EVALUATION OF NHA MORTGAGE LOAN INSURANCE

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EVALUATION OF THE PUBLIC MORTGAGE LOAN INSURANCE PROGRAM

EXECUTIVE SUMMARY

- The NHA Mortgage Loan Insurance Program was introduced in 1954, to ensure that the liberalization of mortgage terms achieved under the previous Joint Loan Program (1935) would be maintained. This means that the original objective of the program was that of ensuring that people in all parts of the country have access to high-ratio mortgages under the best possible terms and conditions, including the lowest possible interest rate.

- Mortgage financing provided to borrowers under the NHA mortgage insurance program is meant to be financed with the use of private funds and provided on a self-sufficient basis rather than through the direct provision of public funds at subsidized interest rates as was the case under the Joint Loan Program.

- The parameters and features of the 1954 NHA Mortgage Loan Insurance Program were well-designed and consistent in terms of achieving the program's primary objective of ensuring that borrowers in all parts of the country obtain high-ratio mortgages under the best possible terms and conditions including the lowest possible interest rate, facilitated through the use of private funds.

- On the demand side, the NHA Mortgage Insurance Program provided borrowers with access to high-ratio mortgage loans and a statutory right to a 25 year term mortgage.

- On the supply side, the program was designed to entice financial institutions and private investors to channel funds into the housing market and thereby eliminate the need for public funds by: (i) making the NHA mortgage as attractive as possible by providing full protection against fefault, (ii) devising a format that is administratively simple by charging one upfront insurance fee and settling claims in cash, and (iii) creating facilities in the form of inspection and appraisal services in order to ease mortgage origination for the chartered banks which, subsequent to the 1954 amendment to the Bank Act, were allowed to make NHA loans.

- The evaluation of public mortgage insurance was conducted in order to examine the role of government in this market in light of current and prospective conditions, and to ascertain the extent to which the program has achieved its objectives. In addition, the program's impact upon the quality of housing and the causes and sources of MIF losses have been investigated. In light of the findings resulting from the

analyses which were undertaken as part of the evaluation, a number of alternatives have been examined in an effort to identify potential methods that the government can use to meet its objectives in the mortgage insurance market.

- The major conclusions of the Evaluation Study are as follows:

Program Rationale

- During the past 30 years, NHA mortgage loan insurance has undergone significant changes. For example, the program used to be targetted to new modest cost homeownership and rental units. In recent years, the targetting of the program has ceased. Similarly, premiums and fees have recently been modified to be reflective of the risks and costs involved. One implication is that first-time home buyers with small downpayments now pay considerably more for mortgage insurance than people in similar circumstances a few years ago.

- Because NHA mortgage insurance has undergone several changes over the past 30 years, and given that it has been used for a variety of purposes that were not included in the list of policy justifications when it was introduced, the objectives and mandate of the program have become increasingly unclear and ambiguous over time.

- Based on the way in which the program is operated now, its objective can be interpreted in two ways depending on which program parameters one looks at. On the one hand, given the fact that premiums are geographically invariant, one can argue that the program is a housing measure aimed at facilitating access to homeownership and the production of rental housing in all parts of the country. However, because premiums vary with the loan-to-value ratio and for example, because premium surcharges are imposed for graduated payment mortgages or for condominium as opposed to regular homeownership, the program seems to be pursuing the objective of ensuring that mortgage funds are available as a price commensurate with risk.

- The fact that CMHC charges geographically invariant premiums coupled with the constraint that the program be operated at zero cost, suggest that the government pursues a mixture of economic efficiency and social equity objectives in mortgage insurance. The zero cost constraint itself implies that a key objective of the government consists of ensuring that the <u>proper amount of resources</u> is allocated to the housing sector - thereby counteracting the adverse impact of the 75 per cent loan-to-value regulation. On the other hand, the fact that premiums and fees are geographically invariant suggest that an important program objective must consist of ensuring <u>equal</u>

access to high ratio mortgages by subsidizing mortgage insurance in high-risk markets such as one industry towns and resource towns, and in remote areas where the cost of initiating the insurance is high.

- Charging geographically invariant premiums has a number of important implications. The first implication is that given the constraint of zero cost, it follows that cross-subsidization must be an essential element in the operation of the program. This means that CMHC must earn sufficient profits from insuring loans in low-risk markets to cover the cost of subsidizing borrowers in high-risk markets.

- The second implication concerns the program's other constraint of providing fair competition to private insurance. By closing the door to private insurance in the subsidized markets, geographically invariant premiums obviously reduce the scope for private insurance.

- The third implication of charging flat premiums and fees across market is the resultant exposure of the government to the private sector assuming only low-risk activity, thereby hindering the program's ability to operate on a self-sufficient basis.

- Finally, for the program to be financially self-sufficient through cross-subsidization, CMHC requires a large share of the low risk market. This largely rules out the private sector from assuming a large presence in the mortgage insurance market. In addition, NHA insurance has in the past been used by the government to meet a multitude of public policy objectives (such as enhancing the quality of housing and supporting economic stabilization policies). Their pursuit and attainment today through the provision of public mortgage insurance requires that CMHC dominate the market, which again is not compatible with the program's constraint of providing fair competition to private insurers.

Objectives Achievement

- The primary historical objective of NHA mortgae insurance has been to ensure that borrowers in all parts of the country have access to high-ratio mortgages under the best possible terms and conditions, including the lowest possible interest rate.

- However, in pursuing this objective, CMHC is subject to meeting three program constraints. These are:

  (i) that the mortgage funds be provided by private lenders;

(ii) the program be operated at zero cost to the government;
(iii) that CMHC offer mortgage insurance in competition with the private sector (after 1970).

Central Objective: **Best possible borrowing terms and conditions**

- During its early years, NHA insurance was operated in such a way that borrowers were enabled to obtain mortgage financing at terms at least as attractive as those under the previous Joint Loan Program. In terms of the interest rate attached to NHA loans, gross-debt-service ratios, loan-to-value ratios, program design changes to periodically increase the NHA maximum loan limits and impact upon first-time home purchasers, the program was successful in liberalizing mortgage terms and thereby in easing access to homeownership.

- The period between 1970 and 1978 was marked by a continuous softening of NHA borrowing terms as recommended by the Hellyer Task force in 1969, including a reduction in the risk premium by 50 percent. In 1970, the private sector was allowed to insure high-ratio mortgages, and by 1978 MICC (the largest private firm) became the dominant force in this market. Despite the softening of NHA borrowing terms, the growing volume of MICC insurance throughout most markets coupled with MICC's ability to match NHA insurance in terms of borrowing standards reduced significantly the net contribution of NHA insurance in the mortgage insurance market. During much of the 1970s, however, NHA insurance continued to increase access to homeownership housing and to support the production of rental housing through the delivry of the federal government's stimulative AHOP and ARP programs respectively.

- In response to the high levels of claims losses suffered by the MIF since the late 1970s, underwriting standards have become more stringent and the cost of obtaining high-ratio loans has increased in recent years. For example, premiums and application fees have been increased to reflect the risks and costs involved, and NHA-insured loans in excess of 90 percent of property value are no longer available. The program, however, continues to exert a net positive influence upon access to homeownership, particularly in high-risk markets and remote areas; and in supporting the production of rental housing.

Constraint 1: **The funds to be provided by private lenders.**

- Due to market imperfections in the form of the NHA interest rate ceiling, the 6 percent interest ceiling on bank loans

and the minimum 25 year term attached to NHA mortgages, the program could not attract sufficient private funds until 1969. Since 1970, government actions to deregulate the financial sector (for example, by removing the NHA interest rate ceiling and reducing the minimum NHA mortgage term to 5 years) precipitated the integration of the mortgage market and the capital market at large, and largely eliminated the chronic shortage of private funds which had been a problem until the late 1960s.

Constraint 2: **The program be operated at no cost to the government.**

- The constraint of zero cost was more than adequately met in the first number of years of the program. In fact, by 1969, the MIF had accumulated a surplus of cash reserves exceeding $250 million. It was in this light that the Hellyer Task Force recommended a reduction in the risk premiums by 50 percent.

- By the late 1970s and early 1980s, the financial situation of the MIF has been reversed. The continued deterioration of economic conditions after the mid-1970s; the effect of insuring high-risk AHOP and ARP loans at inadequate premiums during the 1970s; the severe recession in Alberta which occurred in the early 1980s; and the fact that CMHC, due to public policy objectives, cannot operate the program strictly as a business have all been responsible for the MIF's current actuarial deficit of approximately $790 million.

Constraint 3: **Offering mortgage insurance in competition with the private sector.**

- Following legislative changes made in 1970, private insurance of high-ratio loans formally emerged, and through most of the 1970s served an increasingly large proportion of mortgage borrowers. The existence of two private insurers and the growing private share of the mortgage insurance market prompted the Matthews Report in 1979 to conclude that NHA insurance had been successful in providing a sound environment for insured mortgage lending.

- Although the private sector in mortgage insurance continued to thrive until the late 1970's, NHA insurance is now the dominant supplier of mortgage insurance. The combination of expanding NHA insurance to sub-markets previously served by the private sector (existing rentals and high-priced homeownership), the unexpected rise in privately-insured defaulted loans in Alberta and the subsequent use by MICC (currently the only private mortgage insurer) of Option 'B' (limited liability) as a method of claims settlement explain

the dramatic reduction in the private share of the market from approximately 40 percent in 1981 to roughly 15 percent in 1985.

Impact of NHA Insurance on the Quality of Single-Family Housing

- Chapter 5 draws conclusions about the present impact of the mortgage loan insurance program on housing quality. Most of the conclusions are based on the results of a field survey which had limited parameters. The survey compared the quality of houses insured under the National Housing Act to an equivalent group of non-NHA houses. Several indicators of housing quality were defined and 411 houses were surveyed. The sample was gathered in four locations and represented two construction eras: 1975 to 1979 and 1980-1985. Although not all provinces were sampled, the locations were selected to represent the limits of an anticipated continuum of local code sophistication and local market size.

- It was expected that NHA housing would be better than non-NHA housing because Residential Standards require certain features not required by the National Building Code and NHA housing goes through a regime of CMHC compliance inspection which is not applied to conventional housing. Further, it was expected that the effect on housing quality of NHA lending requirements would be more evident in less-developed housing markets than in more highly developed markets where additional quality assurance mechanisms are present.

- The condition of 17 housing components was used as a proxy for the durability aspect of quality. By this measure it was concluded that housing is generally in very good condition with few repair requirements. There is no clear quality differential between NHA and non-NHA houses on this measure but there is evidence of some NHA superiority in less-developed markets.

- A count of deficiencies on 43 building code compliance items was used as a proxy for the health and safety aspect of quality. This measure gives ambiguous results because NHA and non-NHA houses must comply with different requirements, but a clear temporal trend emerged indicating an improving compliance record for non-NHA houses and a static or deteriorating compliance record for NHA houses.

- There is no evidence of a price differential between NHA and non-NHA houses when size, location, and expenditures on improvements are held constant. Amenities, such as closets

and laundry facilities required by Residential Standards, were never found absent from non-NHA houses unless they were removed during renovations.

- The survey results suggest that at present, in less-developed housing markets NHA housing is of marginally better quality but that for well-developed housing markets (the majority), the fact of NHA insurance does not result in a better built product. The results must not however be interpreted as saying that the quality of Canadian housing has been unaffected by NHA lending requirements, nor that CMHC activities other than the MLI Program, do not significantly affect housing quality.

Alternative Roles for the Government in Mortgage Insurance

- Because of the difficulties of achieving self-sufficiency, CMHC has modified the program in the past few years by making premiums more reflective of the risks involved. For example, premiums are now related to the loan-to-value ratio and surcharges are imposed for condominiums and for mortgage instruments such as variable rate mortgages and graduated payment mortgages.

- Because of the evolution of the program towards charging premiums that reflect risk and because of the ambiguity in the objectives of the program, many housing commentators have suggested that government intervention be restricted to ensuring the availability of high-ratio mortgages without concern to variations in borrowing terms across the country. This would mean that the program would largely become a capital market measure aimed at correcting imperfections in the functioning of the mortgage market.

- Given the views of these housing commentators, there are two broad policy choices open to the government in mortgage insurance: (i) the government could play a relatively passive role by simply ensuring that the mortgage insurance market works well so that any borrower who is prepared to pay a price commensurate with the risks and costs involved, can obtain the service, or (ii) the government could continue to play an active role in mortgage insurance so as to ensure that people in all parts of the country have equal access to high-ratio mortgages.

- Under the first role, government intervention would be limited to supporting private sector initiative with a view to ensuring that high-ratio mortgages are available in all parts of the country at a competitive price. The best policy prescription under this role would be staged privatization coupled with "optional stacked insurance" or targetted

reinsurance. With the introduction of "stacked insurance", CMHC would withdraw from the direct provision of mortgage insurance and offer an insurance product to the lenders that would cover the risk in excess of the degree of protection (option B) offered by private insurance. In this way, CMHC would ensure that high ratio mortgages are available (at a price commensurate with risk) in all parts of the country.

- The implication of this approach would be that people living in low-risk markets such as Toronto would pay considerably less for mortgage insurance than people residing in remote areas, resource towns and most people living in alberta. Two important concerns with this approach regard (i) the monopolist power given to MICC in the short-run and (ii) whether in the long-term, there would be a sufficient number of private insurers to ensure competitive market results.

- Under the second role, government intervention serves to ensure that borrowers residing in high-risk markets and remote communities have access to high-ratio mortgages under the same terms and conditions as individuals living in low-risk major urban centres such as Montreal or Toronto. If the government were to continue its present role of ensuring equal access to high-ratio mortgages and of supporting rental construction, the present approach based on cross-subsidization is the most appropriate way to achieve those objectives.

- Past experience, however, has shown that conflicts exist between the objective of equal access and the constraints of self-sufficiency and that of providing fair competition. As a result, program changes would be necessary. For example, such changes could take the form of charging high premiums to existing rentals to cross-subsidize new rentals, providing CMHC with more flexibility in settling claims or taking steps to improve the efficiency of cross-subsidization.

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CHAPTER 1

INTRODUCTION

1.1 STUDY CONTEXT

The Canada Mortgage and Housing Corporation (CMHC) is a Crown Corporation which, among several other activities, administers a mortgage loan insurance program under the auspices of the National Housing Act (NHA), the Act of Parliament that defines the federal government's role and mandate in the housing and mortgage markets. Under the program, CMHC is authorized to insure lenders against borrowers' default on mortgage loans which qualify under the National Housing Act.

This evaluation study focusses exclusively on the mortgage loan insurance function of the Corporation and thereby on the Mortgage Insurance Fund (MIF). It is in this fund that the premiums and fees paid by borrowers for mortgage loan insurance enter, and from which claims are paid to the lenders for losses which arise from borrowers' default. All expenses related to the operation of the program are also discharged by the MIF.

NHA mortgage loan insurance is one of the oldest among federal housing programs, with its introduction dating back to 1954. Because NHA insurance is largely the "raison d'être" of CMHC as a Crown Corporation, it has been regarded by many as a business function. However, because of the way in which the program has been operated over the years, it is also regarded as a social program aimed at easing access to homeownership and supporting the production of rental housing.

Because NHA insurance has been in existence for a long time and because it has been used for a variety of purposes that were not included as policy justifications when the program was introduced, its objectives and mandate have become increasingly unclear and ambiguous over the years. This ambiguity in program objectives and mandate has been noted increasingly often in CMHC documents in recent years[1].

1.2 PURPOSE OF THE EVALUATION

The purpose of this evaluation study is to assess the need, relevance and effectiveness of CMHC's mortgage loan insurance program under current and prospective market conditions. There are several reasons for conducting the evaluation at this particular point in time.

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[1] For example, this problem was mentioned in a recent internal audit report dealing with the operation of the Underwriting Division. The same comment was also made in a recent paper prepared by the Insurance Sector on the subject of rental insurance.

First, conditions in the mortgage and housing markets have changed significantly since the introduction of the program in 1954. While the program has evolved and modifications were made to adapt it to changing market conditions, its role in light of current and prospective conditions needs to be examined.

Second, the role of public mortgage insurance has been the subject of public debate in recent years. This was the thrust of the Matthews Task Force, which in 1979 examined the issue of whether CMHC should be privatized. More recently, the Economic Council of Canada, in its report entitled "Intervention and Efficiency", also looked at the role of public mortgage insurance. Parallel to the debate in Canada, President Reagan appointed a Commission on Housing in 1982 with a view to examining the role of the Federal Housing Administration in the provision of mortgage insurance. More recently, the Neilson Task Force on Program Review made certain recommendations to the Minister responsible for CMHC regarding the government's involvement in mortgage insurance.

Third, largely as a result of the AHOP and ARP programs, the Mortgage Insurance Fund has faced serious financial difficulties in the past few years. The appropriateness of using public mortgage loan insurance as a tool to meet objectives other than those associated with the insurance itself needs to be examined.

Fourth, public mortgage insurance is one of the most pervasive and significant government programs with regard to the magnitude of risk exposure. Currently, the insurance in force under the program exceeds 38 billion dollars. Because of the size of the risk exposure to the government and in light of the liquidity and solvency problems experienced by the Mortgage Insurance Fund in recent years, there have been mounting concerns with regard to the operation of the program as well as the appropriateness of its design.

Fifth, the market share of private mortgage insurance has diminished markedly in the past few years. The reasons for reduced private sector participation, and the implications that reduced competition exerts upon the mortgage loan insurance market, necessitates the examination of the public role in mortgage insurance.

Sixth, the appropriate objectives attached to public mortgage insurance have reached a polemic state. The recent alterations made to the NHA insurance premium and fee structures have led to the assertion by many housing commentators that the growing emphasis upon remedying the financial problems of the Fund has sacrificed the ostensible social equity component of the program.

Finally, for many of the reasons cited above, the Government of Canada directed CMHC to undertake an evaluation of public mortgage insurance, including its long-term role in the housing market. The exigency of this Evaluation Study is also consistent with the impetus given in the Consultation Paper on Housing (January 1985) regarding a complete review of the role that the federal government has played in housing and a discussion of the broad options for the role it might play in the future. Furthermore, the Evaluation Study will be used as one of various inputs in response to the Record of Decision requesting that CMHC report to Cabinet on alternatives to mortgage insurance.

1.3 USES OF THE EVALUATION

There exists a number of potential uses for the evaluation of mortgage loan insurance. These include:

- To assist in re-assessing the federal role in mortgage loan insurance in light of current and prospective conditions.
- To provide evidence to CMHC management on program effectiveness and the extent to which the program is achieving its objectives.
- To determine whether the current program design is an appropriate vehicle for effecting the federal role.
- To assess the impacts and effects of public mortgage loan insurance under current and prospective conditions.
- To identify opportunities for program improvements.
- To identify viable alternatives for the program and provide a framework to assess them.

To some extent, the results of the Evaluation Study have already been used by the Neilson Task Force on Program Review, the Consultation Paper on Housing and the current preparation of policy proposals.

1.4 EVALUATION ISSUES

The evaluation of NHA mortgage insurance has been performed in order to assess the effectiveness of the program since its inception in 1954. It was scheduled as part of the on-going evaluation of CMHC programs. The format of the evaluation study adheres to the guidelines prescribed by the Office of the Comptroller General regarding federal program evaluations.

Within the federal government, program evaluation is viewed as an aid to decision making and management. It provides a source of information regarding the allocation of resources, program improvement and accountability. To this end, it involves the systematic gathering of data concerning a program and evidence of its results. The range of issues addressed by this evaluation consists of the following:

1.4.1 Program Rationale (Does the Program make sense?)

The first set of issues deals with the rationale for government intervention in the mortgage insurance market under current and prospective conditions. In particular, questions are raised and answered with regard to the conditions under which government intervention is needed; whether these conditions exist in the mortgage market today, and whether they are likely to exist in the future; and if there is a need for government intervention, whether the NHA insurance program in its present form is an appropriate instrument of intervention.

1.4.2 Objectives Achievement

The second major set of evaluation issues relates the extent to which the objectives attached to the program have been achieved. Analysis is conducted pertaining to what is happening (and what has happened) as a result of the program and whether the program is achieving (and has achieved) what it was expected to achieve.

The objective of the mortgage insurance program as found in the 1985-86 Operational Plan is to "promote the effective operation of the mortgage market and the housing market by providing leadership in mortgage insurance on a full- recovery basis, while pursuing additional objectives". Based upon documentation from past CMHC Annual Reports and an analysis of various documents pertaining to the historical evolution of the program, the objective of public mortgage insurance is operationalized as follows:

- To ensure that borrowers in all parts of Canada have access to high-ratio mortgages under the same borrowing terms and conditions, subject to the following three constraints:
- The funds being provided by private lenders;
- The program being operated at no cost to the government; and
- That NHA insurance be provided in a competitive environment with private insurance.

Since 1979, the MIF has experienced substantial losses, thereby violating the constraint that the program be operated at no cost to the government. In this light, a section is included in order to examine the reasons as to why the Fund has recently experienced financial difficulties. In addition to the primary objective of public mortgage insurance, the program has also been used as a vehicle to enhance the quality of housing in Canada. In this context, a chapter is devoted to assessing the role of NHA insurance in improving housing quality.

