appear that there is a substantial degree of variance among lender types within regions and that the substantial involvement of the chartered banks and the CMHC in Region 2 is a major cause of the slightly lower interest rate prevalent in the smaller communities.

e) Interest Rate Distribution by Income Grouping

Although it would appear that interest rates in aggregate vary little between the two regions, examination of the separate income groups within the regions does suggest a possible difference in distribution. Referring to Table 7, the activity of the CMHC is shown to support the earlier contention that this agency lends primarily on lower priced housing. Removal of CMHC loans has little or no effect on interest rates associated with higher priced housing in either Region 1 or Region 2. Furthermore CMHC exclusion from the lower priced group in Region 1 has a similarly negligible effect on interest rates, which in all likelihood is due to the fact that all housing in Region 1 is expensive relative to that of Region 2. Therefore, it would appear that the only group upon whom the CMHC has any noticeable effect is the low income residents of the smaller communities. However the effect upon that group is indeed substantial. Exclusion of the CMHC increases the interest rate for that particular segment of the population by an absolute .35 percent for first plus second mortgages.

In regard to the private sector, comparing the first mortgage and the first plus second mortgage categories appears to produce understand-

TABLE 7

INCOME CATEGORIES BY REGION/
BY NUMBER/BY INTEREST RATE

		Region 1		Region 2	
		Number	Interest Rate	Number	Interest Rate
First Mortgages					
Lower Income	Total	395	11.06	359	10.82
	Private Sector	380	11.09	289	11.16
Upper Income	Total	272	10.91	345	10.74
	Private Sector	272	10.91	330	10.77
First plus Second Mortgages					
Lower Income	Total	441	11.15	387	10.87
	Private Sector	426	11.18	317	11.22
Upper Income	Total	313	11.05	386	10.80
	Private Sector	313	11.05	370	10.84

able results. The increase in interest rates which results from including the second mortgages would seem to directly relate to the price of housing. The greatest increase applies to the higher priced housing in Region 1. For this group the rate increases by .14 percent with the addition of second mortgages. The lower priced housing in Region 1 experiences the next greatest increase at .09 percent, while the higher priced housing in Region 2 shows a comparable increase of .07 percent. The least pronounced increase applies to the lower priced housing in Region 2. These figures suggest, as would be expected, that individuals purchasing the more expensive units must more often obtain the more expensive secondary financing, quite possibly as a result of either NHA or self imposed limits upon the amounts which lenders are prepared to advance.

One of the more interesting findings pertaining to the private sector of the two regions is the significantly greater variation in the rates of the two income groups in Region 2 as compared to the rate variation in Region 1. If we begin by examining first mortgages, the low income residents of Region 1 receive a slightly lower rate than their counterparts in Region 2, the rates being 11.09 percent and 11.16 percent respectively. This difference of .07 percent for its own part is not overly significant. However, comparing the high income groups of the two regions shows a differential of .14 percent in favour of Region 2. Combining the above results produces a .18 percent variance in Region 1 and a .39 percent variance in Region 2, the latter differential being obviously much the greater. Adding the second mortgage data does little to change the situation, giving a variance of .13 percent in Region 1 and .38 percent in Region 2. The inclusion of the second mortgage data simply

increases the already noticeable difference between the two high income groups by raising the Region 1 rate by considerably more than the Region 2 rate, assumingly due to the more frequent use of secondary financing in the higher priced Region 1.

It should be noted that the greatest source of private sector variation is found in the comparison of high income, rather than low income, groups. Considering both first and second mortgages, the rate differential for the lower groups is only an insignificant .04 percent in favour of Region 1, while the differential for the higher groups is .21 percent in favour of Region 2. One possible explanation for this rather large variation between the regional high income groups relates again to the relative price of housing. If we assume that the incomes of the two regions do not differ extensively, while the price of housing does, then it would seem plausible that the Region 2 high income residents would receive a lower rate, the reason for this simply being that residents of Region 2, as compared to residents of Region 1, are utilizing similar incomes to purchase lower priced housing. Therefore, the residents of the smaller communities face a lower GDS ratio and thus expose the lender to a lower risk. Unfortunately this argument should also apply to the lower income groups, with the result being an overall lower rate for Region 2, a situation not herein observed.