1.4.3 Alternatives to Public Mortgage Insurance

This last group of evaluation issues examines alternative instruments of intervention in the mortgage insurance market that would enable the government to perform different roles in the mortgage insurance market. To achieve this, the Alternatives section focuses on two major roles for the government.

- Alternatives in support of an economic efficiency role whereby the government simply ensures that the mortgage insurance work well;

- Alternatives to ensure equal access to high- ratio mortgages in all parts of the country.

1.5 MAJOR EVALUATION ACTIVITIES

1.5.1 Management

The Mortgage Insurance Evaluation Study was conducted and managed internally by the Program Evaluation Division. Reports conducted by external consultants were used as input into the evaluation. Four committees were formed to provide guidance and input for the conduct of the evaluation.

(a) Internal (CMHC) Advisory Committee

An Internal Advisory Committee was formed, consisting of representatives from the Planning, Research, Real Estate, Claims, Underwriting, Legal and Social Housing Divisions, as well as from Technical Services, Treasurer's Directorate, and the National Office Support Centre. The Committee met periodically to review analysis and findings.

(b) Central Agencies Advisory Committee

This Committee was formed to obtain advice and guidance from the federal government as one of the main clients of the

evaluation. The committee included representatives from the Privy Council Office, Department of Finance, Office of the Comptroller General and the Treasury Board.

(c) Industry Advisory Committee

The Industry Advisory Committee was established in order for the evaluation team to obtain the views of the private sector. The committee included representatives from chartered banks, trust companies, insurance companies, various housing organizations, and other interested parties.

The committee facilitated certain data collection activities and reviewed and commented upon a draft of the assessment report, as well as a draft of the evaluation study.

(d) Seminar on the Role of Government in Mortgage Insurance

A one-day seminar on the role of government in mortgage loan insurance was held. The seminar provided a forum for five consultants who had previously reported their findings to the evaluation team on the rationale for government participation in the mortgage insurance market (Part V contract). Representatives from the Internal Advisory and Central Agencies Committees attended the seminar.

1.5.2 Data Collection

The study involved data gathering designed to provide sufficient information on the program in order to thoroughly evaluate it. Data sources and methods included:

(a) A telephone survey of financial institutions involved in administering mortgages on behalf of foreign investors;

(b) Contracting out various consultant reports as input into the evaluation study, these being:

- "Public Mortgage Insurance in Canada: Its relevance to the 1980's and Beyond"
- "Rationale for Government Intervention in Mortgage Insurance"
- "Role of Government in the Mortgage Insurance Market"
- "Role of Government in Mortgage Loan Insurance"

- "Reinsurance of Mortgage Loan Insurance in Canada"
- "Competition in the Canadian Mortgage Insurance Industry"
- "Policy Options Towards Alternative Market Structures"

(c) Computerization and analysis of administrative data on MICC mortgage loan approvals, NHA mortgage approvals (MIPS file) and the NHA claims file (MIF file). These formed the primary data bases.

(d) Data obtained from various other sources such as the Canadian Housing Statistics, insolvency data from the Department of Consumer and Corporate Affairs, census data from Statistics Canada, and insurance data from the Department of Insurance.

(e) Information on related mortgage insurance programs was gathered from sources in the U.S. Department of Housing and Urban Development and the Australian Housing Loan Insurance Corporation.

(f) A thorough review of Canadian and U.S. housing and mortgage market literature was conducted, as well as a review of historical information pertaining to the advent of, and the subsequent alterations to, the NHA mortgage insurance program.

(g) The quality of a matched sample of NHA and non-NHA houses was surveyed at four locations across Canada. The survey consisted of a physical inspection and a market value appraisal carried out in the autumn of 1985. Some additional data on housing problems and repair costs of NHA and non-NHA houses were made available by the Ontario New Home Warranty Program.

1.6 STRUCTURE OF THE REPORT

This evaluation study begins with a description of the mortgage insurance program, providing its background and a profile of the program's design and delivery features. The first set of evaluation issues is introduced in the subsequent chapter which assesses the rationale for public mortgage loan insurance given current and prospective conditions. The ensuing chapters examine the extent to which NHA mortgage insurance has met its objectives, including an assessment of MIF losses and of the program's impact upon housing quality. The last chapter identifies alternative policy choices open to government in mortgage insurance. For each of these choices, various policy instruments that would enable the government to meet the identified public policy objectives are examined and assessed.

CHAPTER 2

PROGRAM DESCRIPTION

2.1 PROGRAM PROFILE

2.1.1 Legislative Basis

NHA insurance finds its legislative basis in Part I, Sections 5 to 12 of the National Housing Act (NHA, 1954). This part of the Act authorizes CMHC (on behalf of the Mortgage Insurance Fund[1]) to insure repayment of eligible first mortgage loans supplied by NHA-approved lenders[2], for the construction of single or multiple unit dwellings for rental or ownership (homeowner properties include single-family detached units, townhouses, high-rises, and other forms of attached housing with a freehold or condominium tenure); in the purchase, refinancing and improvement of existing houses for ownership and existing rental projects; and in the conversion of non-residential buildings to housing projects.

There is no provision for the insurance of commercial or industrial projects unless they are part of a residential structure; even in these cases, the commercial or industrial portion of the insured loan is severely limited.

2.1.2 Description

In its broadest sense, public mortgage insurance is a scheme to indemnify mortgage lending institutions for the direct and consequential losses incurred by borrowers' default on the mortgage loan[3]. This protection is granted to the (approved) lender through the Mortgage Insurance Fund, thereby increasing the attractiveness of the mortgage instrument. Further, because

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1 The Corporation is required by Section 10 of the Act to establish this fund. The MIF serves as the repository for mortgage insurance premiums paid by the lender for insurance against loss on mortgage loans insured under the NHA.

2 The definition of such lenders is contained in subsections (2) and (21) of Section 2 of the NHA, 1954. Currently, the chartered banks, life insurance companies, trust and loan companies, credit unions and caisse populaires are authorized by the government to lend under the terms of the Act.

3 A default is defined as a situation where the borrower fails to repay the mortgage funds lent to him/her by the lender on the agreed terms or fails to fulfil other conditions of the mortgage contract.

the insurance is tied to the mortgage and transferable with it, mortgage insurance also increases the marketability of mortgages.

The need for mortgage insurance largely stems from the legislation which restricts most of the lending institutions to maximum mortgage loans equivalent to 75 per cent of the appraised value of the property on which the loan is taken[1]. For these institutions, any mortgage loan exceeding this limit must have that portion which exceeds 75 per cent insured against borrowers' default. In fact, it was the very existence of this statutory measure which led to the introduction of mortgage insurance. However, this does not mean that only high-ratio loans are insured under the program since under some circumstances, the lenders do insist on obtaining mortgage insurance on loans under the 75 per cent threshold (low-ratio loans).

To obtain the insurance, the borrower is charged a premium and application fee to cover the cost of processing the application and underwriting the loan. Since it is the borrower who requires the higher and more risky loan, the borrower pays the cost of protecting the lender against the added risk the lender has assumed. In the case of homeownership housing, premiums are set according to loan-to-value ratios, ranging from 1 per cent (for low-ratio loans) to 2.5 per cent (for high-ratio loans) for existing housing; and ranging from 1.5 per cent (for low-ratio loans) to 3.0 per cent (for high-ratio loans) for new construction. In the case of rental housing, the basic premium varies from 2.75 per cent to 4.25 per cent, according to the ratio of the insured loan to the market value of the property. Tables 2.1 and 2.2 illustrate the current premium strati for homeownership and rental loans respectively.

In addition to the premium, CMHC also charges an application fee. This fee covers the cost of loan initiation including internal loan processing, inspections and appraisals. Depending on the degree of internal services provided, the application fee for new homeownership varies between $150 and $350; and ranges from $100 to $250 on existing homeownership loans. NHA-insured new rental loans require an underwriting fee of $350 per unit for the first 15 units and $250 per unit thereafter. For existing rental loans, the NHA fee is currently $350 for the first unit and $250 for every subsequent unit. The current NHA fee structure is presented in tables 2.3 and 2.4.

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1 This restriction was primarily designed to protect the position of the depositors in the financial institutions affected and to prevent these institutions, as custodians of the savings of the public, from taking undue risks.

TABLE 2.1

HOMEOWNERSHIP PREMIUM RATES

	LOAN TO VALUE RATIO	EXISTING HOUSING		NEW HOUSING
		ONE SINGLE ADVANCE	MORE THAN ONE ADVANCE	
BASIC PREMIUM	up to and including 75%	1.00%	1.50%	1.50%
	up to and including 80%	1.50%	2.00%	2.00%
	up to and including 85%	2.00%	2.50%	2.50%
	up to and including 90%	2.50%	3.00%	3.00%
SURCHARGE	Condominium surcharge and conversion from rental to condominium	N/A		+1.00%
	Non-Residential surcharge	+1.00%		
	VRM* surcharge	+ .25%		

*VRM = Variable rate mortgage

Surcharges

Condominium - New Construction surcharge is applied on the total amount of the mortgage. This surcharge is not added to the mortgage.

Non-Residential surcharge is applied on the portion of a loan attributable to a non-residential component of a project. This may be added to the mortgage on homeownership loans.

Variable Rate Mortgage (VRM) surcharge is applied on the total amount of the mortgage and may be added to it.

TABLE 2.2

MARKET RENTAL PREMIUM RATES

BASE LOAN %*	PREMIUM RATE %			
	EXISTING		NEW	
	ONE ADVANCE	MORE THAN ONE ADVANCE		
up to and including 90%	1.75	2.75	2.75	BASIC PREMIUMS
90 to 100%	2.00	3.00	3.00	
100 to 110%	N/A	N/A	3.25	
110 to 120%	N/A	N/A	3.50	
120 to 130%	N/A	N/A	3.75	
130 to 140%	N/A	N/A	4.00	
140 to 150%	N/A	N/A	4.25	
Non-residential surcharge	+1.00			SURCHARGE

* Base loan is 85 per cent of market value as estimated by CMHC.

Non-Residential surcharge is applied to a non-residential component of a project. The premium and surcharge are not added to the mortgage.

TABLE 2.3

APPLICATION FEES - HOMEOWNERSHIP (PER UNIT)

	NEW HOUSING	EXISTING H.O.	NEW DUPLEX**	EXISTING DUPLEX***
Basic processing service (lender appraisal and advance examination)	$150	$100	$300	$200
Full processing service (CMHC appraisal and advance examination)	$350	$250*	$500	$350*

* In designated areas where the loan to sale price is below 80% and minimum equity is at least $8 000, lender is not required to submit appraisal.

** If progress advance is required, an additional fee of $100 is required.

*** If both units of a duplex are rented, the full processing service is mandatory and the normal rental schedule applies.

TABLE 2.4

APPLICATION FEES - RENTAL (PER UNIT)

NEW RENTAL	EXISTING RENTAL	OWNER-OCCUPIED EXISTING RENTAL (3 to 6 UNITS)	NEW CONDO	EXISTING CONDO
- $350 p.u. for first 15 units - $250 for each additional unit	- $350 p.u. for first unit - $250 for each additional unit	- $350 p.u. for first unit - $100 for each additional unit	- $350 p.u. for first 15 units - $250 for each additional unit	- $350 p.u. for first unit - $250 for each additional unit

The appraisal and inspection of new and existing properties form an integral part of the CMHC approval procedure. The amount of a loan which CMHC will undertake to insure depends upon the value of the land and the proposed structure. Currently, CMHC requires a minimum downpayment of 10 per cent on the first $80 000 and 20 per cent on the balance for homeownership loans. For new rental projects a minimum of 20 per cent of the total cost is required as equity (15 per cent for existing rentals). There is no maximum loan amount stipulated for these loans.

In the case of insured loans to homeowners, the creditworthiness of the borrower is evaluated and a borrowing limit applied (normally, the ratio of gross-debt-service charges to the prospective borrower's income should not exceed 32 per cent[1] although the lender may still recommend to CMHC that the loan be approved[2]). For insured loans to corporations, the lender must be assured that the corporation possesses the financial and organizational capacity to undertake the project and carry it through to completion.

Mortgage loan insurance assists borrowers in two ways. First, because of the insurance, a borrower can purchase a home with a relatively small down-payment, he/she can repay the loan over a lengthy period of time (under the Act, loans can be amortized over a period as long as 40 years[3]) and thereby face smaller monthly payments, and presumably obtain a loan that entails lower borrowing costs than would be the case if junior financing (i.e., second, third...mortgages) had been secured. Second, NHA financing also provides borrowers with more liberal prepayment privileges than would be generally available under conventional financing since, under the NHA, a mortgage can be fully repaid after three years instead of after five years as specified under the Canada Interest Act.

Under most circumstances, NHA mortgage insurance provides full risk protection to the lender. Usually, in the event of a claim, the lender, upon securing and conveying clear title of the property to the MIF, will receive payment covering the principal owing when the foreclosure took place, and all expenses including legal costs (of acquisition), accrued

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1 42 per cent on duplexes.

2 Gross-debts-service charges include payments of principal, interest, municipal taxes, heating costs and, if applicable, 50 per cent of condo fees.

3 Generally, the amortization period for homeownership loans is 25 years, and 35 years for rental loans.

interest (at the mortgage rate), and other expenses such as hydro and heating.

In managing risk, mortgage insurance involves several components. These comprise underwriting activities such as risk analysis, market analysis, and credit checking by lenders on behalf of the MIF; inspections and appraisals; claims avoidance and settlement operations; real estate management and property disposal; and management of the assets of the MIF. These are discussed in more detail later in the chapter.

2.1.3 Program Delivery and Operations

All applications for mortgage insurance and all servicing of NHA mortgages must be done only through approved lenders. NHA mortgages are issued by the approved lenders, either through a branch office of the organization or through a correspondant who acts on its behalf. Until May 1982, approved lenders were appointed by Order-in-Council on the recommendation of CMHC. Currently, an institution must apply to CMHC and the Corporation subsequently examines the applicant's experience, expertise, capitalization, nature of business, ability to make and service NHA-insured mortgages and meet further criteria before conferring the status of approved lender under the National Housing Act[1].

Approved lenders have certain privileges under the Act. For example, they are the only institutions that may act as clients for CMHC in the making or administration of NHA Loans, and are the only institutions that may lend using NHA-insured loans as security.

It is the responsibility of the approved lender to review applications for NHA-insured mortgages, to follow prudent lending practices and to adhere to the provisions of the National Housing Act and Loan Regulations. Approved lenders examine applications in detail and evaluate the applicant's capacity and the project[2]; and, once they are willing to approve an application, they submit to the local CMHC office a "Request

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1 The criteria currently being that the institution is authorized to lend money on the security of real or immoveable property, that it has a minimum of $500 000 in unimpaired capital, and is incorporated either federally or provincially.

2 Although not in all cases. Approved lenders are permitted to use qualified external appraisers in the case of new or existing homeownership loans of up to 6 units.

for an Undertaking-to-Insure", which stipulates the terms and conditions under which CMHC will insure the loan. This form, with required attachments, provides all relevant information for the Underwriting process[1].

In the case of homeownership, the underwriter specifies the level of risk that the loan represents according to a series of criteria: equity, the ability of the borrower to repay the loan, the degree of security provided by the property, and market conditions. The underwriting process recognizes two levels of risk (low and high). This risk determination influences the manner in which the application is processed. In the case of more complex applications, a more extensive team review is used: a valuation of the property using CMHC's own team of qualified staff; and, given the assurance that all NHA standards have been (or will be) met, decides whether to approve or reject the application. This decision is taken by a different level within CMHC, according to the loan amount involved and the degree of authority given to the regional office by the national office, and to the branch office by the regional office (in any case, applications for NHA insurance on a mortgage loan exceeding $500 000 are monitored by both the regional and national offices).

At the time of application, the construction plans are checked to ensure that they conform to the housing standards as developed by the National Research Council and expressed in the Canadian Code for Residential Construction which are derived from the National Building Code. During construction, routine inspections are made by the Corporation in order to ensure that the work conforms with the plans, specifications, and housing standards agreed to when the loan was committed. These inspections are not intended to provide supervision of construction but rather, to satisfy CMHC that the completed structure will be adequate security for the NHA mortgage loan.

The intensity of CMHC inspections varies across the different forms of tenure. In the case of existing singles, the inspection's main objective is to ensure that the property is adequate security for the loan (low-risk singles, however, are not appraiser-inspected so that structural inspection is not performed).

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1 Completion of this form provides CMHC with the basic details of the property, the loan requested, and the borrower. The Corporation, however, relies to a great extent on the lender to assess the creditworthiness of the applicant in accordance with CMHC criteria.

In the case of existing multiples, the same concern exists but is complemented by the necessity for those buildings to comply to the Corporation's minimum standards. Consequently, these inspections are much more extensive than those carried out on singles.

New multiples are scrutinized from the plan phase. Inspections are conducted monthly at the beginning and at the end of construction and weekly during the more important middle phase.

Plans reviewed for new singles are not necessarily carried out for all applications, particularly when this service is adequately performed by the municipality. They are inspected at the three compulsory phases (foundation, ready-for-lath, and final) for owner-builders and for small builders. Large recognized builders are subject to a monitoring system whereby inspectors visit a selection of dwellings at varying stages.

If the loan is approved, CMHC issues an "Undertaking-to-Insure". Once signed, it becomes a legally binding commitment to provide mortgage loan insurance to the lender subject to the satisfaction of conditions required by CMHC.

The final phase in processing the insured loan application is the issuance of the mortgage loan insurance policy (also referred to as the "Certificate of Insurance"). This provides physical proof to the lender that the mortgage loan is insured and details pertaining to the loan characteristics.

In order to minimize the incidence of claims, CMHC asks the lenders to periodically report on the state of their aggregate NHA-insured portfolio. In the event of borrower failure to make his/her payments, the lender will often try to form an arrangement with the borrower. In some circumstances, CMHC may intervene in these discussions with the objective of trying to work out an acceptable arrangement for both parties, and thereby avoid a claim.

In the event of a default, lenders traditionally wait for a certain period before starting any legal action against a borrower in arrears (usually three months for homeownership and two months for rental loans). A default can arise due to factors other than arrears in payment, such as the use of the property for purposes other than those for which the mortgage was granted or non-payment of municipal taxes. When default appears to be definite, the lender chooses the next course of action.

In order to effect a claim on the Fund for a defaulted loan, the approved lender servicing the mortgage must acquire clear and marketable title to the property (usually through quit-claim or

foreclosure), file a claim with CMHC within 30 days after title acquisition, and convey title to CMHC clear of all encumbrances. Full payment is then made by CMHC in cash for the amount of the loan principal outstanding, defaulted interest within stipulated limits[1], legal costs, and other specified charges from the Mortgage Insurance Fund within 15 days from the date of the title transfer or conveyance from the lender to CMHC.

Once title of the property is conveyed, the Corporation either administeres the property or sells it for an amount equal to an approved target price. If appropriate, CMHC will make mandatory improvements to the building in order to minimize the loss on sale[2]. Mandatory improvements may be necessary to improve health, safety or security attributes for the benefit of tenants.

Small properties are sold on the market through real estate agents, while large properties are offered at a minimum, to all investors on the national proponents inventory list through a process known as "Request for Proposal" or other sales techniques.

2.2 PROGRAM EVOLUTION

2.2.1 Enter the Private Sector in Mortgage Insurance

Until 1970, most institutional lenders were not permitted to invest in first mortgage loans exceeding 75 per cent of the appraised value of the property unless the loans were insured by CMHC. As years passed and market conditions changed, federal legislation was amended in 1970, permitting institutional lenders to invest in first mortgage loans in excess of 75 per cent of the appraised value of the property (high-ratio), provided that the excess (over 75 per cent of value) was insured either by a federal or provincial government agency or by an insurance company registered under either the Canadian and British Insurance Companies Act or the Foreign Insurance

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1 Interest at the mortgage rate for up to a maximum of 18 months and if necessary, at the mortgage rate less 2 points for an additional period not to exceed 6 months.

2 On 1 January 1983, CMHC introduced a deficiency claims settlement procedure whereby the lender (with the consent of CMHC) sells the property on CMHC's behalf, and CMHC reimburses the lender for any losses incurred on sale. The intent is to reduce costs and speed the claim process.

Companies Act. In the period 1971-1973, most of the provinces passed parallel legislation allowing provincially chartered companies to make privately insured high-ratio loans.

By the mid-1970's, there were as many as three private insurers (Sovereign Mortgage Insurance Company, Insmor Mortgage Insurance Company, and the Mortgage Insurance Company of Canada) and their combined market share amounted to roughly two-thirds of annual mortgage loan underwriting. Currently, the Mortgage Insurance Company of Canada (MICC)[1] is the only private mortgage insurer in Canada and its share represents less than 20 per cent of the residential mortgage insurance market.

A major difference between NHA insurance and private insurance lies in the degree of risk coverage provided. Under private insurance, the lender faces more risks since a private insurer has the right to compensate the lender in either of two ways. First, as in the case of NHA insurance, a private insurer can accept title of the property from the lender and provide payment covering the principal owing and all expenses (Option "A"). On the other hand, a private insurer also has the right to pay 25 per cent of these amounts (20 per cent in the case of rental projects) with the lender keeping the property and facing the risks that sale of the property may not cover all costs. This second option at the disposal of a private insurer is usually referred to as Option "B" and it serves to limit the risk exposure of a private insurer in the event of a major market disruption.