The above dilemma introduces several possibilities. One possibility is that the lower income group in Region 2 has a lower income than its counterpart in Region 1. This situation is certainly possible, given that the higher priced housing in Region 1 may result in lower income

individuals being forced to rent while their counterparts in Region 2 are able to enter the housing market as purchasers. If this is the case then the low income group of Region 2 is utilizing a lower income to acquire lower priced units than the low income group of Region 1, and thus the GDS ratio, the risk, and the resulting interest rate should have the observed similarity between the two regions.

Another factor which should be considered is that in Region 2 a significant number of lower income individuals have been serviced by the CMHC. If these individuals had been forced to obtain financing from the private sector, what would be the effect on that region's low income rate? It should also be noted that the sample distribution for the two income groups varies between the two regions. In Region 2 the size of the two groups is relatively equal, while in Region 1 the lower income group is considerably larger than the higher income group. Therefore it would appear as though a fewer number of more highly priced homes are pulling the Region 1 mean sale price upwards and in so doing are absorbing a greater number of 'middle' income persons into the lower income group. This, combined with the earlier suggestion of relatively lower income individuals entering the housing market of Region 2, should give sufficient warning against drawing any firm conclusions with respect to 'income' groups, for the groups which are being compared may, quite possibly, have dissimilar incomes. It should be recalled that the method of income comparison was through the sale price of the home. Furthermore, the method does not assume that a person purchasing a house for a given price in Region 1 will have the same income as a person purchasing a house

for the same price in Region 2, but rather it assumes that mean sale prices in various cities are the product of a similar income group. Although this latter assumption is probably more accurate than the former, one must be careful not to confuse relative accuracy with absolute accuracy. The true relationship, in a regional sense, betweeen price and income is probably one of a compromise between the absolute and the mean price of housing.

f) Further Information on Lender-Type

The information included in Tables 8 through 12, break down further data on the involvement of particular lender types in the British Columbia mortgage market. The data, in general, provide more specific information with respect to comments or conclusions drawn in other parts of the text, and occasionally specific reference has been made to these tables. They are provided here for the further edification of the reader. While there is potential for the detailed analysis of this data, it does not fall specifically in the realm of this study, which is concerened more with inter-regional fluctuations in mortgage markets than with a comparison of mortgage lender behaviour.

TABLE 8

Sample Size - Dollars($); Observations(n)
(lender type/mortgage type/region)

		First Mortgages		Second Mortgages		Misc. Mortgages	
		Region 1	Region 2	Region 1	Region 2	Region 1	Region 2
Pensions Co-ops	$	237,750	69,200	-	4,350	34,000	36,000
	n	6		-	1	1	5
Banks	$	6,674,920	8,960,546	9,900	42,028	4,355,346	1,926,984
	n	202	367	1	5	165	98
Life Insurance Companies	$	423,250	79,700	-	-	190,000	-
	n	10	2	-	-	7	-
Trust Companies	$	6,866,682	1,010,114	49,000	-	3,090,685	485,764
	n	196	35	2	-	89	18
Mortgage Loan Companies	$	704,820	1,146,417	34,000	17,500	732,700	679,245
	n	21	44	1	2	35	32
Credit Unions	$	2,895,371	800,375	33,500	44,500	2,770,028	689,134
	n	96	52	2	6	133	40
CMHC	$	514,240	1,993,041	-	13,000	35,609	26,386
	n	15	85	-	1	165	1
Real Estate Companies	$	921,911	338,424	283,845	95,427	1,130,981	586,744
	n	28	23	28	10	76	66
Private -non vendor	$	313,500	140,348	202,647	41,265	1,086,130	254,250
	n	10	13	18	8	67	20
Private -vendor	$	1,607,812	959,970	273,483	173,000	-	-
	n	39	42	21	23	-	-
Private -agreement for sale	$	1,634,881	677,658	-	6,460	-	-
	n	42	34	-	1	-	-
Finance Companies	$	50,500	113,269	11,780	-	305,228	174,443
	n	2	4	2	-	21	12

*Actual figures, not revised estimates; see appendix.

TABLE 9

Amortization Periods (Years)
(lender type/mortgage type/region)

	First Mortgages		Second Mortgages		Misc. Mortgages	
	Region 1	Region 2	Region 1	Region 2	Region 1	Region 2
Pensions Co-ops	26.25	17.08	-	14.63	14.50	18.62
Life Insurance Companies	24.24	24.11	9.70	16.65	17.15	19.12
Trust Companies	24.26	23.90	22.12	-	23.58	23.50
Mortgage Loan Companies	23.39	23.30	-	9.90	18.30	21.20
Credit Unions	21.50	16.70	15.60	14.16	19.37	15.64
CMHC	35.90	34.00	-	25.00	34.43	21.00
Real Estate Companies	15.43	11.60	18.55	16.80	13.71	12.78
Private -non vendor	11.23	24.00	19.36	7.20	14.74	13.80
Private vendor	21.30	21.00	21.45	13.88	-	-
Private -agreement for sale	22.71	18.00	-	3.20	-	-
Finance Companies	19.30	18.55	12.85	-	19.10	16.40

TABLE 10

LOAN-TO-VALUE RATIOS

(lender type/mortgage type/region)

	First Mortgages		Second Mortgages	
	Region 1	Region 2	Region 1	Region 2
Pension Co-ops	.70	.72	-	.95
Banks	.68	.83	.75	.82
Life Insurance Companies	.60	.81	-	-
Trust Companies	.72	.84	.63	-
Mortgage Loan Companies	.70	.84	.54	.78
Credit Unions	.70	.77	.76	.90
CMHC	.88	.95	-	-
Real Estate Companies	.67	.73	.49	.56
Private -non vendor	.70	.65	.64	.73
Private -vendor	.62	.70	.62	.81
Private -agreement for sale	.71	.78	-	.61
Finance companies	.89	.83	.74	-

TABLE 11

m - weighted monthly*
y - weighted yearly*

(lender type/mortgage type/region)

		First Mortgages		Second Mortgages		Misc. Mortgages	
		Region 1	Region 2	Region 1	Region 2	Region 1	Region 2
Pensions Co-ops	m						
	y	10.17	10.71	-	17.50	10.25	14.88
Banks	m	10.79	10.82	-	-	11.32	11.11
	y	10.65	10.84	13.53	12.73	11.12	11.88
Life Insurance Companies	m						
	y	10.84	10.39	-	-	10.28	-
Trust Companies	m	11.09	11.20	-	-	11.12	-
	y	10.98	10.91	13.14	-	10.68	11.45
Mortgage Loan Companies	m	11.40	11.36	-	-	13.49	13.56
	y	11.65	10.94	16.00	12.90	13.03	12.39
Credit Unions	m	11.80	12.47	-	-	12.43	12.64
	y	11.24	12.21	15.00	14.51	11.53	12.53
Real Estate Companies	m	12.36	13.35	-	-	15.49	16.80
	y	12.09	12.17	14.11	14.83	15.59	16.35
Private - Non Vendor	m	-	-	13.08	-	14.31	11.90
	y	11.07	11.17	14.57	10.50	14.80	10.28
Private - Vendor	m	10.60	-				
	y	10.75	10.11	12.28	11.50	-	-
Private - Agreement for Sale	m	10.00	9.86	-	-	-	-
	y	10.22	10.00	-	11.00	-	-
Finance Companies	m	-	-	-	-	14.23	-
	y	16.40	10.60	19.00	-	15.27	14.80

*note that in several cases number of monthly observations was insufficient to give equal monthly weighted method relevance

TABLE 12

MEAN MORTGAGE AMOUNTS
(lender type/mortgage type/region)