2.2.2 Changes in Program Design

While some of the features, parameters, and delivery processes of mortgage insurance have undergone certain modifications over the years to adapt the program to changing conditions, many of its design features have remained intact. For example, premiums are still collected up-front by CMHC under the program, claims continue to be settled through a lump sum cash payment to lenders (although deficiency settlement has been recently introduced, its take-up by the lenders has been insignificant), and the program continues to offer total risk-free protection to the lending institutions.

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1 Like CMHC, MICC has a substantial number of approved lenders who are the only lenders allowed to originate and service MICC insured loans.

However, there have been some alterations made to the program, particularly in the past 15 years. In addition, since 1954, there have been many legislative changes made, chiefly to enhance the efficiency of the mortgage market in conjunction with mortgage loan insurance. A chronology of major design and delivery changes is shown in Figure 2.5.

2.3 PROGRAM LOGIC

The logic chart shown in figure 2.6 links program activities to outputs and also identifies direct and indirect impacts.

Activities describe the activities taken by the Corporation in delivering the program. They are basically of two types: first, the ex ante procedure of underwriting loans to be issued and second, the ex post operations of managing the Fund, real estate operations, and claim operations.

Outputs indicate the actual products of the program. They consist of issuing the insurance across different lines of business (new and existing homeownership and rental, social housing projects), risk management, and financial compensation to lenders in the event of a default.

Direct impacts demonstrate the effects which the program is intended to have. NHA insurance potentially has the direct impact of increasing the flow of private funds by attracting offshore funds and through the development of a secondary mortgage market. To serve client groups that private insurance reaches only partly or does not reach at all, funds are meant to be channelled to remote areas (areas where borrowers would not otherwise be served).

Through facilitating the use of alternative mortgage instruments and liberalized mortgage terms, NHA insurance serves to ease access to homeownership and enhance the attractiveness of investment. This increased attractiveness of investment in housing has in turn rendered mortgage insurance as a commodious tool to promote economic stabilization through residential construction. The enforcement of the Building Code is to ensure housing quality. Encouraging competition in the mortgage insurance industry and reducing the need for a direct lending program (i.e. by insuring social housing projects) are also direct impacts of the program. These direct impacts are subject to the constraint that the program be operated on a full cost-recovery basis.

Indirect impacts are those events which may not be directly attributable to the program, but in some way occur because of the existence of the program. Indirect impacts which have been

FIGURE 2.5

CHRONOLOGY OF PROGRAM DESIGN CHANGES (1954-85)

1954: - Introduction of the public mortgage insurance program under the National Housing Act.

1957: - Maximum gross-debt-service to income ratio increased from 23 to 27 per cent.

1960: - Maximum loan-to-value ratio increased from 90 to 95 per cent on homeownership loans; and from 80 to 85 per cent on rental loans.

- Maximum amortization period increased to 35 years.

1961: - Conventional loan-to-value ratio raised from 60 to 66 2/3 per cent.

- All applications for NHA loans in one-industry towns become subject to a guarantee by the industry.

1964: - Conventional loan-to-value ratio raised from 66 2/3 to 75 per cent.

1966: - Existing homeownership loans become eligible for NHA mortgage insurance.

- Maximum loan-to-value ratio for rental projects increased from 85 to 90 per cent.

1968: - Approved lenders became authorized to consider 50 per cent of spouse's income in calculating the maximum gross-debt-service ratio.

1969: - NHA interest rate ceiling removed.

- Premiums on homeownership loans reduced from 2 to 1 per cent, and on rental loans from 2½ to 1¼ per cent.

- Minimum term attached to NHA-insured mortgages reduced from 25 to 5 years.

- Maximum amortization for both new and existing housing increased from 35 to 40 years.

1971: - Either husband or wife permitted to be considered as homeowner (or home purchaser).

FIGURE 2.5 (Cont'd)

1972: - Maximum gross-debt-service to income ratio increased from 27 to 30 per cent for single-family units (39 to 42 per cent for duplex or semi-detached units).

1975: - Insurance of loans made under the AHOP and ARP Programs.

1978: - Minimum term on NHA insured loans reduced to three years.

- Graduated Payment Mortgages became eligible for NHA mortgage insurance.

1979: - Ceiling on NHA loans removed.

- Existing rental projects became eligible for NHA mortgage insurance.

1980: - Inspections for construction standards compliance are dispensed with where CMHC receives satisfactory evidence of such compliance from other sources.

- Minimum term attached to NHA-insured mortgage reduced to one year.

1981: - Maximum gross-debt-service to income ratio increased to 32 per cent; heating costs added to GDS calculation for the first time.

1982: - NHA homeownership premium structure altered to reflect risk difference between low (1 per cent) and high (1.5 per cent) loan-to-value ratios. Application fees raised from $35 to $100.

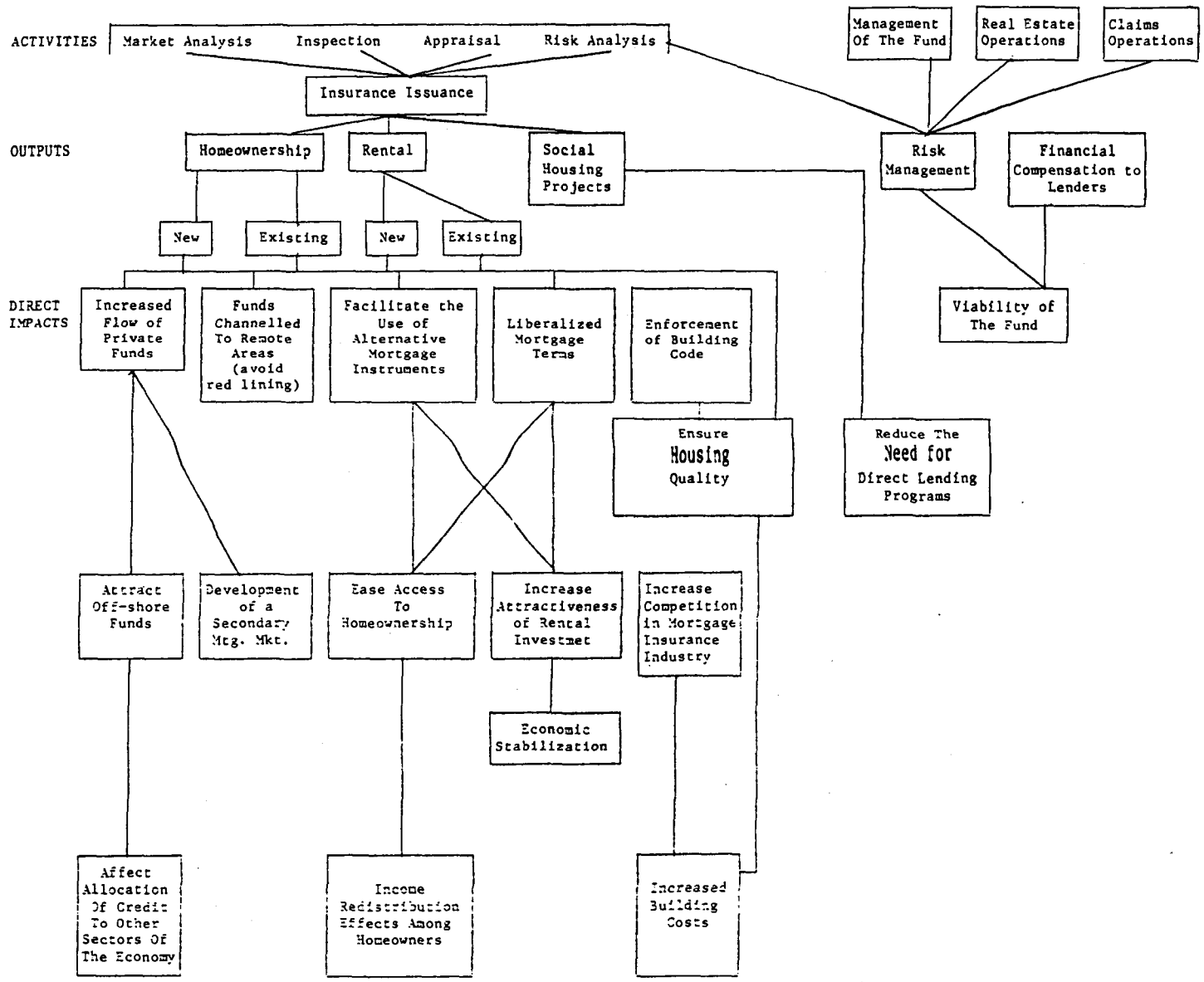
- Maximum loan-to-value ratio for NHA-insured loans reduced to 90 per cent from 95 per cent.

1984: - NHA rental premium structure altered to reflect risk based on the ratio between the loan amount and base loan (85 per cent of market value).

1985: - NHA homeownership premium and fee structure altered to further reflect risk differences between loan-to-value categories, and to reflect risk differences between lines of business (new and existing).

FIGURE 2.6

PROGRAM LOGIC



identified include the effect mortgage insurance has exerted upon the allocation of capital and real resources to other sectors of the economy; potential income-redistribution effects; and impact upon building costs.

These activities, outputs, and impacts of the program form the basis for the issues addressed in this evaluation.

2.4 PROGRAM SIGNIFICANCE

2.4.1 Activity

Public mortgage insurance is available to a wide range of residential borrowers. NHA insurance can be obtained to finance new and existing homeownership housing; new and existing private rental projects; and new and existing social housing projects sponsored by continuing housing cooperatives and by public non-profit housing corporations. Table 2.7 presents a summary of activity under the NHA mortgage insurance program by year and tenure form.

2.4.2 MIF Financial Situation

Claims against the MIF have risen appreciably in recent years, due to the special risks associated with loan insurance on AHOP and ARP loans, as well as to the more generally depressed market conditions, particularly in Alberta, Quebec and B.C. Figure 2.8 summarizes the current financial situation of the Mortgage Insurance Fund, on both a cash and actuarial basis.

As illustrated in Figure 2.8, by 1984 the MIF was not self-financing. Although the MIF shows a slight positive figure for homeownership, the losses which have occurred from insuring rental units far exceed any surplus on the homeownership side. Ostensibly, there exists a unique risk characteristic which impinges upon the residential rental sector. In this context, NHA premiums attached to rental projects have been substantially deficient.

In recent years, the most salient deviations in the program design have been those relating to changes in the premium structure. From 1954 to 1969, a flat premium of two per cent of the mortgage balance was charged to all borrowers. The premiums were subsequently reduced to one per cent in 1969. In 1982, the premium structure was again revised, but the flat premium structure was completely abolished. To better reflect the structural shifts in mortgage default risk, premiums were allowed to vary according to loan-to-value ratios and between lines of business. In the case of homeownership for example,

TABLE 2.7(1)

NHA LOANS APPROVED IN CANADA, 1954-1985(2)

	(DWELLING UNITS)				
	HOME-OWNERSHIP		RENTAL		
	NEW	EXISTING	NEW	EXISTING	TOTAL
1954	39 481	-	10 838	-	80 319
1955	56 735	-	8 605	-	65 340
1956	35 972	-	5 311	-	41 283
1957	39 911	-	9 022	-	48 933
1958	66 021	-	16 148	-	82 169
1959	49 804	-	7 506	-	57 310
1960	29 421	-	7 189	-	36 610
1961	46 496	-	13 942	7	60 445
1962	37 836	-	9 306	154	47 296
1963	43 988	-	10 706	86	54 780
1964	38 284	-	17 356	-	55 640
1965	36 872	2	20 378	1 602	58 854
1966	31 773	8	14 593	1 337	47 711
1967	34 558	3 751	34 399	416	73 124
1968	42 550	3 665	54 031	635	100 881
1969	28 366	3 362	55 186	1 538	88 452
1970	49 960	5 732	67 702	686	124 080
1971	66 923	14 479	83 102	749	165 253
1972	64 142	21 754	74 278	1 032	161 206
1973	43 828	25 193	59 046	934	129 001
1974	34 153	34 350	27 441	3 108	99 052
1975	64 882	46 032	60 337	2 594	173 845
1976	70 076	37 490	52 918	1 790	162 274
1977	54 431	64 872	76 223	1 628	197 154
1978	31 823	65 754	35 790	1 565	134 932
1979	16 690	63 652	27 115	5 750	43 207
1980	12 106	42 695	19 742	28 645	103 188
1981	10 661	29 021	26 512	12 526	78 729
1982	11 666	41 685	25 457	10 984	89 792
1983	25 274	98 011	33 207	24 171	180 663
1984	21 603	100 438	22 572	20 850	165 464
1985	13 298	107 831	27 896	13 524	162 549
TOTAL	1 249 584	809 778	1 013 854	136 311	3 209 527

1 Source: Mortgage Insurance Portfolio System (MIPS) File.
2 Data for 1954 - 1967 are net. All other data are gross.

FIGURE 2.8(1)

FINANCIAL POSITION OF MIF AS OF 31 DECEMBER, 1984(2)

($ Millions)

	CASH DEFICIT( ) OR SURPLUS	ACTUARIAL DEFICIT( ) OR SURPLUS
AHOP	(187.3)	(241.6)
ARP	(137.0)	(208.2)
Homeowner (Regular Section 6)	420.0	7.2
Rental (Regular Section 6)	(197.9)	(308.9)
Social Housing	42.3	24.7
Total(3)	(59.9)	(786.8)

(1) Source: Treasurer's Directorate, CMHC
(2) Excludes $307 million paid by government
(3) Insurance in force as of 31 December 1984 is $38.3 billion.

the premiums in 1982 were allowed to vary between 1.0 per cent (for low-ratio loans) and 1.5 per cent (for high-ratio loans) for existing housing, and between 1.25 per cent (for low-ratio loans) and 1.75 per cent (for high-ratio loans) for new construction. Based on the recent claims and loss experience on NHA-insured loans, these premiums were increased and became more stratified in 1985[1]. Furthermore, application fees correspondingly increased to reflect increased costs of initiating insured loans.

To demonstrate the shift in the focus of the program to the development of more "actuarially fair" premiums, it was not until the 1982 Amendment to the National Housing Act, that a condition regarding the amount of insurance premiums to be charged was stipulated. In Part I, Section 5(12) of the 1982 Amendment, it is stated that

> "... the amount of insurance premium referred to in subsection (6) shall be such amount as the Corporation, taking into account the amount of the approved loan or the instalment, less the insurance component thereof, considers appropriate in view of
>
> a) the risk to the Corporation that the insurance entails; and
>
> b) the costs and expenses incurred by the Corporation in undertaking and administering the insurance".

In addition to raising insurance premiums and fees, further measures have been introduced in order to help restore the self-financing status of the MIF. These include the reduction in loan amounts; the introduction of deficiency settlements; the encouragement of private sector appraisals; the introduction of higher underwriting standards on multiples; and the implementation of new real estate marketing techniques. A system of monitoring the performance of approved lenders was also established in 1984, whereby CMHC ranks the approved lenders according to their claims experience. For those lenders possessing a claims ratio which unjustifiably exceeds the national average, CMHC may either impose underwriting restrictions on their future NHA loans or suspend them outright from further NHA insurance activity.

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1 In 1984, premiums were increased for NHA insured rental loans to better reflect the risks presented.

Recently, the Underwriting Division at CMHC has developed an annual report card system (referred to as the "Local Office Performance" report) for the branch offices in order to monitor their performance in terms of claims; commitments; ratio of claims to commitments; underwriting fees versus initiation costs; loss on claims as a percentage of loan amount; and the comparison of the branch foreclosure rate to date to the affordable foreclosure rate to date; and to the ultimate breakeven foreclosure rate for each separate line of business. This newly-devised scheme is intended to educate and motivate the branches to improve their financial performance regarding their NHA mortgage insurance activity.

2.4.3 Resources Allocated to the Program

The NHA mortgage insurance program in 1985 directly consumed approximately 660 staff years. Insurance issuance required 377 staff years (57 per cent of the resources); claims settlement accounted for 86 staff years (13 per cent); and claims avoidance took 38 staff years (6 per cent). Asset administration, which includes real estate sales, necessitated some 144 staff years (22 per cent), while general administration required another 13 staff years (2 per cent). In total, the costs (direct and overhead) of administering the program during 1985 amounted to 66.7 million dollars. Table 2.9 provides a summary of the resources allocated to the NHA mortgage loan insurance program in 1985. The figures are expressed in staff years for the field offices and the insurance sector, including general administration.

TABLE 2.9

RESOURCES USED IN 1985 (STAFF YEARS)*

ACTIVITY	SUB-ACTIVITY	COSTABLE UNIT	FIELD OFFICES	OPERATIONS SECTOR	TOTAL
INSURANCE:	Issuance (Sec. 6&7)	Rental - new	23.6	0.1	23.7
		Rental - existing	21.0	0.0	21.0
		Homeowner — new	96.7	0.0	96.7
		Homeowner — existing	188.0	0.0	188.0
		Homeowner — Condo - new	9.0	0.0	9.0
		Non-profit & Co-op	0.0	0.0	0.0
		Second mortgages	0.0	0.0	0.0
		MIF Init. — general	24.4	14.5	38.9
	SUB-TOTAL		362.7	14.6	377.3
	Settlement (Sec. 8)	Singles and Condos	24.0	50.5	74.5
		Multiples	4.2	6.7	10.9
		Non-profit & Co-op	0.0	0.0	0.0
		Second mortgage	0.0	0.0	0.0
		Direct loans	0.4	0.4	0.8
	SUB-TOTAL		28.6	57.6	86.2
	Claims Avoidance (Sec. 8)	Singles and Condos	5.8	6.8	12.6
		Multiples	17.5	6.4	23.9
		Non-profit & Co-op	0.8	0.2	1.0
		Second mortgage	0.2	0.1	0.3
	SUB-TOTAL		24.3	13.5	37.8
SUB-TOTAL INSURANCE ($51 262 186)			415.6	85.7	501.3
ASSET ADMINISTRATION (Sec. 9)	Property Administration	Singles	53.2	1.0	54.2
		Condos	18.4	0.7	19.1
		Multiples	22.0	2.0	24.0
		Non-profit & Co-op	0.1	0.0	0.1
		Second mortgage	0.0	0.0	0.0
	SUB-TOTAL		93.7	3.7	97.4
	Property Disposal	Singles and condos	25.8	3.7	29.5
		Multiples	10.7	5.1	16.8
		Non-profit & Co-op	0.0	0.0	0.0
		Second mortgage	0.0	0.0	0.0
	SUB-TOTAL		36.5	9.8	96.3
SUB-TOTAL ASSET ADMINISTRATION ($13 473 069)			130.2	13.5	143.7
GENERAL ADMINISTRATION (Sec. 9)	General Administration	Mtg. admin. - GPM	0.9	0.0	0.9
		Quick Settlement	4.8	0.9	5.7
		Mtg. admin. - Other	2.4	3.5	5.0
		Other Administration			
	SUB-TOTAL		8.1	4.4	12.5
SUB-TOTAL GENERAL ADMINISTRATION ($1 934 755)			8.1	4.4	12.5
TOTAL MORTGAGE LOAN INSURANCE** ($66 670 010)			553.9	103.6	657.5

* per MTRS & CFP Dec. 1985, includes casual and non-Corp. staff years.

** excluding Guaranteed Timely Payment Program and Mortgage Rate Protection Program.

CHAPTER 3

PROGRAM RATIONALE

3.1 INTRODUCTION

The purpose of this chapter is to examine the rationale and justification for government intervention in mortgage loan insurance in light of current and prospective market conditions. In looking at the role of government in mortgage insurance, two fundamental questions are addressed. The first question relates to whether there is a continuing need for the program. The second concerns the degree to which the design of the program is logical and consistent with program objectives as well as with the identified need for the program.

To address these questions, three inputs are needed. First, a framework is needed to provide some guidance regarding the role of government in society and to determine under what conditions collective action can be justified. A second input consists of identifying all of the housing market and mortgage objectives of government intervention which have been associated with public mortgage insurance since its inception, as well as isolating any other policy objectives for which mortgage insurance might conceptually be an appropriate tool. The final input needed is a description of the major design features of the program and of the initial rationale for their inclusion.

The first three sections of this chapter attempt to provide these inputs. Subsequent sections will examine each program objective individually and attempt to address the two fundamental questions raised above - viz. whether there is a continuing need for the program and whether it is logically linked to its objectives.

To prepare this Chapter, various reports were reviewed including the Matthews Task Force (1979) and Economic Council (1982) reports mentioned in Chapter 1. In addition to these reports, this paper draws extensively from the experience and the discussions that took place in the United States and Australia in recent years[1], as well as from the reflections of a number of experts[2] who prepared reports[3] for CMHC on the role of public mortgage insurance.

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1 The governments in these 2 countries also directly provide mortgage insurance.

2 P. Boyle, Professor of Finance and Actuarial Science, University of Waterloo; L. Jones, Associate Dean, Faculty of Commerce and Business Administration, University of British Columbia; D.G. McFetridge, Professor of Economics, Carleton University; J. Pesando, Professor of Economics, University of Toronto; D. Toms, Consultant, previously Chief Financial Officer of MICC.