	First Mortgages		Second Mortgages		Misc. Mortgages	
	Region 1	Region 2	Region 1	Region 2	Region 1	Region 2
Pensions Co-ops	$39,625	$23,067	-	$4,350	$34,000	$8,000
Banks	$33,044	$24,416	$9,900	$8,406	$26,354	$19,663
Life Insurance Companies	$42,325	$39,580	-	-	$27,143	-
Trust Companies	$35,034	$28,860	$24,500	-	$34,727	$26,987
Mortgage Loan Companies	$33,563	$26,055	$34,000	$8,750	$20,934	$20,258
Credit Unions	$30,160	$15,392	$16,750	$7,417	$20,809	$16,756
CMHC	$34,283	$23,448	-	$13,000	$35,609	$26,386
Real Estate Companies	$32,925	$14,714	$10,137	$9,543	$14,881	$8,453
Private -non vendor	$31,350	$10,796	$11,258	$5,158	$16,211	$12,212
Private vendor	$41,226	$22,856	$13,023	$6,957	-	-
Private - agreement for sale	$38,926	$19,313	-	$6,460	-	-
Finance Companies	$25,250	$28.317	$5,890	-	$14,535	$14,537

CHAPTER VII

SUMMARY AND CONCLUSIONS

a) The Sources of Mortgage Funds

i) The Role of the Chartered Banks:

In percentage terms, the most noticeable difference in the source of mortgage financing between the smaller urban communities as compared to the metropolitan areas is the overwhelming presence of the chartered banks in the mortgage markets of small towns. With the singular exception of the mortgage loan companies, the banks' active role is accompanied by a reduced presence of all other lender classifications, most noticeably the trust companies. The reason for this discrepancy between the two regions can only be speculated, however, it is possibly a part of the general evolution of the Canadian financial structure. The large national chartered banks had their extensive branch system well established long before the advent of the 'near banks'. As the financial needs of the larger urban areas became more extensive, more complex, and more diversified, the trust companies and other more specialized lending insititutions could perform a valuable role in the economic structure of the metropolitan community. It would appear, however, that the smaller and less diversified communities had less need for these additional participants in the financial scene. The economies of scale present in the smaller communities are simply insufficient to allow prosperity to a full range of financial intermediaries.

ii) The Role of the CMHC:

Another noticable difference regarding the source of mortgage funds in the two regions involves the activity of the Central Mortgage and Housing Corporation. The CMHC provides 12 percent of the first mortgage financing of the smaller communities, clearly placing them second only to the banks as a source of mortgage funds. Conversely in the metropolitan region the CMHC is conspicuous by its absence, providing only 2 percent of the first mortgage funds. The reason for this discrepancy may stem in part from the eligibility requirements of the AHOP policy, which places a limit on the purchase price of a qualifying unit. Although this limit is designed to compensate for regional variation in the price of housing, the regional variation of the limit seems insufficient to adequately perform this function. Although correlations only weakly support that contention, a more aggregated approach presents a strong case for its validity. While the eligibility limit was 33 percent higher in metropolitan Vancouver than it was for the smaller communities, the mean sale price of housing was estimated to be 76 percent higher. Therefore the heightened role of the CMHC in the mortgage market of the smaller communities would appear to be at least partially a result of inadequate attention being paid to the fact that real estate markets are highly local in nature, rather than an intentional direction of funds into the smaller cities at the expense of the larger urban areas. On the other hand, if this subsidy is intentional, then the onus of justification would be upon the CMHC. Recalling that the conclusion of the foregoing section relating to the banks' presence in the smaller cities was that the cause of the lack of a more extensive role

being performed by the near banks was insufficient demand, it follows that the presence of the CMHC would only serve to aggravate that situation by satisfying demand which would otherwise have been channeled into the private sector.

b) Loan to Value Ratios

The most noticeable discrepancy regarding loan to value ratios in the two regions is the considerably lower ratios, and corresponding higher down payments, prevalent in the metropolitan area. The reason for this variation stems not from the factor of city size but rather from the regional variance in the price of housing. As the price of housing increases, the loan to value ratio will decrease as a result of at least three factors. First, assuming incomes are relatively constant, the GDS requirements will rise beyond what are deemed to be acceptable limits by all of the major participants, being the mortgagors, the mortgagees, and the Federal government through the operation of the National Housing Act. Second, rising prices will result in a more frequent surpassing of the lending limit set by the monetary authorities through moral suasion. Third, the mortgage limit set by the NHA, although partially accomodating regional price variation, must by its very nature lack perfect price sensitivity as it would otherwise be, at least regionally, a limit on the loan to value ratio rather than the loan amount. Unfortunately the individual contributions of the above factors cannot be more precisely identified.

c) Amortization Periods and the Price of Mortgage Financing

Little if any regional variation was detected in regard to

amortization periods and the price of mortgage funds. Insofar as the private sector was concerned, differences were for the most part, negligible in magnitude. However, the inclusion of the CMHC's lending activity does consistently result in the observation of both longer amortization periods and lower interest rates in the smaller communities, particularly at the lower end of the price scale. This, quite naturally, is a result of the subsidized terms of CMHC mortgages in conjunction with the CMHC's more active role in the smaller urban areas, the final result being that smaller communities, as a result of government intervention, receive slightly more favorable treatment in regard to residential financing while, ironically, the residents of the metropolitan region are confronted with higher priced housing. However, this subsidy may be more illusionary than real, for if the metropolitan residents were to receive more lenient financing the result would simply be an increase in effective demand and, with long run supply conditions remaining unchanged, an increase in the price of housing services.

While the regional differences in amortization periods and interest rates were not substantial in terms of magnitude, they were statistically significant when controlling for lender type. Therefore the differences appear to be the result of variation in the type of lenders active in the two regions. Most noteably, the banks and CMHC account for a much larger proportion of the Region 2 market than they account for in the Region 1 market. In addition, it should be mentioned that insured lending policies did not seem to be a source of variance in either the price of funds or the amortization periods observed.

It should also be noted that these findings are not consistent with the results of similar studies conducted on U.S. data. Both the 1970 study by Alberts and Jung and the 1973 study by Manfred Peterson revealed a significant difference in the price of mortgage funds between metropolitan and non-metropolitan areas of the U.S. It was Peterson's contention that the difference in price could in turn be attributed to a difference in cost and that a more extensive branch banking system may consequently remove the interest differential. The results of the present study would seem, therefore, to support Peterson's suggestion for the differential here discovered was in the opposite direction and Canada does have the type of branch banking system to which Peterson refers.

The original hypothesis of this study was that no significant differences exist in the price of mortgage financing between smaller communities and metropolitan areas, but that the source of funds varies as a result of the size of the respective markets, and also that the loan to value ratios differ as a result of the variation in the price of housing between the two regions. The results of the study support the hypothesis that the source of funds varies as a result of the size of the respective markets, and also that the loan to value ratios differ as a result of the variation in the price of housing between the two regions. However the results do not support the hypothesis that there is no significant difference in the price of mortgage funds between the regions. While the price variation is minimal, it is statistically significant when lender type is controlled.

d) Additional Data and Relevant Conclusions

i) B.C. Government Second Mortgages:

A number of interesting conclusions can be drawn from the data

included in Table 13. The observations are separated according to the size of the second mortgage, in effect differentiating those mortgages provided for the purchase of a new dwelling unit (above $2,500), from those mortgages provided for the purchase of existing dwelling units (less than or equal to $2500). While the data are not conclusive, a comparison of Vancouver City (a relatively stable community) to Prince George (a rapidly growing community) indicates the large proportion of second mortgages provided for the acquisition of existing units in Vancouver relative to Prince George. Due to the larger size of the subsidy for new home buyers there is a clear emphasis in this program toward new home acquisition and hence toward the construction of new homes. Obviously, this program will be more beneficial, dollar-wise, to residents in growing communities. In stable communities, where the sale of existing units is prevalent, the program would have a lesser impact. This conclusion is supported by observation of the total $5000 second mortgages in comparison to the total $2500 second mortgages provided in each Region. In the metropolitan Vancouver area it is clear that the $2500 mortgages predominate.