3 The reports are available from the Program Evaluation Division, CMHC.

3.2 A RATIONALE FRAMEWORK FOR GOVERNMENT INTERVENTION

In looking at mortgage loan insurance, most commentators have drawn from traditional welfare economics as a base to examine the role of government as a direct provider of insurance. This section pursues this theme with two objectives. First, it briefly reviews the arguments that flow from traditional welfare economics about the role of government in society. Second, it focuses on those arguments that will be used in this paper as a basis to discuss whether there is a continuing justification for government intervention in the market for mortgage insurance.

Traditional welfare economics uses the theory of perfect competition as a "norm" against which the actual performance of the economy can be checked or evaluated. The basic precept of economic theory is that if perfect competition prevailed throughout the entire economy, it would secure the fullest measure of economic efficiency, given the distribution of income. Put another way, economic theory argues that perfectly competitive markets in which each dollar counts as a vote, ensure the production of a socially optimal amount of goods and services.

Based on the precepts of economic theory, government intervention to influence the operation of market forces has to be justified on two broad rationales: economic efficiency and equity or social justice.

3.2.1 Economic Efficiency

Government intervention for reasons of economic efficiency finds its justification in the existence of market failures which distort or impede the proper functioning of the price system. Market failures can arise from two different sources: market imperfections and "externalities".

Market imperfections exist when any one of the necessary conditions for perfectly competitive markets are violated. The necessary conditions for perfect competition are that within a given market (i) there is a large number[1] of buyers and sellers who are all small relative to the market; (ii) all firms sell an homogeneous product; (iii) there are no artificial restraints placed on supply and demand; (iv) there is perfect mobility in that, for example, nothing prevents new firms from entering the market; and (v) there is perfect knowledge on the part of buyers and sellers.

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[1] As it will be discussed later in this paper, the validity of this condition for economic efficiency is currently the subject of debate in the economics literature.

Clearly, there are few markets that meet all of the necessary conditions of the economists' dream world of perfect competition. However, while most markets may suffer from various forms of imperfections, the fact is that the government does not intervene in all markets. If the only criteria for government intervention were the mere presence of market imperfections, the government would not only intervene in all markets but there would be no end to intervention since the government would never succeed in removing all imperfections. The reality is that, in most market situations, the inefficiencies resulting from movements away from perfect competition tend to be small. It is only in situations where market imperfections result in significant resource misallocation that government intervention is desirable or required.

As indicated previously, a second source of market inefficiences exists when consumption or production activities create "externalities". Externalities exist when private and social benefits or private and social costs do not coincide. Such situations are referred to as market failures simply because the price system "fails" to take into account the benefits or costs that affect society as a whole. There are many situations in housing in which externalities are present. For example, noise pollution suffered by residents living near an airport creates negative externalities and the presence of these externalities is reflected in lower home values. Positive externalities also exist in housing and may be created, for example, by renovation activities which can generate benefits to all residents in a given neighbourhood.

Housing itself has been alleged to generate a wide variety of externalities. The argument generally used is that a better housed society will have less infectious diseases, less crime and other forms of antisocial behaviour and more responsible citizens less vulnerable to radical social or political movements. It has also been argued that these beneficial effects of good housing are reinforced by homeownership; the interests of homeowners in real property are viewed as strengthening ties to neighbourhoods and to sociopolitical stability.

As indicated, there are many market situations in which positive or negative externalities result from the production or consumption of goods and services. However, in many of these situations the size of such externalities and their impacts do not influence resource allocation significantly. It is only in situations where externalities create significant market inefficiencies and in which the benefits of intervention outweigh the costs of such intervention that government involvement is warranted.

3.2.2 Social Equity

Even if all markets were perfectly efficient, there would be situations in which government intervention is warranted for reasons of social equity. The distribution of income in market economies is such that some individuals and households do not have incomes which allow them to attain a tolerable standard of living. While private markets may operate efficiently, they do not guarantee a decent standard of living to everyone. Public actions are thus necessary to provide such households with the means to attain a decent standard of living.

Unlike government intervention for economic efficiency reasons which have to do with the achievement of optimal output and resource allocation, intervention for social justice draws from an ethical judgement on the part of society that increased equity in the distribution of income is desirable.

Government intervention for reasons of social equity can take two forms. First, governments may intervene to redistribute money income directly. Second, governments may intervene to ensure that all citizens consume an adequate amount of those goods and services that society considers as "merit goods" - viz. medical care, education, food, housing and so on. The fact that governments care that their citizens obtain minimum amounts of specific goods and services indicates that the concept of social justice is closely related to the notion of social right.

With regard to housing, the notion of social right has not only been translated into intervention to allow people to consume minimum quantities of housing services, but it has also encompassed the type of tenure. In Canada, governments over the years have put in place a multitude of measures to encourage people to own their home. As it will be seen in this paper, the notion of homeownership as a merit good has been and continues to be one of the main rationales for government intervention in mortgage insurance.

3.3 PROGRAM OBJECTIVES

Public mortgage insurance has a long history in Canada, with its introduction dating back to 1954. While the original design of the program has remained largely unchanged since 1954, market conditions have evolved considerably over the past three decades. As market conditions changed and because the program was already in place, it has been used, or has been recommended as a convenient tool, for fulfilling a multitude of objectives which were not in the original list of policy justifications. This section has two purposes. First, it identifies all of the housing market and mortgage market objectives of government intervention which have been associated with public mortgage

insurance since its inception. Second, it briefly reviews what commentators on mortgage insurance have described as potential long-term roles and objectives of government involvement in the mortgage insurance market.

To prepare a comprehensive listing of all past and present program objectives, various official CMHC documents were examined. These included the 1984 Operational Plan Framework, the 1985-1986 Multi-Year Operational Plan and CMHC Annual Reports. With regard to identifying possible future roles for the government in mortgage insurance, the main inputs used were the Matthews Task Force and Economic Council reports, and the views provided to CMHC by five consultants who were commissioned the task of looking at the rationale for government involvement in mortgage insurance.

Over the years, the objective that has been cited most often and still today, the objective found in official CMHC documents is that of "ensuring an adequate supply of private funds to housing". When this (operational) objective appears in CMHC documents, it is usually preceded by a preamble which describes the objective of the program in broad terms. In the 1985-1986 Operational Plan, this preamble states that the objective of mortgage insurance is "to promote the effective operation of the mortgage market".

In essence, this preamble coupled with the requirement that the program be operated on a self sufficient basis, suggests that public mortgage insurance is a policy instrument aimed at achieving at least some economic efficiency objectives. As will be discussed in the next section of this paper, this description of the role of public mortgage insurance is largely consistent with some of the policy justifications that led to the creation of the program in 1954.

In looking at the rationale for government intervention in mortgage insurance, most, if not all, Canadian commentators have argued that the government has a role to play in the mortgage insurance market given the presence of macro or catastrophic risks. The rationale in favour of a role for government given the presence of catastrophic risks will be examined in a subsequent section of this chapter.

One objective of NHA insurance that has been added in recent years relates to competition. While the presence of private insurance was not even acknowledged in CMHC Annual Reports prior to 1979, the 1980 Annual Report[1] stated that NHA insurance "helps to ensure competition in what is likely to remain a

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1 Annual Report, CMHC, 1980, p.10.

highly concentrated industry". This objective was also mentioned in a Discussion Paper prepared by CMHC in April 1981. In that document, it was stated that public mortgage insurance permits the government to pursue the objective of ensuring a competitive mortgage insurance industry.

Another objective that has been emphasized in recent years is that of making mortgage insurance available in all areas of Canada and, correspondingly, of supporting the activities of lenders in sectors that might otherwise be neglected by private insurance. These statements appeared in the 1984 Operational Plan Framework and in the Discussion Paper on mortgage insurance prepared by CMHC in April 1981.

While most past and present objectives of NHA insurance are explicitly stated in official documents, other objectives do not appear in such documents although they are implicit from the way in which the program was used. In addition to mortgage market efficiency objectives, NHA insurance has been used to support the achievement of housing market objectives. In this regard the argument has been made that NHA insurance was introduced largely to ease access to homeownership and that the program was also used to encourage investment in new rental housing.

In addition to the program objectives identified above, NHA insurance has also been used to help achieve what official documents usually refer to as "other public policy objectives". In this regard, it has been argued that NHA insurance has helped the government pursue a variety of objectives by:

- playing a role of innovator in the development of new mortgage instruments;

- supporting economic stabilization policies;

- contributing to housing quality improvements;

- supporting consumer protection, metrification and national energy objectives; and

- assisting in the delivery of social housing programs.

Summary

The following list summarizes all past and present program objectives - both explicit and implicit - and possible future roles that have been identified through a review of official CMHC documents and of the literature on mortgage insurance. These objectives are:

- ensuring an adequate supply of private funds to housing;

- offering effective protection to the lenders against catastrophic risks;
- ensuring competitive results in the mortgage insurance market;
- ensuring that all potential borrowers are served in the market place;
- easing access to homeownership;
- encouraging investment in new rental housing;
- playing a role of innovator in the development of new mortgage contracts;
- supporting economic stabilization policies;
- contributing to housing quality improvements;
- supporting consumer protection, metrification and national energy objectives; and
- assisting in the delivery of social housing programs.

The questions that subsequent sections for this paper will address with regard to each program objectives are as follows:

- whether there is a problem under current and prospective market conditions;
- if there is a problem, whether there is a need for government intervention to address it; and
- if there is a need for government intervention, whether it is reasonable to expect that NHA insurance - given its objectives and design - can address the problem.

3.4 INITIAL PROGRAM DESIGN AND RATIONALE

By continuously adding new objectives, the prime mandate of the program has become increasingly blurred over time. The purposes of this section are: (i) to describe briefly the market conditions that prevailed prior to and at the time when NHA insurance was introduced; (ii) to identify the rationale that served at the time to justify government intervention in the mortgage market; (iii) to describe the main factors that were considered in designing the program and; (iv) to examine whether the design of the program was logically linked to its objectives.

3.4.1 The Mortgage Market Prior to 1954

A description of the design of NHA insurance and a discussion of the factors which influenced its design would be difficult to make without an understanding of how and why the program started and without reference to its predecessor, the Joint Loan Program and to the conditions that existed when that program was introduced.

The Joint Loan Program was introduced in 1935. Prior to the introduction of that program, only those who were relatively well-off could contemplate the purchase of a home, given that by today's standards, lending practices were extremely stringent. In those days, access to homeownership was seen to be difficult for three major reasons. First, downpayment requirements were high, representing, on average, 50 per cent of the value of the property and the maximum loan-to-value ratio was legislated at 60 per cent. For borrowers not having the necessary downpayment, this meant obtaining a second mortgage at a high interest rate.

A second problem stemmed from the absence of a blended monthly payment mortgage. Prior to 1935, instead of mortgage contracts providing for equal cash payments being made each month, repayments were prescribed on a semi-annual or annual basis, with each payment representing a fixed amount of principal, and accrued interest on the outstanding loan balance. This meant higher nominal payments in the early years of the mortgage when the loan was large. This had the effect of discouraging access to homeownership.

A third problem was seen to be the absence of a long-term fixed-rate mortgage. Interestingly enough, as in today's market, mortgage terms were relatively short prior to 1935 with the common term being five years. Also as in today's market, at the end of the mortgage term, the borrower would either have to renegotiate the loan arrangements or pay the outstanding debt in full. The practice of short-term mortgages, coupled with balloon payments at the end of the term, contributed to the substantial rise in foreclosures during the Great Depression.

3.4.2 Rationale for Government Intervention Prior to 1954

The Joint Loan Program marked the entry of the federal government into the mortgage field. Although largely prompted by employment objectives, the Joint Loan Program was also motivated by social equity preoccupation. This can be inferred from the fact that at that time, house purchase was not the only activity affected by stringent lending conditions. For example, similar problems existed in regard to the purchase of summer cottages, automobiles and other consumer durables. The fact

that the government limited its intervention to housing indicates that the notion of housing as a merit good was an important rationale for the introduction of the Joint Loan Program.

As indicated, another and perhaps an even more important rationale for the introduction of the Joint Loan Program had to do with employment creation. This was reflected in the design of the program under which the benefits of high-ratio financing were restricted to purchasers/investors in new housing - homeownership or rental.

The emphasis on employment objectives in the 1935 Dominion Housing Act is not surprising given that the economy had not yet recovered from the Great Depression. The fact that the employment objective appeared again in the 1944 National Housing Act is also consistent with prevailing economic conditions. A major preoccupation at the time centred around the employment prospects after the war when the labour market was required to absorb military personnel returning to the labour force, as well as those displaced from the war production industry. Of course, the situation also stimulated interest in housing questions since the enforced limitation on housing production during the war and the demand for housing that would follow demobilization were likely to create a situation of severe housing shortage.

The joint loan program was thus designed to ease mortgage lending practices in order to stimulate employment through housing construction. In its initial version, the program permitted loans to a maximum loan-to-value ratio of 80 per cent of which 25 per cent was provided by the federal government. The private portion of the loan provided mainly by insurance companies but also by trust and loan companies, had to bear a five per cent interest rate. However, because the government's share was provided to the lender at a three per cent interest rate, the lender benefitted from a higher yield on his investment since borrowers were charged an interest rate of five per cent on the total loan amount. To reduce default risk to the lender, the government contracted to share losses on a fairly generous basis.

Because of its design, the joint loan program had simultaneous impacts on the supply and demand for mortgage funds. It increased the supply of funds through the direct infusion of government funds and by improving the attractiveness of the mortgage instrument through interest rate subsidies to the lender and protection against default risk. It stimulated the demand for funds by liberalizing mortgage terms and by limiting the interest rate charged to borrowers.

The joint loan program remained largely unchanged until 1954 when it was replaced by mortgage loan insurance. During its existence, the program was revolutionary in its impact on mortgage lending practices. In particular, the joint loan program had been instrumental in introducing the blended equal payment mortgage, in lengthening mortgage terms to 30 years and in raising maximum loan-to-value ratios to roughly 90 per cent soon after its inception.

3.4.3 Rationale for Government Intervention in 1954

In 1954, mortgage loan insurance was introduced to ensure that the liberalization of mortgage terms achieved under the joint loan program would be maintained. However, under the new system, this would be achieved in a different way, namely by (i) facilitating the financing of high-ratio mortgages with private funds and by (ii) operating the program on a self-sufficient basis rather than through the direct provision of public funds at subsidized interest rates.

The requirement that mortgage loan insurance be operated on a self-sufficient basis is an important element in distinguishing between the 1935 Joint Loan program and the rationale for government intervention starting in 1954. Under the Joint Loan Program, by subsidizing the cost of borrowing, the government effectively increased the demand for housing and thereby stimulated employment in the residential construction industry. By contrast in 1954, by introducing the constraint of self sufficiency and by charging a price that reflected the risk involved in mortgage insurance, the role of the government shifted to that of addressing the impact of market imperfections and simply ensuring that the proper amount of resources would go into housing.

As mentioned previously, one of the conditions for a perfectly competitive market is the absence of artificial restraints placed on supply and demand. One such restraint which existed in 1954 was the statutory limit which prevented the major institutional lenders from making mortgage loans in excess of 60 per cent of the value of the property[1]. Because of this constraint, housing borrowers were unable to secure credit at interest rates commensurate with the risks that they presented. The introduction of NHA insurance in 1954 was aimed directly at correcting the distortions created by this market imperfection.

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1 This limit still exists today. It was raised to 66 2/3 per cent in 1961 and to 75 per cent in 1964 and has remained unchanged since that time.

Although economic efficiency objectives replaced employment objectives in 1954, the merit good rationale which had been an implicit justification for the Joint Loan Program in 1935, remained an important rationale for NHA insurance in 1954. This conclusion is derived from the fact that although the 60 per cent loan-to-value threshold applied to lending on non-residential as well as on residential properties, government intervention in the form of mortgage insurance in 1954 was - and it is still today - limited to the financing of housing. The merit good argument also implies that NHA insurance was created largely as a housing program aimed at easing access to homeownership and at encouraging investment in rental housing as opposed to being solely a capital market measure aimed at improving economic efficiency.

3.4.4 Program Design Considerations

In order to meet the goal of ensuring an adequate supply of private funds to housing and correspondingly reducing the dependence of the housing sector on public money, two major steps were taken in 1954. First, the Bank Act was amended, allowing the chartered banks to enter the mortgage market and make NHA-insured loans. Second, to ensure that the banks would become active and significant suppliers of mortgage funds, the National Housing Act insured loan program was designed primarily to meet their needs while at the same time continuing to provide borrowers with liberal terms. With regard to borrowers, the 1954 NHA provided them with access to high-ratio loans and a statutory right to a 25-year term mortgage.

In order to entice the banks to invest in long-term mortgages and to address their specific needs, NHA insurance was designed with a view to (i) making the mortgage instrument as attractive as possible; (ii) creating a program that would be administratively simple and (iii) putting in place facilities that would ease mortgage origination by the banks.

To improve the attractiveness of the mortgage instrument, the insurance policy incorporated the following features:

- nearly full risk protection against default;
- a separate policy tied to each individual loan (as opposed to risk sharing with the government on a pool of mortgages as under the Joint Loan Program);
- transferability of the policy meaning that an insured mortgage could be bought and sold; and
- the right to sell an insured mortgage to any investor subject to the mortgage being serviced by an approved lender.

These features essentially make an insured mortgage replicate a long-term risk free bond. The reasons for incorporating the features of a bond into an insured mortgage were to make the loan as marketable as possible so that an active secondary mortgage market would develop and increase further the supply of private funds by attracting other investors such as pension funds into the mortgage market. It was also felt in 1954 that an active secondary mortgage market would be essential for the participation of the chartered banks in light of what was perceived to be their need for portfolio adjustment. The theory then was that an active secondary mortgage market would allow the banks to transform their short-term liabilities (deposits) into long-term assets (mortgages) since such a market would permit them to adjust their portfolio cheaply and quickly if and when they faced liquidity problems. Of course, in the 1950's when interest rates were relatively stable, the question of interest rate risks and the resulting need for matching assets and liabilities were not a major preoccupation.

Before commenting on the other features of the program, it is important to describe the reasoning that led the architects of NHA insurance in 1954 to choose to offer 100 per cent protection rather than limiting protection to the excess over 60 per cent of the property value. While limiting protection may have been consistent with the loan-to-value regulation that prevailed at the time, Woodard[1] makes the following comment regarding the choice in favour of 100 per cent coverage:

> "Most lenders feel that the risk is not confined to the more volatile upper portion of the loan but that the entire loan strength is diluted by the granting of higher-ratio loans".

Turning back to the considerations that led to the design of mortgage insurance, it was mentioned that one of the thrusts in shaping NHA insurance was that of keeping the plan as administratively simple as possible. In this regard, one should note that NHA insurance, as it appeared in 1954 was an adaptation of the U.S. insured loan model which had been in existence since the 1930's. In the U.S. program, insurance premiums were collected annually and claims were paid by the Federal Housing Administration (FHA) to the lenders through the issuance of bonds in exchange for the title of the property. In contrast with the FHA model, the NHA insurance charges an upfront insurance fee and settles claims in cash. As indicated, these features were incorporated into NHA insurance to keep the

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1 Woodard, ibid., p.309

program as simple as possible. However, to a large extent, this also reflected the fact that NHA insurance was designed in an economic environment which was significantly more favourable than the environment which existed in the nineteen-thirties when FHA insurance was introduced.

In summary, the major preoccupation of the architects of NHA Insurance in 1954 was to transform the mortgage instrument into an attractive investment vehicle so as to entice the financial institutions and other private investors to channel funds into housing, and thereby eliminate the need for public funds. In this regard, the program was well designed, with its major design features logically consistent with the operational objective (constraint) of ensuring an adequate supply of private funds to housing.

3.5 PROGRAM EVOLUTION TOWARDS INCREASED ECONOMIC EFFICIENCY

While the introduction of the self-sufficiency constraint meant that NHA insurance was pursuing an economic efficiency role starting in 1954, the fact is that public mortgage insurance remained largely a housing program with clear public policy objectives. In fact, except for charging premiums as opposed to providing subsidies, the 1954 insurance program was very similar to the Joint Loan Program. As under the Joint Loan Program, eligibility was restricted to new homeownership and rental housing, and loans were subject to limits to ensure that the program was targetted to the production of modest cost housing. Interest rate ceilings on loans which had been a feature of the Joint Loan Program were maintained under the new program to ensure that the benefits resulting from government insurance would accrue largely to borrowers rather than to the lenders.

While most of the initial constraints on the program were eliminated over the years, their initial inclusion in 1954 is quite revealing not only in terms of the initial objectives of the program, but especially of the fact that NHA insurance initially was by no means a pure economic efficiency model. As indicated, the main constraints imposed on the program were as follows:

(i) eligibility restricted to new housing only;

(ii) loan limits to target eligibility to modest cost housing;

(iii) interest rate ceiling on NHA loans;

(iv) minimum mortgage term of 25 years; and

(v) flat premiums and application fees.

Obviously, none of these constraints were consistent with the attainment of pure economic efficiency objectives. However, each and every one of these constraints found its rationale on the basis of social equity considerations.

The constraint that only new housing be eligible was consistent with the preamble of the National Housing Act which itself put the emphasis on the supply of housing; in those days, the concern related primarily to having a level of housing production in line with a rapidly expanding population. Targetting NHA insurance to the production of modest cost housing reflected further a desire to channel what was then expected to be a limited supply of funds, to those most in need of help.

The constraints related to the maximum interest rate that a lender could charge, the statutory right of borrowers to a 25-year term mortgage and the same fees and premiums charged to all borrowers also reflected social preoccupation rather than pure economic efficiency objectives.