The third column of Table 13 indicates the percentage of the total dollar value of the mortgage sample in each community which represents B.C. Government second mortgages. The figures indicate the lesser involvement of the program in the metropolitan communities. Since this is not likely to be the result of eligibility requirements, it would seem that the higher cost of Greater Vancouver homes along with the large proportion of sales that

TABLE 13

B.C. GOVERNMENT SECOND MORTGAGES

	Observations <$2500	Observations >$2500	$ Govt. Seconds % of Total $ Mortgages by City
Region 1			
North Vancouver City	6	10	.0241
North Vancouver District	26	18	.0235
Vancouver	82	42	.0170
West Vancouver	4	4	.0077
TOTAL	118	74	
Region 2			
Campbell River	7	7	.0369
Castlegar*	0	1	.0072
Courtney	7	4	.0569
Cranbrook*	9	3	.0199
Fort St. John	11	7	.0403
Nelson*	3	5	.0523
Parksville	0	6	.0744
Port Alberni	20	6	.0744
Prince George	78	94	.0706
TOTAL	135	133	

* Note: In Castlegar, Cranbrook and Nelson, observations represent only 3 months activity (January, May and September).

involve existing units result in a smaller impact by the home acquisition program in the metropolitan area.

ii) Condominium Financing:

TABLE 14

FINANCING OF CONDOMINIUMS vs FEE SIMPLE UNITS - Region 1

	Condominium	Fee Simple	All Units
Loan-to-Value Ratio	.74	.68	
$ Value 1st Mortgages	40,291,050	188,165,120	228,456,170
$ Value All Mortgages	44,015,060	331,602,080	376,517,140
$ Value Sales With Coincident 1st Mortgages	54,447,364	276,713,410	331,160,770

The following conclusions can be drawn from the data in Table 14. The data are from Greater Vancouver only (Region 1) since the number of strata-title units in the Region 2 sample were negligible. The financing of condominiums indicates a significantly higher loan-to-value ratio than the financing of fee simple properties. This would appear to be the results of the generally lower price of condominiums relative to fee simple properties. Hence, for a given income, a purchaser would be in a position to acquire higher ratio financing for a condominium, relative to a fee simple property, and still maintain an appropriate gross debt-service ratio. In addition, it is likely that within Greater Vancouver, a majority of the housing units qualifying for high ratio financing would have to be condominiums because of the limits placed on purchase price through 'AHOP', and the lending limits on NHA-insured loans or 'moral suasion' by CMHC with respect to high-ratio conventional financing.

APPENDIX

The purpose of an appendix to this study is to enable a more thorough explanation of certain problems encountered during the collection and processing of the data.

a) The Regional Approach

The data obtained were at all times given equal weighting regardless of the particular cities to which they pertained. The only serious consequence of this approach is that it fails to take into account the fact that sample percentages in Region 2 are not consistent across the various cities studied. Nelson, Castlegar, and Cranbrook provided a 100 percent sample of the documents registered, from Prince George and Ft. St. John a 50 percent sample was obtained, and from Port Alberni, Campbell River, Parksville, and Courtney the sample percentage was only 20 percent. Therefore, in order to most accurately reflect the true situation, the data from Prince George and Ft. St. John should be given a double weighting, while the data from the Vancouver Island cities should be weighted fivefold.

Considering that the simplistic two region approach may result in some distortion of the Region 2 data, certain figures were obtained to test the reliability of the original findings.

For the purpose of the test, separate mean interest rates were calculated for each city, along with the sample sizes in dollars which were obtained from those cities. The sample sizes were then adjusted so as to provide an estimate of the figures which would have resulted had a 100 percent sample been obtained from each city. The regional interest rates were then calculated by weighting the contributions of the cities so as to reflect the 100 percent sample estimates. Interest rates were obtained for three mortgage types--first mortgages, first plus second mortgages, and all mortgages--and for two market types--total market and private sector. As can be seen in Table A-1, the result in each case is similar to that obtained from the more simplistic original two region approach. For each mortgage classification, the inclusion of the CMHC results in a lower rate for Region 2, while exclusion of the CMHC totally removes any regional differential for first mortgages, and significantly reduces the differential for the first plus second mortgage category. As was found in the original approach, Region 1 does have a slightly higher rate than Region 2 for the first plus second mortgage category, a situation probably attributable to the higher priced housing of Region 1 and the consequent necessity for those residents to more often procure the higher priced secondary financing. As was also found to be the case with the earlier approach, the removal of the CMHC results in the rate for the total mortgages category shifting from a slight favouring of Region 2 to a slight favouring of Region 1, but in neither case is the differential sizeable. In view of the similarity in results from the two approaches, it is felt that the findings produced by the original method

TABLE A-1

INTEREST RATES WEIGHTED
By City

Cities	1st	1st Minus CMHC	1st & 2nd	1st & 2nd Minus CMHC	Total	Total Minus CMHC
Castlegar	1,582,231	1,582,231	1,590,631	1,590,631	1,769,449	1,769,449
Campbell River	4,589,605	3,583,120	4,656,605	3,650,120	6,850,490	5,731,025
Courtney	2,231,080	1,845,835	2,309,930	1,924,685	3,107,995	2,722,750
Cranbrook	3,354,564	2,702,511	3,423,771	2,771,718	4,210,764	3,448,711
Fort St. John	2,184,576	2,047,944	2,264,740	2,128,108	3,455,774	3,319,112
North Vancouver City	18,144,510	17,858,180	19,102,010	18,815,680	27,016,970	26,730,640
North Vancouver District	39,301,920	39,301,820	41,030,650	41,930,650	66,078,520	66,078,520
Nelson	2,243,369	1,981,178	2,304,218	2,042,027	2,479,456	2,217,265
Port Alberni	6,231,020	5,595,825	6,291,850	5,656,655	9,266,530	8,631,335
Prince George	12,047,120	10,482,814	12,746,732	11,156,426	17,509,884	15,866,814
Parksville	1,398,150	1,276,950	1,398,150	1,276,950	1,865,770	1,744,570
Vancouver	149,402,690	145,546,620	155,033,910	151,077,840	244,552,320	239,340,160
West Vancouver	21,607,350	21,607,350	22,047,350	22,047,350	38,869,540	38,869,540
Region 1						
$	228,454,000	223,312,000	239,012,000	233,869,000	376,515,000	371,017,000
Interest Rate	11.00	11.01	11.11	11.12	11.52	11.52
Region 2						
$	35,859,000	31,093,000	36,981,000	32,193,000	50,510	45,557,000
Interest Rate	10.84	10.99	10.88	11.05	11.42	11.58 *

Table A-1 shows dollar mortgage totals and regional interest rates, weighted by each city's dollar share of the respective region's total dollar volume and also estimating each city's total dollar volume by multiplying the sample dollars by the appropriate factor to estimate the city's actual, rather than sample, total.

* Omits Castlegar, Cranbrook, Nelson due to insufficient data.

are valid, and therefore no further attempt is made to adjust for the sampling variation.

b) The Miscellaneous Data from Nelson

The Land Registry Office at Nelson was the first to be researched and therefore it witnessed the development of the research procedure which was to be employed in a more systematic manner at subsequent land registry offices. In addition to being the first examined, Nelson was unique in that generous assistance was offered by the Kootenay Real Estate Board in the form of providing a record of all the residential property transactions which had occurred during the sample period. As this record contained the registration numbers for all deeds relating to such transactions, those documents could be directly located. Consequently a 100 percent sample was obtained for the three cities researched from that location. Unfortunately the Real Estate Board's records pertained only to those transactions where the ownership of property changed hands. Therefore, all of the miscellaneous type mortgages, i.e. those mortgages which are unaccompanied by a deed, could not be examined as readily as the standard first mortgages. Rather than completely ignoring these documents, it was decided that three sample months (Jan., May, and Sept.) would be examined at the 100 percent level. The unfortunate result of this procedure is that the quantity of mortgages falling into the respective mortgage categories in these three cities is not an accurate reflection of the true situation. Had the problems resulting from this procedure been foreseen at the time, a different method would undoubtedly been employed to handle these

miscellaneous documents, perhaps being in the nature of a 10 percent search of the entire year's documents.