This section has three major purposes. First, it describes the evolution of the program during its 30-year existence. Second, it examines how and why the objectives of the program have changed and in particular, it attempts to explain why new program objectives have appeared over time. Third, it attempts to show how and why the program has continuously moved away from being a housing measure to become largely an economic efficiency measure aimed at ensuring the proper functioning of the mortgage market.

3.5.1 Deregulation of the Mortgage Market

As the architects of NHA insurance had feared in 1954, recurrent shortages of private funds emerged as the most significant problem associated with the program during its early years of existence. However, rather than being caused by the inherent stimulative effect of the program on housing demand, the problem resulted mainly from the ceiling NHA interest rate which acted to discourage the lenders from investing in NHA mortgages in periods when market interest rates for conventional mortgages exceeded the ceiling rate on NHA loans.

To compound the problem of recurrent shortages of private funds resulting from the effect of the NHA interest rate ceiling, the chartered banks virtually withdrew from the mortgage market in the late 1950's. This was due to the provision in the Bank Act which prevented the banks from making loans at an interest rate in excess of 6 per cent. The banks' withdrawal came as a result of the general rise in interest rates which by late 1959 made investment in short-term assets more attractive than mortgage

lending. Given the emphasis in 1954 to encourage the chartered banks to enter the mortgage market, their rapid withdrawal from mortgage lending diminished considerably the effectiveness of mortgage loan insurance in augmenting the supply of private funds.

A third factor which was discouraging lenders' participation under the NHA was the long-term rise in interest rate which for those lenders who did not have access to long-term deposit liabilities - i.e., most lenders except the life insurance companies - meant interest rate risks and financial losses due to the impossibility under the NHA to match the term of mortgage assets (25 year term) and deposit liabilities.

To address these problems, a series of measures was taken between 1967 and 1969. These were as follows:

- in 1967, the ceiling NHA interest rate formula was changed to make it more flexible and ensure that the NHA rate would be more in line with market conditions;

- also in 1967, the Bank Act was amended and the ceiling of 6 per cent on bank loans was removed;

- in 1969, the ceiling on the NHA interest rate was removed altogether; and

- in the same year, the five-year rollover mortgage became eligible under the NHA.

These measures had two main implications. First, the decision to remove the ceiling on bank loans which had been proposed in the 1966 Bank Act revisions and which took effect in 1967, led to the extension of NHA insurance to existing homeownership housing. This was motivated by the expectation that the re-entry of the banks in the mortgage market would more than offset the increased demand for funds resulting from the financing of existing homeownership housing. The rationale for insuring existing homeownership housing in turn was motivated by two factors. First, the extension to existing housing was consistent with enabling low and moderate income people to access homeownership in that existing housing always tends to be cheaper and therefore more accessible than new housing. Second, the exclusion of existing housing had the effect of creating a distortion by depressing the price of existing relative to new housing. The extention of NHA insurance to existing housing was thus seen as necessary to eliminate this distortion.

The second implication of these actions aimed at addressing the problem of shortage of private funds, was that of sacrificing what in 1954 had been seen as highly desirable, namely giving

borrowers a statutory right to a long-term (25-year) mortgage. Abandoning the regulation that specified a minimum mortgage term of 25 years, was done in recognition of the demand on the part of borrowers for shorter term mortgages as well as with a view to removing what had become a major inpediment to the flow of private funds into housing.

However, on balance, while these changes were necessary to make the mortgage market work more efficiently, some of these changes also had the effect of removing the program's original public policy purposes in housing and thereby making NHA insurance more of a mortgage market measure aimed at correcting the impact of imperfections in that market.

3.5.2 Evolution of the Conventional Mortgage

Another important development that changed the role of NHA insurance was the sustained evolution of the conventional mortgage. When NHA insurance was introduced in 1954, there was then a clear distinction between an NHA mortgage and a conventional mortgage as borrowers who qualified for an NHA mortgage were receiving significant benefits in terms of reduced interest rate and more attractive borrowing terms. However, over the years, largely as a result of the beneficial innovative role that NHA insurance itself played, borrowing conditions improved markedly under conventional terms.

A problem that existed in the mortgage market when NHA Insurance was introduced, was that residential mortgages were regarded as high-risk investments and as a result, housing was a residual recipient of funds. Largely as a result of the influence of NHA financing, lenders' perceptions regarding mortgage lending risks changed and borrowing conditions started to improve under conventional terms. For example, as under NHA insured lending, the long-term fixed rate blended payment mortgage became the norm under conventional terms soon after 1954. Furthermore, in reflection of the increased willingness of the lenders to accept more risks, the loan-to-value threshold for conventional lending was increased from 60 per cent to 66 2/3 per cent in 1961 and again to 75 per cent in 1964.

The year 1964 also marked the entry of private insurance which then took a form similar - without subsidies of course - to the joint loan program which had been offered by the government until 1954. Under this scheme, the Mortgage Insurance Company of Canada (MICC) offered insurance on second mortgages. In those days, private insurance was largely targetted to serve homeowners left out by NHA insurance. These were mainly buyers of expensive new houses who, because of the loan limits, could not obtain sufficient financing under NHA insurance.

The evolution of the conventional mortgage which of course accelerated after 1970 when the private sector was formally allowed to offer insurance of first mortgages, had the effect of reducing the influence that the NHA mortgage had in the marketplace. This in turn had two implications. First, increased competition from the conventional mortgage and from private insurance had the effect of leading towards increased economic efficiency in the market for mortgage insurance. The other implication was that as the conventional mortgage became a closer substitute to the NHA mortgage, the net contribution of NHA insurance as a tool to ease access to homeownership and to support the production of rental housing diminished correspondingly.

3.5.3 Shift towards Premiums Reflecting Risk

As the mortgage market became fully integrated into the capital market and as the influence of NHA insurance started to decline, the program came to be regarded as having fewer and fewer public policy objectives of its own. As a result, in the late 1970's, the mandate of the program started to be referred to that of competing with the private sector in the mortgage insurance market and of meeting "other public policy objectives".

Over the years competition from private insurance has had two profound impacts on the operations of public mortgage insurance. The first impact of course was to reduce the market share of NHA insurance and this at least partly led the government in 1979 and 1980 to extend NHA Insurance to markets that had never been served by public mortgage insurance before. These were the markets for high-priced homeownership, high cost new rental housing and existing rental housing. While on the one hand, these actions had the effect of restoring the share of NHA insurance, they also made the role of government in mortgage insurance increasingly ambiguous.

The second impact that private insurance had on the mortgage insurance market was that of forcing CMHC to move away from the flat premium structure that had been in effect since 1954. The present new premium structure which largely relates premium to risk at the individual loan level[1] makes pricing in the mortgage insurance market to a large extent comparable to pricing in other insurance markets in terms of obeying pure economic efficiency criteria. The implication however has been that

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1 Premiums are now related to loan-to-value ratio and surcharges are imposed on condominiums and on mortgage instruments such as graduated payment mortgages and variable rate mortgages.

public mortgage insurance now plays somewhat a lesser role in easing access to homeownership to marginal borrowers and in supporting investment in rental housing.

Given the evolution of the program towards becoming increasingly a tool to achieve pure economic efficiency results, the question now is whether public mortgage insurance still plays any public policy role or whether it only competes with the private sector. This question will be examined next.

3.6 PUBLIC POLICY ROLE OF NHA INSURANCE

The main difference between the way in which NHA insurance is operated now and the market results that would be obtained if it were left to the private sector lies in the fact that the program ensures geographical equal access to high-ratio mortgages. For example, under the present system, people who live in areas far remote from major urban centres - e.g., Frobisher Bay, NWT - pay the same application fee - up to $350 - as people living in Montreal in spite of the fact that is may cost CMHC as much as $1 000 to initiate a loan in a remote area. Similarly, under the current premium structure, borrowers who live in high risk markets - e.g., in resource towns such as Sept-Iles (Quebec) - pay the same risk premium as people living in cities like Toronto where the economy is well diversified and thereby where default risks are substantially lower. In a study[1] prepared in 1985 by the Planning Division of CMHC, it was estimated that people in resource towns should be paying a premium approximately three times higher than the premium charged in large urban centres in order to cover the risks involved.

3.6.1 Rationale for Equal Pricing Across Markets

The fact that CMHC charges geographically invariant premiums coupled with the constraint that the program be operated at zero cost, suggest that the government pursues a mixture of economic efficiency and social equity objectives in mortgage insurance. The zero cost constraint itself implies that a key objective of the government consists of ensuring that the proper amount of resources is allocated to the housing sector - thereby counteracting the adverse impact of the 75 per cent loan-to-value regulation. On the other hand, the fact that premiums and fees are geographically invariant suggest that an important program objective must consist of ensuring equal access to high ratio mortgages by subsidizing mortgage insurance

1 "NHA Insured Lending in Resource Communities: Policy Alternatives", Planning Division, CMHC, February 1985.

in high-risk markets such as one industry towns and resource towns, and in remote ares where the cost of initiating the insurance is high.

The idea of charging the same premium and fee to people in all parts of the country is not a new one under the NHA insurance program. In fact, equal access to mortgage funds in all parts of Canada was one of the rationales for the introduction of mortgage insurance in 1954. This point has been made by both J.V. Poapst[1] and H. Woodard[2] in their work reviewing the early years of public mortgage insurance in Canada. One should also note that a judgment in favour of this objective was made during the recent housing consultation process when the Federal/Provincial Market Housing Sub-Committee endorsed it as the role for the federal government in mortgage insurance. This principle was also endorsed by the Nielsen Task Force in its review of housing programs in that the Task Force recommended that mortgage insurance premiums and fees be geographically invariant.

3.6.2 Implications Of Equal Pricing Across Markets

Charging flat premiums and fees across different geographical locations has four major implications. The first implication is that charging the same premium and fee across markets irrespective of the risks involved and irrespective of the cost of doing business is not a private sector solution and as such, this implies a need for government intervention if such market results are desired.

The second implication is that given the constraint that the program be operated on a self-sufficient basis, cross-subsidization must then be an essential element in the operation of the program. What this means of course is that the government must earn sufficient profits from insuring loans in low risk markets to cover the cost of subsidizing borrowers living in higher risk markets.

The third implication is that prices will be different from those that would be charged if pure economic efficiency results were pursued - i.e., if premiums were based strictly on risk. The end result will be that pure economic efficiency will be sacrificed so that borrowers in low risk markets will pay

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1 Poapst, J.V., "The National Housing Act, 1954", in the Canadian Journal of Economics and Political Science, Vol. 22, No. 2, May 1956, p.234-243.

2 Woodard, H., "Canadian Mortgages", Don Mills, Collins, 1959.

slightly more than if prices reflected risk at the individual market level rather than at the national level. This will mean that the allocation of resources will be sub-optimal.

It also implies that the government does not want competitive results in the mortgage insurance market since this would mean prices reflecting risk at the market level rather than flat prices across markets.

The fourth implication is that whether private insurance exists or not, the full attainment of the objective of equal access across markets - i.e., same borrowing terms irrespective of where people live - necessitates that Option A coverage be the only product available. In this regard, consider for example the extreme case of Option B coverage being the only product available. Under this model, the lenders of course would bear a significant portion of the risk. In a well functioning and highly competitive market - and these are characteristic features of the mortgage market today - the end result of this model would be that competition between the lenders would bid the price of financing down in the low risk markets, and thereby, create a significant gap in borrowing costs between low and high risk markets. This gap of course could then take the form of either higher interest rates in high risk markets or more stringent underwriting terms such as larger downpayment requirements being imposed in those markets or a combination of both.

The objective of equal access would also be defeated if Option A and Option B coverage co-existed in the marketplace. In a well functioning market, these two products of course would be offered at different prices since they provide significantly different levels of protection. Under these conditions, competition between the lenders would result in Option B coverage being used in low risk markets where the lenders perceived that this product provides sufficient protection while Option A coverage would be targetted to high risk markets. The end result again would be unequal access to mortgage financing.

3.6.3 The Problem of Conflicting Objectives

The pursuit of the objective of equal access in an environment in which public and private insurance compete against each other, creates substantial problems particularly in regard to conflicts between the various objectives pursued by the government. One such problem relates to the difficulty for the government to achieve self-sufficiency through cross-subsidization. This results from the fact that cross-subsidization entices private insurers to practice "cream-skimming". What this means is that if the government as an insurer charges flat premiums, a profit-maximizing firm will

only compete to capture a share of the low-risk loan market. The end result of course will be that the public insurer will obtain only a limited share of the low-risk category, while serving all loans in the subsidized high risk category. The consequence for the public mortgage insurance operation will be financial losses unless it turns down one high risk borrower every time that it loses one low risk borrower to private insurance. This, of course, would defeat the objective of equal access.

A second problem with cross-subsidization stems from the fact that by providing subsidies to certain classes of borrowers, it has the direct effect of closing the door to competition from the private sector in serving those groups of borrowers. This obviously conflicts with the objective of encouraging competition in the mortgage insurance market.

A third problem relates to the inconsistency between pursuing the objective of equal access on the one hand and performing sound underwriting to achieve self sufficiency on the other. For equal access to be achieved as an objective, premiums and underwriting rules must be equal in all markets. This means that the objective of the program could not be attained if the premium shortfall in high risk markets was compensated for by more stringent underwriting rules being applied in those markets. The implication is that performing market analysis and using the results of such analysis to perform underwriting, is largely inconsistent with the objective of equal access to mortgage financing across markets.

A final problem relates to the inconsistency between allowing the private sector to compete in the mortgage insurance market whereby the key benefits of such competition would be a more efficient market with prices reflecting risk - and pursuing equal pricing across markets. This raises the question as to whether the government wants the social objective of equal access to be pursued in all mortgage insurance sub-markets or whether there are some sub-markets in which the government wants to encourage competitive results and if so, which are those sub-markets where such results would be desirable. This issue will be explored next.

3.7 HOUSING OBJECTIVES

Consistent with the view that housing is a merit good, and as such is a housing program as opposed to a simple capital market measure aimed at correcting a market imperfection, official CMHC documents (e.g., CMHC Annual Reports) have often referred to the objective of public mortgage insurance as easing access to homeowership and of supporting the production of rental housing. If these are the ultimate housing objectives of the

program, the question that arises next is whether public mortgage insurance should be available on a universal basis i.e., in all sub-markets.

This issue is examined next for homeownership and rental housing separately.

3.7.1 Access to Home Ownership

If the ultimate objective of the program were that of easing access to homeowership, the question that arises is whether NHA insurance should be available to repeat as well as to first-time home buyers.

The merit good argument provides no strong rationale in favour of NHA insurance being available to repeat home buyers. If the objective of government policy were to help renters become homeowners by equalizing opportunities to obtain a higher ratio mortgage across all parts of the country, then clearly the role of the government should stop once a family has joined the ranks of homeownership. This was the case prior to 1980 when NHA insurance was largely targetted to first-time buyers through the imposition of loan limits.

Loan limits were not eliminated in 1980 in response to a need for more government intervention due to economic efficiency or social equity reasons. The main reasons at the time had to do with (i) the difficulties of administering the loan limits in what was then a highly inflationary environment, (ii) the perceived need to improve the efficiency of cross-subsidization by insuring lesser-risk high income repeat buyers and (iii) the desire to restore the influence of NHA insurance on the quality of housing.

Of the three reasons that led the government to extend NHA insurance to high-priced homeownership housing in 1980, cross-subsidization was by far the most significant and legitimate reason given the constraint that the equal access objective be met at zero cost to the government. However, while this may have been the most convincing argument in 1980, and while this remains the most convincing argument of the three, this argument has weakened in recent years. Contrary to the situation in 1980 when premiums were flat and consequently when low risk high income buyers of expensive homes with large downpayments were needed to cross-subsidize first time buyers with small downpayments, the situation now is somewhat different in that premiums are largely related to the loan to value ratio. As a result, there is much less cross-subsidization taking place now between high income repeat buyers and low income first-time borrowers.

With regard to the other two reasons that led the government to abandon the price limits on home ownership loans in 1980, the argument that high and volatile inflation makes such limits difficult to administer is of course much less valid now as the environment is one of low and stable inflation. Turning to the housing quality argument, as it will be shown later in this chapter, this also represents a weak justification for the government offering insurance to repeat buyers.

Alternatives open to the government to target the program to first time buyers and the implications of such alternatives will be examined in Chapter 6.

3.7.2 Rental Housing

In regard to rental housing, official CMHC documents have always referred to the ultimate objective of government policy in the market as that of supporting the production of rental housing and until 1980, the emphasis was put on the production of modest-cost rentals.

If the ultimate objective of NHA insurance was that of supporting the production of rental housing, the question that arises is whether the program should also be available to people who want to invest in existing rental properties.

As indicated previously, it was only in 1979 that NHA insurance was extended to existing rentals. At that time, the extention of NHA insurance to this sub-market was motivated by two major factors. The first factor had to do with what was seen as the problem of the declining influence of public mortgage insurance in the market place, particularly in regard to the influence of the program on the quality of housing. The second factor related to the increasing losses that the Mortgage Insurance Fund was facing and in this regard, the extention of NHA insurance was motivated by a desire to insure lower risk existing rentals to subsidize new rental housing.

Neither of these factors represent a strong justification for NHA insurance being available to finance existing rental housing given the way in which the program is operated today. First, with regard to cross subsidization, one should note that NHA insurance does not currently use existing rentals to subsidize new rentals. This of course implies that cross-subsidization is not a justification for the government to insure existing rentals given the way in which the program is operated now. In addition, due to the existence of private insurance and other substitutes to mortgage insurance, cream-skimming reduces considerably the effectiveness cross-subsidization as an instrument to achieve financial self-sufficiency.

Turning to the housing quality argument, the validity of this argument will be examined later in this Chapter as well as in Chapter 5 dealing with the impact of the program on the quality of housing. In this regard, the only observation to be made at this point concerns the fact that insuring existing housing has limited potential effect on the quality of housing compared with the insurance of new housing and as such, the housing quality argument represents a weak justification for the extention of public mortgage insurance to existing rentals.

3.7.3 The Problem of Conflicting Objectives

Before closing this section on the subject of housing objectives, the problem of conflict between the objectives of supporting rental production and that of operating the program on a self-sufficient basis should be mentioned.

One of the necessary ingredients for self sufficiency consists of performing sound underwriting. In the case of rental housing, this means ensuring that market conditions are favourable to the success of new projects. This also means that rather than taking the risk of insuring too many rental loans in a given market and driving vacancy rates and eventually default rates upward, a profit making mortgage insurer would rather approve a limited number of rental projects.

While this behaviour is perfectly acceptable for a private sector insurer, it is not compatible with the social role of government and as such, a government agency offering mortgage insurance must bear the risk of creating loose markets and defaults rather than risk having tight markets, rent pressures and in the extreme case, families having to double-up. However, at times, this behaviour has been translated into losses for the Mortgage Insurance Fund.

3.8 PUBLIC/PRIVATE COMPETITION

Consistent with the objective of NHA insurance found in official CMHC documents with respect to ensuring a competitive climate, advice given to the government during the recent housing consultation process was that NHA insurance should compete fairly with private insurance.

The key question is whether these statements are consistent with the objective that the government pursues in mortgage insurance viz. that of ensuring equal access to mortgage financing at zero cost to tax payers. It is relatively simple to answer this question in that there is an inherent contradiction between encouraging competition with the eventual results being efficient prices (i.e., premiums reflecting risks and fees

reflecting the true cost of doing business) and pursuing the objective that people in all markets pay the same premiums and fees. The conclusion that emerges of course is that the objective of ensuring a competitive market makes no sense given that the government does not want competitive results in the mortgage insurance market.

A second major inconsistency arises from simultaneously encouraging competition (i.e. wanting more private firms to enter and compete in the mortgage insurance market) and operating the program so that the objective of equal access can be achieved at zero cost to taxpayers. Self sufficiency can only be attained through cross-subsidization and for this to happen, CMHC needs a large share of the market. For example, assuming that CMHC needed five low-risk loans to subsidize each high risk loan and assuming further that high-risk loans amounted to only 10 per cent of the market, then CMHC would need a market share of 60 per cent to operate the program on a self sufficient basis. This means that unless CMHC makes a substantial profit on each low risk loan, the share needed by NHA insurance to breakeven must be large. Correspondingly, this also means that if self sufficiency is to be attained, private insurance must play a relatively modest role in the marketplace.

3.9 THE NATURE OF MORTGAGE DEFAULT RISK

The purpose of this section is to examine whether the presence of macro risks necessarily creates a role for government in the mortgage insurance market, and if so, what that role should be.

3.9.1 Micro and Macro Risks

It is useful to visualize mortgage default risk as arising from two sources: micro or particular risk and macro risks. Micro risks originate from factors that are particular to individual loans and arise as a result of particular causes that are essentially personal in origin. In the case of mortgage default, micro risk factors include the borrower, mortgage contract and property characteristics specific to individual loans. Because micro risks are largely independent from each other, they are essentially diversifiable. Macro risks, on the other hand, have their origin in political, social or economic factors and as they simultaneously affect groups of policyholders, they are not diversifiable. In mortgage insurance, macro risk factors include events such as unemployment, inflation, fluctuations in interest rates, and so on. For example, in Canada, the major factors that have had significant impacts on house prices and correspondingly on defaults, have been the impacts resulting from the energy crisis after 1973, the changing political situation in Quebec after

1976 and the impact of reduced oil and gas revenues on house prices in Alberta in the past few years. Obviously all these factors were beyond the control of any mortgage insurer, public or private.

To compound the problem that major events such as those described above have in creating macro risks, Canada does not have a well diversified economy and, in many Canadian metropolitan areas, the economic base is largely dominated by one industry. This is the case for example in cities like Windsor and Oshawa (automobile), Calgary (oil), Sudbury (nickel), Chicoutimi (aluminum), Hamilton (steel), and so on. This is not to mention the multitude of communities that one would classify as resource towns. As compared with Montreal and Toronto which have a diversified economic base and where macro risks find their origin primarily in economic factors that are national in nature, macro risks in communities that do rely primarily on one industry as an employment base can also originate from factors associated with the fortune of that industry.

3.9.2 The Implications of Macro risks on Insurance

The existence of macro or catastrophic risks in mortgage insurance and the fact that such risks are not invariant over time or across geographical areas has three major implications. Due to the presence of macro risks, mortgage insurance is different from traditional types of insurance since, unlike the case of life insurance in which premiums can be actuarially measured on the basis of life expectancy tables, mortgage insurance premiums cannot be calculated with a high degree of accuracy given that no one can predict when and how large the next catastrophe will be. This means that the attainment of self- sufficiency for NHA insurance, while a legitimate aim, cannot be guaranteed given the type of risk taken by the government, and in particular given that under NHA insurance, there is no limit on the government's risk exposure.

Secondly, while limited liability insurance, as offered by the private sector under "Option B", is more manageable than the insurance product offered by CMHC, there is no guarantee that a private insurer will be able to honour all its insurance policies in the event of a catastrophe. This, of course, would happen if the catastrophe exceeded in magnitude the scenario upon which the premiums were calculated. In the United States, the premiums charged by private insurers are set at a level sufficient to allow these firms to survive a relatively severe recession. In Canada, however, premiums until recently were not set at a level sufficiently high to allow insurers to survive a major recession.

The third implication is that the 75 per cent regulation itself should not be regarded as if it were "cast in stone" given that macro risks are not invariant over time or across geographical area and housing markets. On this point, market results clearly indicate that the lenders themselves do not strictly abide by this rule. This is evidenced by the fact that in some housing sub-markets such as one-industry towns and in the case of large rental projects, the lending institutions require insurance on loans that are much below the 75 per cent threshold. As it will be seen in Chapter 6 dealing with alternatives to the program, this aspect will need to be considered carefully in assessing proposals that have been made recently to limit further the liability of the mortgage insurers.

3.9.3 The Existence of Macro Risks and the Role of Government

The presence of macro risk does not imply that mortgage insurance cannot or should not be provided by the private sector. While mortgage insurance has its own peculiarities, it also bears similarities to other types of activities undertaken by the private sector. Selling mortgage insurance is conceptually similar to the activity of selling options[1] and in fact, the mortgage insurance policy itself is basically equivalent to a "put option"[2]. Market results clearly indicate that options markets can function well with proper supervision. The main difference between options markets and mortgage insurance is that in options markets, the stock exchange does ensure at all time that option sellers have sufficient resources to meet potential liabilities. In the case of mortgage insurance, this function is performed by the Superintendent of Insurance which regulates the amount of contingency reserves that a private insurer must have at all times. However, because of the presence of macro risks, no one can guarantee that these reserves will be sufficient to compensate the lenders for losses sustained in the event of a catastrophe.

In light of the presence of macro risk in mortgage insurance, an important rationale for government intervention in the mortgage

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1 Options are basically a form of insurance in that the purchaser of an option buys protection against adverse movements in the price of the underlying asset.

2 A put option provides the buyer with the right to sell the underlying asset, at an agreed upon price within a specified period of time. Put options are generally bought by individuals seeking protection against a decrease in the price of the underlying asset.

insurance market stems from the argument that the private sector cannot underwrite catastrophic risks, with the implication that there is no guarantee that private insurance will have sufficient resources to compensate the insured lenders for losses in the event of a catastrophe. This argument implies that, if private insurance is available, (i) the government must play a supervisory role to ensure that private firms maintain "sufficient" contingency reserves and (ii) in the event of a catastrophe, primarily because of the presence of third-party effects, the government may have a role to play by assuming some of the contingent liability if failure by private insurance were to jeopardize the viability of the financial sector and society's confidence in its financial institutions.

3.10 NHA INSURANCE IN SUPPORT OF OTHER GOVERNMENT OBJECTIVES

It has been argued in various official CMHC documents that NHA insurance has helped the government pursue various objectives by:

- playing a role of innovator in the marketplace;
- supporting economic stabilization policies;
- contributing to housing quality improvements;
- supporting consumer protection, metrification and national energy objectives; and
- assisting in the delivery of social housing programs.

3.10.1 NHA Insurance as a Tool to Promote Innovation in Mortgage Contracts

NHA insurance has played a role as a tool to promote innovation in the mortgage market. In this regard, it was noted previously that the program itself was a major innovation when it was introduced in Canada in 1954 and as it will be shown in Chapter 4 on program achievements, one of the most significant indicators of the success of the program as an innovator has been the development of the conventional mortgage.

Government intervention in support of innovation makes sense if there is evidence that the private sector, left on its own, will not introduce new products because of the cost involved. Under these conditions, government intervention is warranted to the extent that the social benefits accruing from innovation exceed social costs.

The fact that innovation should be encouraged by the government if social benefits exceed social cost points to an inherent

conflict in the program between the objective of promoting innovation and the constraint of self sufficiency. Self-sufficiency of course forces CMHC to judge innovation as a business entity by comparing only private monetary benefits and private costs. In this regard the inherent danger associated with the program is that innovation may be sacrificed in the name of strictly adhering to the principle of self-sufficiency.

3.10.2 Mortgage Insurance as a Tool to Achieve Economic Stabilization Objectives

During the past 30 years, NHA insurance has at times[1] been used to achieve economic stabilization objectives. This was done by varying NHA underwriting rules and in nearly all cases, the program was used to increase the effective demand for housing and thereby stimulate employment.

Under the present model of public/private provision of mortgage insurance, public mortgage insurance cannot be an effective tool to achieve economic stabilization objectives without encroaching on the presence of private mortgage insurance. To be effective, any action taken by public mortgage insurance would have to be followed by similar actions by private insurance. In theory, this could be done through either moral suasion or regulation in situations when the government wants more stringent underwriting rules. However, the problem arises when the government wants to increase the effective demand for housing by adopting more liberal underwriting rules. Under these conditions, unless it were profitable for the private sector to match the actions taken by the government, the end result would be that NHA insurance would take an increasing share of the mortgage insurance market and this, of course, is not conducive to encouraging private sector presence.

3.10.3 Housing Quality and Other Related Objectives

It is beyond the scope of this paper to examine whether there is currently a need for government intervention to seek housing quality, energy efficiency, metrification and consumer protection objectives. The only question relevant for this Chapter is whether NHA insurance, given its present design and objectives, can achieve such objectives. The issue regarding the impact of the program on housing quality will be examined in Chapter 5.

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1 Although it is beyond the scope of this paper to review the objectives of the AHOP and ARP programs, it has been argued before that one of the objectives of these programs was employment creation.

There is no doubt that during its 30-year existence, NHA insurance has contributed to improvements in the quality of housing. However, after 1970, when the private sector took an increasing share of mortgage insurance activity, the effectiveness of NHA insurance in meeting these objectives was reduced correspondingly. Under competitive conditions, NHA insurance faces two problems in trying to meet housing quality related objectives. First, to be effective, NHA insurance must strive to have a significant share of the market and this obviously conflicts with the principle of having the private sector present in the market for mortgage insurance. Second, the enforcement of housing quality and other related standards makes underwriting under the NHA substantially more cumbersome than under private insurance. To the extent that such standards put NHA insurance at a disadvantage in competing with the private sector on the basis of speed of service or to the extent that such standards force NHA insurance to charge a higher fee for loan initiation, their enforcement exposes NHA insurance to adverse selection problems.

Such problems arise simply because the presence of stringent standards discourages lenders and builders from using NHA insurance and for that reason, they tend to refer only high-risk borrowers to CMHC. The existence of adverse selection problems was one of the key reasons why in 1980, CMHC reduced the number of inspections and softened the underwriting standards under NHA insurance.

Another factor that limits considerably the effectiveness of mortgage insurance in affecting housing quality is the relatively small percentage of total housing production which insured lending represents. Furthermore, this percentage is declining rapidly due to the aging of the population and the consequential reduction in the number of first-time home buyers in need of high ratio loans.

3.10.4 Delivery of Social Programs

NHA insurance has been used as a tool to attract private funds to finance social housing projects. As a result, it has been argued that without public mortgage insurance, the government's capital requirements would be increased since, without NHA insurance, public funds would be needed to finance such projects.

While this argument may sound valid, it does little as a justification for the presence of government in mortgage insurance given that there are other means that the government can use to attract private funds. This is largely evident from

the Government of Ontario initiative of using private insurance as a means to attract private funds to finance housing renovation.

3.11 SUMMARY AND CONCLUSIONS

When the government introduced NHA insurance in 1954 as a replacement for the joint loan program, its objective was to ensure that the liberalization of mortgage terms achieved under the old program would be maintained. However, under the new insured loan system, the government introduced two constraints that did not exist under the joint loan program. These were that the liberalization of terms be continued but subject to (i) private funds being substituted for public funds and (ii) that the program be operated at zero cost to the government rather than through the provision of subsidies. During the past 30 years, this set of objectives and constraints has remained unchanged as the key mandate of the program.

In offering mortgage insurance so that borrowers could continue to obtain high-ratio mortgages under liberal terms, the government was faced with two broad choices. First, it could have charged a price that reflects risk for the insurance. Alternatively, it could charge the same price to all borrowers irrespective of whether they live in a high or low risk market and irrespective of whether they live in an urban centre or in a remote community and of how much it costs to initiate a loan in that geographical location. By charging flat premiums and fees across markets, the government since 1954 has used NHA insurance to ensure equal access to high ratio loans in all parts of the country.

Charging flat premiums and fees across different geographical locations combined with the self-sufficiency constraint indicates that the government pursues a mixture of economic efficiency and social equity objectives in mortgage insurance. This means that in operating the program, the government is not only concerned that the proper amount of resources be allocated to the housing sector, but also that borrowers in all parts of the country have equal access to high-ratio mortgages.

Charging flat premiums and fees across markets has several major implications. The first implication is that charging the same premiums and fees across markets irrespective of the risks involved and irrespective of the cost of doing business is not a private sector solution and as such, this implies a need for government intervention if such market results are desired. The second implication which flows from the first one is that the objective of ensuring a competitive market makes no sense given that the government does not want competitive or economic efficiency results in the mortgage insurance market. Another

implication of charging flat premiums and fees across markets is that of exposing the government to cream-skimming by private insurance with the end result being financial losses for the MIF.

Because of the presence of macro risks in mortgage insurance, two specific roles for government were identified in this chapter. First, the government must play a supervisory role to ensure that private firms maintain "sufficient" reserves to meet potential future claims. Second, because of the presence of third-party effects, a role for government would exist in the event of a catastrophe if failure by private insurance were to jeopardize the viability of the financial sector and society's confidence in its financial institutions.

Since 1954, NHA insurance has been used to help the government achieve a variety of social and economic objectives. These included:

- facilitating the innovation of new mortgage instruments;
- supporting economic stabilization policies;
- enhancing the quality of housing and neighbourhoods through the enforcement of housing quality and site-related standards;
- contributing to the achievement of other government objectives related to energy efficiency, metrification and consumer protection; and
- assisting in the delivery of social programs.

While NHA insurance has in the past been relatively successful in helping the government meet these objectives, their pursuit and attainment today through the provision of NHA insurance, in an environment in which private insurance is available - is largely impossible for two reasons. First, to achieve some of these objectives, NHA insurance should strive to have a large share of the market. Obviously, this is not compatible with a government objective of having private sector presence in the mortgage insurance market. The second reason stems from the fact that to achieve other types of objectives, the government must necessarily provide subsidies to selected groups of borrowers, e.g., subsidized application fees to achieve housing quality objectives. Again, this type of action has the effect of closing the door to private insurance.

CHAPTER 4

OBJECTIVES ACHIEVEMENT

4.1 INTRODUCTION

In this chapter of the evaluation study, the performance of the public mortgage loan insurance program will be assessed in terms of the achievement of program objectives. Based on the identification of the primary objectives of public mortgage loan insurance in the previous Chapter, this process involves an examination of the issues relating to whether the program has achieved what it was expected to achieve.

4.2 PROGRAM OBJECTIVES

The original objective of public mortgage loan insurance and still today, as found in past CMHC Annual Reports, is that of "easing terms on which loans can be obtained" while "ensuring an adequate supply of private funds to housing". When this (operational) objective appears in CMHC documents, it is usually preceded by a preamble which states that the objective of public mortgage insurance is "to promote the effective operation of the mortgage market". In addition, the program is to be operated at no cost to the government.

In essence, the program was designed to effect a balance between the requirement for high-ratio mortgages (the liberalization of mortgage terms) in ensuring wide access to housing (ease access to homeownership and support investment in residential rentals), while safeguarding the investment quality of these inherently riskier mortgage loans (as the lender will realize a reduced level of risk of loss upon default inherent in the insurance vehicle, the supply of private funds is expected to correspondingly increase), and while operating the program at full cost-recovery. In short, the mandate of the program can be looked at as being:

Program Objective: (operationalized)	Ensure that borrowers in all parts of the country continue to obtain high-ratio mortgage loans under the best possible terms and conditions, including the lowest possible interest rate.

The indicators which will be used in order to determine the extent to which this primary objective of public mortgage insurance has been achieved are: a time-series comparison of the interest rate on NHA-insured mortgages to conventional mortgage interest rates; a time-series comparison of the periodic increases in the NHA loan ceiling to changes in the inflation rate and in the homeownership component of the Consumer Price Index; statistical data pertaining to loan-to-value ratios (loan-to-total project cost in the case of rentals), gross-debt-service to income ratios, amortization periods and their comparison between NHA-insured and

privately-insured mortgages; as well as the age distribution of NHA borrowers in order to capture the potential impact the program has exerted upon easing access to homeownership for first-time home purchasers. Data pertaining to the annual share of the market financed through NHA insurance is also included in order to demonstrate the program's contribution to the nation's housing stock.

Program Constraints: i) That the funds be provided by private lenders.

The major indicator which will be used in the Chapter to determine whether this constraint has been satisfied is the annual levels of NHA (Sections 58 and 59) Direct Lending, given that the provision of public funds represents the shortfall of private funds necessary to satisfy the total market demand for residential mortgages.

ii) That the program be operated at no cost to the government.

The statistic to be used in assessing the success of the program in terms of the zero cost constraint will be annual MIF financial (revenues, expenses and reserves) data.

iii) Competition with private insurers[1].

The indicator that will be used in order to determine the extent to which the program has effected competitive results in the mortgage insurance industry will be the comparison of annual market share data between CMHC and MICC across geographical areas and by lines of business.

4.3 THE EARLY ERA (1954-1969)

4.3.1 Objective: The liberalization of Mortgage Terms

In 1954, the public mortgage insurance program was designed in such a way that borrowers were enabled to obtain mortgage financing at terms that were equally liberal as those terms prescribed under the 1935 Joint Loan Programme. Changes in NHA borrower characteristics between 1954 and 1969 indicate that NHA insurance was a major contributor in further easing access to housing. In addition, neither the flat NHA premium (2 per cent for homeownership and 2½ per cent for rental projects) nor the $35 application fee were permitted to vary by risk cohort or geographical markets under the terms of the program. As a

1 This constraint was added in 1970, when the private mortgage insurers became eligible to insure high-ratio mortgage loans.

result, program design features ensured that borrowers qualifying for NHA mortgage insurance, paid the same cost.

First, the NHA interest rate ceiling attached to NHA insured loans was consistent with the objective of ensuring that borrowers pay the lowest possible interest on their mortgage loans. Prior to 1967, the NHA interest rate ceiling remained fixed for long time intervals, and was periodically altered with the discretion of CMHC through legislative authority. After 1966, the NHA on their mortgage loans. Prior to 1967, the NHA interest rate ceiling remained fixed for long time intervals, and was periodically altered with the discretion of CMHC through legislative authority. After 1966, the NHA interest rate ceiling became fixed at levels above the Government of Canada bond rate and was only altered quarterly. During a given period when the NHA rate was fixed, conventional mortgage rates could have declined below the NHA rate ceiling. However, the data demonstrate that on average, the NHA rate was consistently below the market determined conventional rate (see Table 4.1). While theoretically, the NHA rate should be lower than the conventional rate given its risk-free nature, the often high and variable annual differences between the two rates (particularly in periods when lenders curtailed their mortgage lending activities) indicates that the NHA rate was not altered every quarter to fully reflect changed market conditions. Especially in those years where the deviations were very large (1956-1958 and 1964-1967), NHA mortgage insurance offered liberal terms for borrowers in the form of a very low rate of interest relative to rates on conventional (low-ratio) mortgages.

Although maximum loan amounts on NHA insured mortgage loans were established at $12 800 for new homeownership and $7 000 per unit for new multi-family dwellings in 1954, these maximum loan limits were periodically raised. By 1969, these loan limits were increased to $25 000 for new homeownership housing, and to $18 000 per unit for rentals. Maximum loan limits for existing homeownership housing (which became eligible for NHA insurance in 1966) were also increased from $10 000 in 1966 to $18 000 in 1969. Although house prices were also escalating between 1954 and 1969, raising the maximum NHA loan limits effectively allowed for the enhancement of liberalized mortgage terms and access to homeownership in real terms. Table 4.2 illustrates this point. Every maximum loan increase exceeded that amount which would have been sufficient to maintain the same level of access to homeownership for potential NHA borrowers.

Although the initial NHA maximum loan limit increases from $12 800 to $14 200 in 1960, and subsequently to $14 900 in 1963 were made in order to reflect inflating house prices, the data in Table 4.3 indicate that house prices were (initially) escalating at a faster rate than the loan limit increases.

TABLE 4.11
COMPARISON OF AVERAGE NHA AND CONVENTIONAL MORTGAGE RATES

	1 AVERAGE MAXIMUM NHA RATE (%)	2 AVERAGE CONVENTIONAL MORTGAGE RATE (%)	2 - 1 AVERAGE SPREAD (BASIS POINTS)
1954	5.5	6.01	51
1955	5.25	5.88	63
1956	5.5	6.23	73
1957	6.0	6.85	85
1958	6.0	6.80	80
1959	6.75	6.98	23
1960	6.75	7.18	43
1961	6.5	7.50	50
1962	6.5	6.97	47
1963	6.25	6.97	72
1964	6.25	6.97	72
1965	6.25	7.02	77
1966*	6.83	7.66	83
1967	7.44	8.07	63
1968	8.54	9.07	23
1969	9.38	9.84	46
1970	10.06	10.45	39
1971	9.04	9.43	39
1972	8.95	9.21	26
1973	9.4	9.59	19
1974	10.9	11.24	34
1975	11.17	11.43	26
1976	11.71	11.78	7
1977	10.36	10.36	0

* NHA rate became based on a formula which permitted it to fluctuate in relation to changing yields on long-term Government of Canada bonds.

However, the real impact of the enhanced NHA maximum loan limits was particularly evident through much of the 1960's. The data in Table 4.3 demonstrate that particularly after 1963, the percent change in the NHA maximum loan amount outpaced the percent increase in the homeownership component of the CPI as well as the percent change in residential sale prices (MLS data for Canada).

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1 Source: Canadian Housing Statistics.

TABLE 4.2[1]
LIBERALIZATION IN REAL TERMS

	% Change in CPI	NEW HOMEOWNERSHIP HOUSING		EXISTING HOMEOWNERSHIP HOUSING	
		Changes in NHA maximum loan amount ($)	NHA Maximum Loan Amount Adjusted for Inflation (CPI) ($)	Changes in NHA Maximum Loan Amount ($)	NHA Maximum loan Amount Adjusted for Inflation ($)
1954	0.62	12 800	12 879		
1955	0.15		12 898		
1956	1.49		13 090		
1957	3.14		13 501		
1958	2.60		13 852		
1959	1.14		14 009		
1960	1.27	14 200[2]	14 187		
1961	0.96		14 323		
1962	1.21		14 496		
1963	1.66	14 900[3]	14 737		
1964	1.82		15 005		
1965	2.46	18 000	15 374		
1966	2.73		15 947	10 000	10 373
1967	3.64		16 527		10 750
1968	4.02		17 191		11 182
1969	4.50	25 000	17 965	18 000	11 695

1 Source: Canadian Housing Statistics.
2 $14 900 for homes with more than 3 bedrooms.
3 $15 600 for homes with more than 3 bedroods.

TABLE 4.3*
LIBERALIZATION IN REAL TERMS (Continued)

	% Change in NHA Maximum Loan Amount (New homeownership housing)	% Change in Homeownership Component of Consumer Price Index	% Change in MLS Sales Price
1956-1960	10.9	16.6	18.3
1961-1963	4.9	5.9	2.1
1964-1965	20.8	4.6	5.7
1966-1969	38.9	28.2	32.5
1956-1969	95.3	61.0	93.7

*Source: - Multi-Listing Sales data from the Canadian Real Estate Association.
- Canadian Housing Statistics.