The major consequence of the above described sample distortion is that the total dollar figure needed to accurately weight the interest rate and terms of the miscellaneous mortgages in the calculation of the overall mortgage situation for Region 2 is unknown. Furthermore, given that the year was characterized by rising market conditions, the accuracy of those three months figures as an estimate of the yearly rates may be questioned. Therefore, the figures for the Region 2 miscellaneous category required adjustment in order to compensate for these deficiencies. The method employed to adjust the figures was as follows. First, mean interest rates were calculated for the three months where complete data were available for both regions. The rates were segregated by the six lenders who supplied 95 percent of the funds to both regions and the dollar contribution of each of these lenders in each region for that three month period was also recorded. From this information a 'three month' interest rate, calculated by an appropriate dollar weighting of the mean interest rates of the six major lenders, was obtained for both Region 1's and Region 2's miscellaneous mortgages. Comparing the two interest rates, and also the two dollar totals, provided ratios which showed the actual relationship, in respect to interest rates and dollar totals, which existed between the two regions for the three month period where complete and accurate data were available on both regions. Given that the three months were well placed throughout the year, the assumption was made that the relationship which exists between the two regions in that three month

period should accurately reflect the relationship which exists for the entire year. Therefore, in order to obtain an estimate of the interest rate and dollar total for the miscellaneous mortgages of Region 2, the ratios obtained were simply applied to the interest rate and dollar total of Region 1's miscellaneous mortgages.

c) The Sample Selection Procedure

It was originally intended that random number tables be employed in order to ensure that the mortgage sample selected was in fact a randomized representation of the total population. However, time constraints prohibited applying the random numbers to the mortgage documents themselves as this would have required that the entire mortgage population in each Land Registry Office be viewed and counted. Therefore it was decided that the random numbers would be applied to the microfilm tapes (or document drawers in cases where the documents had yet to be put on microfilm) rather than to the actual mortgages. That is, certain tapes were to be selected for one hundred percent sampling by means of random number tables.

Unfortunately, this procedure would have resulted in rather long time periods being omitted between the tapes selected. That is, the random number tables dictated that, on several occasions, three to four weeks time lapse between the tapes selected, afterwhich one week's documents would be examined completely. In view of the comparatively rapid changes in market conditions which characterized the sample 1974 year, it was felt imprudent to employ this rather unevenly distributed sampling procedure. Therefore, the use of random number tables was rejected in

in favour of simply selecting an evenly distributed number of tapes. In other words, if a particular Land Registry Office was to be sampled on a twenty percent basis, every fifth tape would be completely examined. However, prior to employing this method, the average time period covered by the tapes in each Land Registry Office was determined in order to ensure that the documents selected did not favour any particular day of the week of time of the day. In no instance was it found that this method would have resulted in a biased sampling, and therefore this method was employed as the sample selection procedure.

BIBLIOGRAPHY

Alberts, W. and Jung, A. "Some Evidence of the Intra-Regional Structure of Interest Rates on Residential Mortgages." Land Economics, May 1970.

Fisher, Ernest M. and Fisher, Robert M. Urban Real Estate. (New York: Henry Holt and Co., 1954).

Jones, O. and Grebler, L. The Secondary Mortgage Market. (Los Angeles: Real Estate Research Program, University of California, 1961).

Peterson, Manfred. "Some Evidence on Intra-Regional Differences in Yields and Costs of Mortgage Lending," Land Economics, February 1973.

White, Philip H. Prologue to an Analysis of the Residential Mortgage Market in Vancouver. (Vancouver, B.C.: The University of British Columbia, 1965).

Canadian Housing Statistics - 1974. (Ottawa: Central Mortgage and Housing Corporation, March 1975).

Statistics Canada, Dictionary on 1971 Census Terms, (12-540),. (Ottawa: Information Canada, 1974).