In addition to maximum loan amounts being constantly increased, by 1960 NHA borrowers could effectively obtain mortgage financing with only a 5 percent downpayment for new homeownership, and 10 percent for new rental loans. Clearly, the trend in this Early Era suggests that easing loan limits and downpayment requirements for NHA loans exerted a real impact upon easing access to housing. This is evidenced by the fact that the average loan-to-value ratio for a typical NHA mortgage borrower rose from 75 percent in 1954 to 85 percent in 1969. In addition, NHA insurance was a contributor in ensuring that between 1958 and 1969, average annual loan-to-value ratios for NHA borrowers rarely fell below 85 percent.

As the data in Table 4.4 indicate, NHA mortgage insurance was successful in contributing to an increase in liberalized mortgage terms vis-a-vis the pre-1954 Joint Loan Programme as between 1950 and 1953, average loan-to-value ratios were substantially lower, ranging from 72 to 75 per cent.

The unavailability of data pertaining to non-NHA borrower characteristics during this time period prevents useful cross-sectional comparisons, as it is conceivable that conventional borrowers were also experiencing liberalized mortgage terms. In this context, the net impact of NHA insurance is difficult to quantify. Despite this constraint, the data presented is sufficient in determining whether NHA insurance succeeded in contributing to the liberalized mortgage standards which were pioneered by the 1935 Joint Loan Programme.

With respect to changes in the gross-debt-service ratio, program design changes again enabled more borrowers to become eligible for the attractive borrowing terms offered by NHA-insured mortgages. In 1954, eligible borrowers were required to have a gross-debt-service ratio of no more than 23 percent. This stipulated ratio was raised to 27 percent in 1957, enabling more potential borrowers to secure NHA mortgage financing. In addition, the calculation in 1954 of the gross-debt-service ratio (GDS) took into account only the income of one spouse. By 1968, approved lenders became authorized to also consider 50 percent of the spouse's salary income when calculating the maximum GDS. Although changes to program design (i.e., enhancing the stipulated maximum GDS ratio and including 50 per cent of spouse's income) were made to reflect a changing environment (i.e., more working women and the need for two incomes to buy a home), they were also effective in enabling higher-risk borrowers to facilitate a home purchase. In this sense, the success of the program in easing access to housing is demonstrated by the fact that in 1958, less than 3 percent of total NHA borrowers possessed a GDS ratio in excess of 27 percent. By 1969, roughly 20 percent of all NHA borrowers exceeded this stipulated ratio.

TABLE 4.4[1]
LIBERALIZATION OF MORTGAGE TERMS AND CORRESPONDING CHAGES IN NHA BORROWER CHARACTERISTICS (EARLY ERA)

	% OF NHA BORROWERS (NEW HOUSING) POSSESSING A GDS RATIO EXCEEDING 27 PERCENT[2]	MEAN GDS RATIO FOR NHA BORROWERS (NEW HOUSING	MEAN LOAN-TO-VALUE RATIO FOR NHA BORROWERS (NEW HOUSING)
1946	-	18.3	-
1950	-	19.1	0.74
1953	-	18.1	0.72
1954	-	18.7	0.75
1955	-	18.6	0.78
1956	-	18.3	0.78
1957	-	18.5	0.74
1958	2.9	19.9	0.81
1959	7.5	20.1	0.80
1960	11.1	21.2	0.87
1961	11.3	21.7	0.85
1962	11.5	21.4	0.86
1963	9.7	21.4	0.85
1964	12.2	21.5	0.86
1965	10.2	21.4	0.85
1966	10.7	21.4	0.85
1967	11.9	21.6	0.79
1968	19.3	21.8	0.80
1969	19.9	22.6	0.85

The data concerning average GDS ratios in Table 4.4 demonstrate that the public mortgage insurance program was a contributing factor in enabling higher-risk borrowers to qualify for mortgage loans. The secular growth in annual average GDS of NHA borrowers from 18.1 per cent in the last year of the Joint Loan Programme to 22.6 per cent by 1969, suggests that the advent of public mortgage insurance and the ensuing program changes impacted favourably upon the liberalization of mortgage terms.

In terms of easing access to homeownership, the program's contribution in enabling younger borrowers to enter the housing market was profound, as illustrated in Table 4.5. Although the average age for NHA borrowers decreased marginally (from 34.4 to 33.1 years) between 1957 and 1969, the percentage of NHA borrowers less than 30 years of age increased dramatically from

1 Source: Canadian Housing Statistics.
2 The maximum GDS was 23 per cent until 1957.

31.4 to 40.2 per cent, which at least partially reflects the effect of removing previous GDS requirements.

This factor, coupled with the growing percentage of borrowers who switched tenure form from renting to home-owning (see Table 4.5) through the use of NHA insured mortgages, demonstrates the impact that the program exerted in enabling younger households and renters (who were previously excluded from the homeownership market due to insufficient savings to satisfy previous downpayment requirements or insufficient incomes to meet monthly payments) to enter the homeownership market.

The mortgage insurance program, however, did not confer benefits to the entire array of mortgage borrowers. Notwithstanding the contribution made by NHA-insured mortgages in the financing of new residential housing in Canada, it became apparent by the early 1960's that there were groups of housing consumers whose desires for insurance were not being satisfied in the most efficient manner possible.

As previously discussed, NHA-insured mortgages were limited as to dollar amount and were available for new housing only (until 1966). With increasing property values, NHA-insured mortgages

TABLE 4.5[1]
LIBERALIZATION OF MORTGAGE TERMS AND
EASING ACCESS TO HOMEOWNERSHIP (EARLY ERA)

	AVERAGE AGE FOR NHA BORROWERS (NEW HOUSING)	% OF NHA BORROWERS (NEW HOUSING) UNDER 30 YEARS OF AGE	% OF NHA BORROWERS (NEW HOUSING) WHO WERE PREVIOUSLY RENTERS
1957	34.4	31.4	63.2
1958	34.1	32.2	68.9
1959	34.2	32.1	67.2
1960	33.9	33.7	72.0
1961	34.2	32.2	78.1
1962	34.5	30.6	74.6
1963	34.5	30.8	71.9
1964	34.7	30.0	71.3
1965	34.6	30.9	71.3
1966	34.6	30.3	68.2
1967	34.2	33.4	67.5
1968	33.5	38.3	70.2
1969	33.1	40.2	72.4

[1] Source: Canadian Housing Statistics.

became less suitable for low and moderate income borrowers. As a result, there was a growing demand for high ratio financing on existing housing. The then maximum 66 2/3 percent loan-to-value ratio on conventional mortgage loans (raised to 75 percent in 1964) meant that substantial downpayments were required for the purchase of existing housing. In many cases where the full downpayment was not available, the home purchaser obtained the needed funds under a shorter-term, high interest rate second mortgage. This had the impact of raising the effective cost of borrowing and, in addition, placing a burden on the purchaser in the early years of the mortgage agreement due to the (generally) shortened amortization period on the second mortgage.

In 1966, NHA-insurance was broadened to include the purchase of existing homeownership housing, and only with a commitment by the borrower to expend a minimum $1 000 in repairs or improvements on the insured dwelling. By 1969, this encumbrance was dropped, and NHA insurance was fully extended to all homeownership housing.

In terms of supporting investment in housing, new residential construction of single homes financed through the NHA insurance vehicle often represented over 50 per cent of all such new construction (see Table 4.6). NHA insurance generally accounted for at least 20 per cent of all new rental construction. Although some of this building activity attributed to NHA insurance would likely have occurred in its absence, the low degree of substitutability between NHA and conventional mortgages indicates that without NHA mortgage insurance, the quantity of housing services consumed would have been reduced for all high-ratio borrowers.

4.3.2 Constraint I: Supply of Private Funds

The ability to fully substitute public with private funds, was not made possible by NHA Insurance in the Early Era.

Particularily in the years following 1956, the government was forced to provide a significant portion of the money advanced to borrowers in order to "ensure an adequate supply of funds". This is demonstrated by the large and growing volume of direct NHA loans in those years, which peaked to 43 000 units (for new housing) in 1967, representing a dollar amount of $420 million. Between 1964 and 1967, the situation was particularly acute as direct CMHC funds annually accounted for over 40 percent of all NHA lending activity (see Table 4.7).

Ostensibly, the constraint that public funds become replaced by private funds was not met in this Early Era. This was largely the result of three major market rigidities which acted as

TABLE 4.6[1]
NEW RESIDENTIAL CONSTRUCTION FINANCED
UNDER NHA INSURANCE

	SINGLES		MULTIPLES	
	# UNITS	% OF TOTAL*	# UNITS	% OF TOTAL*
1954	38 609	68.5	11 755	41.2
1955	53 285	74.2	13 094	39.9
1956	36 705	69.5	4 753	19.4
1957	23 472	63.8	1 898	7.8
1958	38 340	75.7	8 084	19.9
1959	22 860	62.6	3 825	10.4
1960	14 609	50.4	7 204	20.6
1961	24 035	64.0	14 588	24.6
1962	23 521	62.7	10 377	19.7
1963	20 416	52.5	10 809	20.0
1964	12 237	37.4	15 960	17.9
1965	8 549	27.7	16 967	20.0
1966	4 256	20.6	10 311	21.3
1967	5 983	24.8	21 171	29.6
1968	20 194	46.4	41 407	39.8
1969	19 301	44.8	29 394	33.6

* Total includes NHA and Conventionally financed construction.

TABLE 4.7[1]
TIME TREND OF NHA/CONVENTIONAL MORTGAGE RATE
DIFFERENTIALS AND NEED FOR PUBLIC FUNDS

	Section 58/59 Direct Loans ($million)	Direct Loans as a Percent of Total NHA Activity (%)	Annual Average Difference in NHA and Conventional Rate (Basis Points)
1956	6.3	1.6	73
1957	178.3	28.9	85
1958	308.6	75.8	80
1959	308.5	62.5	23
1960	150.2	17.0	43
1961	237.8	38.0	50
1962	154.3	39.7	47
1963	277.0	38.9	72
1964	332.6	45.7	72
1965	383.5	49.4	77
1966	417.5	62.2	83
1967	421.8	41.6	63
1968	203.8	16.4	23
1969	107.4	9.0	46

1 Source: Canadian Housing Statistics.

impediments to the full and constant flow of private funds to the Canadian mortgage market: The interest rate ceiling of 6 percent on bank loans, the NHA interest rate ceiling on all NHA-insured mortgages[1]; and the minimum 25 year term attached to NHA mortgages.

Although the banks made a substantial portion of NHA-insured loans in the early years of the Act, the interest rate on these loans, by 1959, climbed above 6 percent (the maximum rate that banks would charge under the Bank Act). Although the banks were expected to become the life-blood of the private flow of mortgage credit, their involvement from the late 1950's until 1967 (the year the Bank Act was amended to remove this interest rate rigidity) was almost neglible.

By and large, the explanation of this phenomenon (the growing need for direct loans) hinged upon the relationship between the NHA interest rate ceiling and the "free market rate" (i.e., that rate which would prevail if the NHA rate were left to market forces). Particularily during those periods when the deviation between the conventional mortgage rate and the NHA rate was very large private lenders correspondingly curtailed their NHA lending activity. Table 4.7 demonstrates that the infusion of public funds (through NHA direct lending) reached peak levels between 1965 and 1967, the same time period when the annual average difference in NHA and conventional mortgage rates ranged between 63 and 83 basis points.

The minimum twenty-five year term attached to NHA mortgages also impinged upon the program's inability to stimulate the flow of private mortgage funds. Between 1954 and 1969, inflation and interest rates rose substantially, making it increasingly difficult for

private lenders to "match" their deposit liabilities with 25-year term NHA-mortgage assets.

4.3.3 Constraint II: Zero Cost

The constraint of zero cost was more than adequately met in the Early Era, as by 1969, the Mortgage Insurance Fund (MIF) had accumulated a surplus of cash reserves of over $250 million. Although on an actuarial basis, the positive cash figure may be

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1 Although the insurance program referred to it as a "yield ceiling", for all intents and purposes, this can be construed as being equivalent to setting the rate since the NHA rate has always been at its maximum with the exception of a brief period in 1955 when the banks first entered the market and vigorously competed for market share.

overexagerated (there was still over $7.4 billion of insurance in force), the claims experience up to 1969 was so negligible that the Fund was likely operating well in excess of cost-recovery (see Table 4.8).

4.3.4 Summary: 1954-1969

At the end of this Early Era, the Hellyer Task Force (Report on the Federal Task Force on Housing and Urban Development) assessed the mortgage insurance program in terms of its effect on liberalizing mortgage terms with private funds and at no cost to the government.

In light of the large and growing need for public funds, the task force recommended that the interest rate for insured loans under the NHA be freed to find its own level in the financial marketplace, in order to ensure a more complete and continuous flow of private mortgage funds.

Although the Report acknowledged that the liberalization of mortgage terms was enhanced by 1969, a further easing of terms for borrowers was recommended in light of the large cash surplus of the MIF. Among its conclusions, the Task Force recommended that the NHA maximum loan amount be substantially increased, the maximum amortization period be lengthened, and the (flat) NHA insurance premium be reduced.

4.4 1970-1985: ENTER THE PRIVATE SECTOR IN MORTGAGE INSURANCE

The year 1970 marked a significant structural change in the Canadian mortgage insurance market, as federal laws, and subsequently provincial laws controlling the activities of institutional lenders, were amended to permit lending institutions to invest in high-ratio conventional loans, thereby fully opening the door to the mortgage insurance market for private mortgage insurers.

Corresponding to these legislative changes, in meeting the objective of liberalizing mortgage terms to borrowers, NHA insurance became subject to a third constraint: that of offering mortgage insurance in competition with the private sector. Such a constraint implies three possible conclusions: (i) compete directly with private mortgage insurers or (ii) complement the activities of private insurers (by insuring those areas neglected by private insurance) or (iii) both compete and complement.

Except for providing a competitive environment in mortgage insurance, a new role for NHA insurance, given the irrevokable entry of the private sector, was not addressed or clarified.

TABLE 4.8*

FINANCIAL STATE OF THE MORTGAGE INSURANCE FUND 1955-1969 ($000)

	Receipts			Expenditures					
Year	Fees and Premiums Received	Other Income	Total	Claims Paid and Legal Expenses	Other Expenses	Total	Net Income	Total Reserves[1]	Insurance or Guarantee in Force[1]
				Mortgage Insurance Fund					
1955	9 237	152	9 389	-	-	-	9 389	11 784	529 000
1956	9 840	521	10 361	-	-	-	10 361	22 145	1 083 000
1957	7 279	978	8 257	38	-	38	8 219	30 364	1 425 000
1958	13 816	1 562	15 378	62	-	62	15 316	45 680	2 100 000
1959	13 146	2 530	15 676	275	-	275	15 401	61 081	2 733 000
1960	8 456	4 555	13 011	1 497		1 497	11 514	72 595	3 090 000
1961	10 971	9 932	20 903	6 730		6 730	14 173	86 768	3 640 000
1962	11 577	12 266	23 843	8 579	-	8 579	15 264	102 032	4 123 000
1963	9 869	17 909	27 778	13 944	-	13 944	13 834	115 866	4 499 000
1964	12 063	17 408	29 471	14 731	-	14 731	14 740	130 606	4 934 000
1965	13 483	21 148	34 631	15 400	-	15 400	19 231	149 837	5 321 000
1966	14 291	18 797	33 088	10 373	-	10 373	22 715	172 552	5 789 000
1967	16 491	14 798	31 289	4 644	697	5 341	25 948	198 500	6 311 000
1968	14 640	13 945	28 585	2 102	590	2 692	25 893	224 393	6 732 000
1969	14 995	16 354	31 349	2 410	501	2 911	28 438	252 832	7 412 000

* Source: Canadian Housing Statistics.

The absence of a clearly established role of NHA insurance vis-a-vis the presence of private insurance, impinged upon the public mortgage insurance program's effectiveness in achieving its primary objective while simultaneously satisfying its constraints by the late 1970's and early 1980's.

4.4.1 THE ERA OF PEACEFUL CO-EXISTENCE: 1970-1978
Objective: Liberalization of Mortgage Terms

It is ironic to note that while in the Early Era (1954-1969), the problem experienced by potential borrowers was not one of affordability but one of simply being able to obtain a high-ratio mortgage. By the 1970's, the situation had completely reversed itself in that while borrowers now had easier access to high-ratio loans, fewer and fewer households could afford one. This reversal in the essence of the problem was largely the result of the effect of high and rising inflation and interest rates which were putting homeownership beyond the reach of an increasingly large percentage of households. During most of the 1970's, public mortgage insurance became increasingly used by the government as a means to counteract the adverse effects of rising inflation and interest rates upon access to homeownership.

The Mortgage Insurance Company of Canada (MICC) was the first private firm to enter the insurance market for high-ratio mortgage loans, and accounted for the lion's share of the private portion of the market thereafter. By the early 1970's, the operations of MICC began to resemble very much those of CMHC: Full protection granted to the lender (option "B" was not exercised to settle claims in this time period); and a list of approved lenders allowed to originate MICC-insured loans (much like CMHC). MICC also offered a full range of complementary services including insurance on first and second mortgages, lease guarantee insurance, a new home warranty insurance programme, and surety bonding for new construction.

Prior to 1970, attempts were periodically made to increase the degree of substitutability between the conventional and NHA mortgage. In 1961, the loan-to-value threshold on conventional lending was raised from 60 to 66 2/3 per cent, and again in 1964 to 75 per cent. The 1967 Bank Act amendment allowing chartered banks to lend conventional mortgages, the removal of the NHA interest rate ceiling in 1969, and the reduction in the minimum term on NHA mortgages from 25 to 5 years, represented attempts by the government to increase the degree of substitutability between the NHA and conventional mortgage. By allowing private lenders to make high-ratio conventional loans (thereby fully opening the door of the mortgage insurance market to the private sector) the relative desirability of lending and borrowing on conventional terms subsequently increased.

In the period between 1970 and 1978, the extent to which privately insured (conventional) mortgages substituted for the NHA mortgage in protecting lenders from losses arising from defaulted mortgages while offering liberal terms to borrowers, is evidenced by the large proportion of borrowers that MICC continuously served. By 1978, MICC had overtaken CMHC as the dominant force in the mortgage insurance market, accounting for 56 per cent of total dollar volume.

TABLE 4.9[1]
COMPARISON OF MARKET SHARES: NHA AND PRIVATE INSURANCE

NEW AND EXISTING HOUSING
IN BILLION DOLLARS

	NHA Insured		Privately Insured		Total Insured	
	Volume ($)	Share (%)	Volume ($)	Share (%)	Volume ($)	Share (%)
1975	3.6	56	2.8	44	6.4	100
1976	4.5	60	3.0	40	7.5	100
1977	6.2	60	4.2	40	10.4	100
1978	4.5	44	5.7	56	10.2	100
1979	4.2	45	5.2	55	9.4	100
1980	3.3	49	3.5	51	6.8	100
1981	3.0	60	2.0	40	5.0	100
1982	3.4	81	0.8	19	4.2	100
1983	7.8	86	1.3	14	9.1	100
1984 (1)	5.1	88	0.7	12	5.8	100

(1) January - August

In light of the Hellyer Report's recommendations, the approach taken by the government throughout the 1970's consisted of continuously softening the underwriting rules under NHA insurance, in order to assist and encourage homeownership. Subsequent to the Report's findings, NHA insurance premiums were reduced by 50 per cent, the maximum GDS ratio was raised to 30 per cent, and the income definition used to calculate the ratio was broadened to include 100 per cent of spouse's income.

Although the softening of the GDS requirement contributed in enabling more borrowers to facilitate the purchase of a house,

1 Source: Extracted from reports prepared by the Underwriting Division, CMHC.

MICC also adopted a maximum acceptable GDS ratio of 30 per cent. Table 4.10 demonstrates that between 1974 and 1984, average GDS for MICC borrowers marginally exceeded the average GDS for NHA borrowers. The distribution of GDS cohorts illustrated in Table 4.11 reveals that the majority of NHA borrowers possessed a GDS of less than 25 per cent, while MICC business was concentrated more in the riskier "25-30%" and "30% plus" GDS classes.

Starting in 1960 and by the 1970,s, down payment requirements for NHA-insured mortgages were as low as 5 per cent of lending value, and from 1970 to 1978, average annual loan-to-value ratios rarely dipped below 85 per cent. MICC also allowed mortgages to be insured with a 5 per cent downpayment, and average annual loan-to-value ratios for MICC borrowers were not significantly below average loan-to-value ratios for NHA

TABLE 4.10[1]
COMPARISON OF MEAN GROSS-DEBT-SERVICE RATIOS, LOAN-TO-VALUE RATIOS, AND AMORTIZATION PERIOD BETWEEN MICC AND NHA INSURED HOMEOWNERSHIP LOANS (BY YEAR)

	AVERAGE GDS		AVERAGE LTV		AVERAGE AMORTIZATION		AVERAGE INTEREST RATE	
	MICC	NHA	MICC	NHA	MICC	NHA	MICC	NHA
	(%)	(%)	(%)	(%)	(Years)	(Years)		
1970	-	20.5	-	87.1	-	25.1	-	-
1971	-	19.8	-	87.4	-	25.0	-	-
1972	-	19.7	-	88.0	-	24.8	-	-
1973	-	20.1	-	89.1	-	25.0	-	-
1974	23.0	21.0	-	85.4	24.8	24.8	10.7	11.1
1975	24.4	21.9	-	85.0	24.5	24.8	11.3	11.4
1976	24.6	22.6	-	84.8	24.4	25.0	12.0	11.8
1977	23.8	21.4	87.2	85.2	24.3	24.6	10.5	10.3
1978	23.8	21.4	85.2	86.7	24.4	24.5	10.6	10.4
1979	24.1	22.1	86.1	86.6	24.4	24.5	11.6	11.6
1980	24.3	22.5	85.4	87.5	24.2	24.1	13.6	13.8
1981	24.8	22.0	84.7	84.9	24.1	23.5	16.3	16.6
1982	23.9	23.0	82.5	82.6	22.8	21.8	16.7	16.7
1983	22.9	22.4	83.9	84.5	22.8	22.1	12.7	12.3
1984	23.1	22.9	83.4	85.6	23.0	22.4	13.0	12.8
1985	-	22.6	-	86.5	-	22.5	-	-

1 Source: Mortgage Insurance Portfolio System (MIPS) and MICC approvals file.

borrowers (see Table 4.10). Although the comparative distribution of NHA and MICC annual loan-to-value cohorts (Table 4.12) show that CMHC was dominant in the 90% plus category, a large proportion of NHA insurance business was also in the less risky 0-75% range. MICC concentrated its business in the intermediate 75-90% loan-to-value cohort.

TABLE 4.11[1]
COMPARISON OF GROSS-DEBT-SERVICE RATIO DISTRIBUTION BETWEEN MICC AND NHA INSURED HOMEOWNERSHIP LOANS (BY YEAR)

	0 - 20% GDS		20.1-25% GDS		25.1-30% GDS		30.1%+ GDS	
	MICC	NHA	MICC	NHA	MICC	NHA	MICC	NHA
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1970	-	44.8	-	38.1	-	16.6	-	0.53
1971	-	51.8	-	35.1	-	12.7	-	0.46
1972	-	53.1	-	32.5	-	13.6	-	0.82
1973	-	50.6	-	31.1	-	16.4	-	1.9
1974	24.2	43.8	29.6	32.4	33.8	20.8	12.5	3.1
1975	21.2	36.9	29.0	34.2	35.7	23.9	14.1	5.0
1976	19.7	30.9	28.5	34.4	36.3	28.3	15.5	6.5
1977	24.3	40.4	30.7	32.5	34.4	22.9	10.7	4.3
1978	24.3	40.9	30.5	32.2	33.8	22.7	11.4	4.2
1979	22.3	35.5	30.3	32.5	36.4	26.4	11.0	5.6
1980	20.0	33.1	30.6	31.7	39.5	28.4	9.9	6.8
1981	18.0	35.0	28.0	33.5	41.6	25.5	12.4	5.9
1982	21.2	30.9	32.1	31.2	38.5	28.6	9.1	9.4
1983	27.7	35.0	36.3	31.9	32.4	26.2	3.6	7.0
1984	25.6	31.6	34.2	31.2	35.5	28.4	4.7	9.9
1985	-	33.8	-	31.7	-	26.7	-	7.9

In this time period, the maximum amortization period attached to NHA Insured loans increased from 35 to 40 years, permitting a small net reduction in monthly payments for NHA borrowers. The maximum MICC amortization period remained at 35 years; however, Table 4.13 reveals that the distribution of amortization periods for both NHA and MICC insurance was very similar, both concentrating in the "0-25" year cohort.

1 Source: MIPS and MICC approvals file.

TABLE 4.12[1]
COMPARISON OF LOAN-TO-VALUE DISTRIBUTION BETWEEN MICC AND NHA INSURED HOMEOWNERSHIP LOANS (BY YEAR)

	LESS THAN 75% LOAN-TO-VALUE		75 - 90% LOAN TO VALUE		GREATER THAN 90% LOAN-TO-VALUE	
	MICC	NHA	MICC	NHA	MICC	NHA
	(%)	(%)	(%)	(%)	(%)	(%)
1970	-	9.8	—	30.5	-	59.7
1971	-	11.5	—	34.4	-	55.2
1972	-	10.4	—	32.0	-	58.6
1973	-	9.4	—	29.1	-	63.0
1974	-	8.0	—	37.4	-	46.0
1975	-	16.7	—	37.3	-	45.7
1976	-	16.7	—	36.6	-	46.7
1977	9.6	16.7	56.4	33.1	33.9	50.2
1978	9.6	13.7	67.3	28.5	23.1	57.8
1979	8.0	13.1	64.0	32.4	28.0	54.5
1980	9.2	9.5	73.1	38.0	17.7	52.6
1981	10.7	16.0	72.0	40.3	17.3	43.8
1982	14.8	19.4	75.8	66.1	9.4	14.5
1983	7.4	12.1	91.1	86.0	1.5	1.9
1984	7.2	8.7	91.4	90.3	1.4	1.1
1985	-	5.9	—	93.7	-	0.4

The high degree of substitutability that existed between MICC insured mortgages and NHA insured mortgages is also evidenced (in Table 4.10) by the minute discrepancies in annual average interest rates attached to these two instruments. The lack of any persisting and significant interest rate differentials reflects the negligible risk differences which were perceived to exist between MICC and NHA mortgages during the 1970's and the early 1980's.

Tables 4.14 to 4.17 compare the volume of insurance between CMHC and MICC across lines of business and geographic regions between 1974 and 1979. During this time period, MICC served almost every area (except for the Yukon and North West Territories and some remote areas) and line of business (except for large rental projects, as MICC had a maximum loan amount on rental projects of $6 million). The growing volume of MICC insurance through most markets across Canada coupled with the fact that MICC was insuring borrowers with similar risk characteristics as NHA borrowers, effectively reduced the net contribution of NHA

[1] Source: MIPS and MICC approvals file.

TABLE 4.13[1]
COMPARISON OF AMORTIZATION PERIOD DISTRIBUTION BETWEEN MICC AND NHA INSURED HOMEOWNERSHIP LOANS (BY YEAR)

	0 - 25 YEAR AMORTIZATION		26 - 35 YEAR AMORTIZATION		GREATER THAN 35 YEAR AMORTIZATION	
	MICC	NHA	MICC	NHA	MICC	NHA
	(%)	(%)	(%)	(%)	(%)	(%)
1970	-	92.8	-	7.2	-	0
1971	-	94.6	-	5.4	-	0.1
1972	-	95.3	-	4.6	-	0.1
1973	-	93.3	-	6.4	-	0.3
1974	90.7	93.5	9.3	6.2	0	0.4
1975	93.7	94.9	6.3	5.1	0	0
1976	95.3	93.7	4.7	6.3	0	0
1977	97.5	97.6	2.5	2.7	0	0.1
1978	96.1	97.3	3.9	2.7	0	0
1979	97.1	97.8	2.9	2.2	0	0
1980	97.7	97.4	2.3	2.7	0	0
1981	97.7	96.2	2.3	3.8	0	0
1982	99.6	98.9	0.4	1.1	0	0
1983	98.6	99.4	1.4	1.1	0	0
1984	99.6	99.7	0.4	0.6	0	0
1985	-	99.7	-	0.3	-	0

insurance in liberalizing mortgage terms. Insofar as each change in NHA underwriting rules was replicated by MICC, and as it became clear to lenders that NHA and MICC insured mortgages were close to being perfect substitutes (combined with MICC's ability to offer greater speed of service in processing loans and its exclusive presence in the markets for high priced homeownership and existing rentals), MICC continually accounted for a large share of the mortgage insurance market at the expense of NHA market share.

During much of the 1970's, NHA insurance continued to increase access to housing through the delivery of various stimulative federal housing programs. In the homeownership market, NHA insurance was extended to the Assisted Home Ownership Program (AHOP) in 1973[2], representing to some degree an attempt to

[1] Source: MIPS and MICC approvals file.

[2] It was also possible to have privately insured loans for either AHOP or ARP units.

TABLE 4.14
COMPARISON BETWEEN NHA AND MICC INSURANCE VOLUMES

NEW HOMEOWNERSHIP HOUSING

(Number of Dwelling Units)
1974-1979

Region	Regular Ownership		Condominium	
	Urban(1) Areas	Other Areas	Urban(1) Areas	Other Areas
ATLANTIC				
NHA	1 735	2 326	141	3
MICC	5 576	6 254	488	1
Total	7 311	8 590	629	4
% MICC	76.3	72.8	77.6	25.0
QUEBEC				
NHA	20 465	7 216	1 613	5
MICC	24 306	4 455	505	55
Total	44 771	11 671	2 118	60
% MICC	54.3	38.2	23.8	91.7
ONTARIO				
NHA	30 538	8 269	29 586	1 303
MICC	25 311	10 566	15 119	859
Total	55 849	18 835	44 705	2 162
% MICC	45.3	56.1	33.8	39.7
PRAIRIES				
NHA	14 345	12 175	5 882	728
MICC	27 693	14 813	8 264	657
Total	42 038	26 988	14 146	1 385
% MICC	65.9	54.9	58.4	47.4
BRITISH COLUMBIA				
NHA	3 385	3 921	4 098	895
MICC	7 138	5 590	8 183	192
Total	10 523	9 511	12 281	1 087
% MICC	67.8	58.8	66.6	17.7
YUKON AND NWT				
NHA	-	648	-	-
MICC	-	1	-	-
Total	-	649	-	-
% MICC	-	0.2	-	-

(1) Includes all census metropolitan areas and urban agglomerations

TABLE 4.15
COMPARISON BETWEEN NHA AND MICC INSURANCE VOLUMES

EXISTING HOMEOWNERSHIP HOUSING

(Number of Dwelling Units)
1974-1979

Region	Regular Ownership		Condominium	
	Urban(1) Areas	Other Areas	Urban(1) Areas	Other Areas
ATLANTIC				
NHA	4 649	5 615	98	3
MICC	14 396	13 797	405	1
Total	19 045	19 422	503	4
% MICC	75.6	71.0	80.5	25.0
QUEBEC				
NHA	45 743	9 700	1 314	3
MICC	34 167	8 314	368	3
Total	79 910	18 013	1 682	6
% MICC	42.8	46.2	21.9	50.0
ONTARIO				
NHA	76 278	25 546	9 112	215
MICC	39 716	30 532	6 655	242
Total	115 994	56 078	15 767	457
% MICC	34.2	54.5	42.2	53.0
PRAIRIES				
NHA	47 421	23 844	3 101	249
MICC	30 960	13 278	1 868	76
Total	78 381	37 122	4 969	325
% MICC	39.5	35.8	37.6	23.4
BRITISH COLUMBIA				
NHA	30 596	20 095	3 052	463
MICC	19 962	13 516	2 362	200
Total	50 558	33 611	5 414	663
% MICC	39.5	40.2	43.6	30.2
YUKON AND NWT				
NHA	-	785	-	13
MICC	-	14	-	-
Total	-	799	-	13
% MICC	-	1.8	-	-

(1) Includes all census metropolitan areas and urban agglomerations

TABLE 4.16
COMPARISON BETWEEN NHA AND
MICC INSURANCE VOLUMES

EXISTING RENTAL HOUSING

(Number of Loans)
1974-1979

Region	Urban Areas(1) 1-24 Units	24-49 Units	50+ Units	Other Areas 1-24 Units	24-49 Units	50+ Units
ATLANTIC						
NHA	11	-	1	3	-	-
MICC	469	22	7	324	6	4
Total	480	22	8	327	6	4
% MICC	97.7	100.0	87.5	99.1	100.0	100.0
QUEBEC						
NHA	124	13	14	5	-	1
MICC	5 345	657	166	381	6	1
Total	5 469	670	180	386	6	2
% MICC	97.7	98.1	92.2	98.7	100.0	50.0
ONTARIO						
NHA	16	2	3	5	-	-
MICC	611	65	29	380	24	10
Total	627	67	32	385	26	10
% MICC	97.5	97.0	90.7	98.7	92.3	100.0
PRAIRIES						
NHA	3	-	-	-	-	-
MICC	565	67	29	217	16	4
Total	568	67	29	217	16	4
% MICC	99.5	100.0	100.0	100.0	100.0	100.0
BRITISH COLUMBIA						
NHA	1	-	1	2	-	-
MICC	65	12	12	67	8	5
Total	66	12	13	69	8	5
% MICC	98.5	100.0	92.3	97.1	100.0	100.0
YUKON AND NWT						
NHA	-	-	-	1	-	-
MICC	-	-	-	1	-	-
Total	-	-	-	2	-	-
% MICC	-	-	-	50.0	-	-

(1) Includes all census metropolitan areas and urban agglomerations

TABLE 4.17
COMPARISON BETWEEN NHA AND
MICC INSURANCE VOLUMES

NEW RENTAL HOUSING

(Number of Loans)
1974-1979

Region	Urban Areas(1) 1-24 Units	24-49 Units	50+ Units	Other Areas 1-24 Units	24-49 Units	50+ Units
ATLANTIC						
NHA	12	6	8	50	10	1
MICC	122	14	5	87	1	1
Total	142	20	13	137	11	2
% MICC	85.9	70.0	38.5	63.5	9.1	50.0
QUEBEC						
NHA	78	19	34	67	28	9
MICC	1 078	134	32	189	8	-
Total	1 157	153	66	256	36	9
% MICC	93.3	87.6	48.5	73.8	22.2	-
ONTARIO						
NHA	95	53	148	67	46	38
MICC	42	24	35	189	18	7
Total	137	77	183	256	64	45
% MICC	30.7	31.2	19.1	13.4	28.1	15.6
PRAIRIES						
NHA	285	50	132	705	33	21
MICC	347	41	42	413	34	10
Total	632	91	174	1 118	67	31
% MICC	54.9	45.1	24.1	36.9	50.8	32.3
BRITISH COLUMBIA						
NHA	66	41	37	64	48	19
MICC	20	10	9	37	26	6
Total	86	51	46	101	74	25
% MICC	23.3	19.6	19.6	36.6	35.1	24.0
YUKON AND NWT						
NHA	-	-	-	16	2	2
MICC	-	-	-	-	-	0
Total	-	-	-	16	2	2
% MICC	-	-	-	-	-	-

(1) Includes all census metropolitan areas and urban agglomerations

correct a market imperfection (the so called "tilt" problem) created by the impact of accelerating inflation and interest rates. Although NHA insurance was diminishing in relative importance in the regular (unsubsidized) homeownership market, CMHC was very active in insuring AHOP units, as illustrated in Table 4.18. In 1976, CMHC insured over 41 000 AHOP units (an increase of over 10 000 units from 1975), while NHA insured regular homeownership units declined to roughly 65 000 units (a decrease of over 13 000 units from 1975). In order to provide borrowers with a mortgage contract appropriate to an environment of high and rising inflation, eligibility of NHA financing was broadened to include Graduated Payment Mortgage (GPM) loans in 1978.

Public mortgage insurance continued to support investment in new rental construction, largely though insuring rental subsidy programs such as the Assisted Rental

Program (ARP), The Canada Rental Supply Plan, GPM financing, and social housing projects.

TABLE 4.18*
NHA INSURANCE ACTIVITY IN THE HOMEOWNERSHIP MARKET

	NHA Insured AHOP Units	NHA Insured Regular Units
1973	5 166	62 771
1974	20 367	47 129
1975	30 385	78 541
1976	41 368	65 089
1977	31 324	89 652
1978	13 099	83 984

* Source: Mortgage Insurance Portfolio System (MIPS) file.

Table 4.19 demonstrates that although the importance of NHA insurance in liberalizing mortgage terms in the homeownership market was reduced given the similar operations of the private sector, NHA insurance continued to exert a relatively large impact in stimulating new rental construction, accounting for well over 50 per cent of total annual rental construction.

The extent to which NHA mortgage insurance supported such investment in rental construction during this time period is illustrated in Table 4.20. Although the average loan-to-project cost ratio rose marginally from 80.3 percent to 81.8 percent between 1970 and 1978, the proportion of such loans possessing a

TABLE 4.19
CONTRIBUTION OF NHA INSURANCE TO NEW RENTAL CONSTRUCTION (#UNITS)

	ARP	GPM	CRSP	Other NHA	Un-assisted NHA	Total NHA	Pri-vately Insured	Un-insured	Total	NHA as a % of Total
1974	-	-	-	5 313	21 995	27 308	7 971	15 188	50 467	54.1
1975	21 714	-	-	16 514	11 518	49 746	9 425	15 800	74 971	66.4
1976	25 495	-	-	20 366	6 930	52 791	6 765	15 261	74 817	70.6
1977	57 192	-	-	8 494	10 472	76 158	8 325	17 835	102 318	74.4
1978	18 002	2 471	-	8 611	6 347	35 431	11 440	10 438	57 309	61.8
1979	18	19 531	-	4 536	2 811	26 896	5 138	15 483	48 517	55.4
1980	97	7 692	-	10 276	1 393	19 458	3 139	10 870	33 467	58.1
1981	-	5 797	-	13 928	6 548	26 273	4 961	6 914	38 148	68.9
1982	-	677	2 101	13 481	11 215	27 474	871	10 280	38 625	71.1
1983	-	-	10 093	12 749	20 390	43 232	272	8 784	52 288	82.7
1984	-	23	3 193	11 919	9 861	24 996	407	7 841	33 244	75.2

* Source: MIPS file and Canadian Housing Statistics.

TABLE 4.20[1]
TIME-SERIES COMPARISON OF
LOAN-TO-TOTAL PROJECT COST DISTRIBUTION FOR
NHA (NEW RENTALS) SECTION "6" LOANS

	PERCENT OF LOANS LESS THAN 85% LOAN-TO-TOTAL COST[2]	PERCENT OF LOANS EXCEEDING 85% LOAN-TO-TOTAL COST	AVERAGE LOAN-TO-TOTAL COST
1970	72.2	27.8	80.3
1971	57.9	42.1	82.9
1972	63.7	36.3	82.0
1973	57.6	42.4	82.1
1974	68.7	31.3	80.0
1975	56.6	43.5	82.4
1976	59.9	40.1	76.1
1977	54.1	45.9	83.2
1978	57.7	42.3	81.8
1979	91.5	8.5	73.4
1980	57.4	42.6	78.5
1981	69.3	30.7	79.1
1982	75.0	25.0	80.4
1983	91.9	8.1	70.7
1984	82.2	17.9	77.4
1985	87.2	12.8	75.6

1 Source: Mortgage Insurance Portfolio System (MIPS) File.

2 Total Project Cost was used instead of market value in order to avoid the inherent difficulties (i.e., changes to income tax legislation, and the various methods which involve calculating "market value") in comparing market value for rental projects over time. Total cost includes the costs of land and construction, engineering fees, landscape, the insurance fee, etc). The unavailability of rental cost data from MICC prevented an appropriate comparison between public and private mortgage insurance in the rental sector.

high-ratio mortgage (in excess of 85 percent of cost) increased significantly from 27.8 percent in 1970 to 42.3 percent by 1978.

4.4.2 Constraint I: Use of Private Funds

Undoubtedly, the most significant changes in this period which facilitated the inflow of private mortgage funds was the removal of the 6 percent interest rate ceiling on bank loans (through the 1967 Bank Act amendment), which increased the feasibility for these institutions to increase their proportion of mortgages in their investment portfolios; the repeal of the NHA interest rate ceiling, thereby allowing the interest rate for insured loans under the National Housing Act to be freed to find its own competitive level in the financial marketplace, and in reducing the minimum NHA mortgage term to 3 years.

Allowing the relative strengths of supply and demand forces to determine the interest rate level was indeed the most logical means of allowing borrowers to receive mortgage credit at the lowest (i.e., competitive) possible price, while simultaneously ensuring an adequate supply of private funds. As such, the removal of interest rate rigidities was the necessary condition for meeting the supply of private funds constraint, as indicated by the subsequent low levels of NHA direct lending in this time period, which continually fell and plumetted to a relatively low level of $11 million by 1978.

By taking action to deregulate the mortgage market, and by using NHA insurance as its principal policy instrument, the government was successful in integrating the mortgage market into the capital market and, correspondingly, in substituting public funds with private funds in ensuring an adequate supply of private funds to the mortgage market.

4.4.3 Constraint II: Self-Sufficiency

By 1978, MIF reserves were in a cash surplus position of $631.5 million. This figure, however, should not be interpreted as meaning that the fund was again exceeding cost-recovery. Not only were there over $21 billion of insurance in force by 1978, but in the one year between 1977 and 1978, MIF claims expenses (in dollar terms) increased by 287 percent to a record level of roughly 500 million dollars.

Ostensibly, the reduction in insurance premiums, the continuous softening of NHA mortgage terms, the insurance of high-risk AHOP and ARP loans, together with a declining share of the insurance market (while still insuring loans in resource towns and remote areas using a flat premium structure), were not conducive to operating the MIF on an actuarially self-sufficient basis.

4.4.4 Constraint III: Ensuring Competition

As previously discussed, during the period 1954-1970, the only available mortgage insurance for high-ratio loans was that obtained under the National Housing Act. Following legislative changes made in 1970, private insurance emerged, and through most of this intermediate period (1970-78), served an increasingly large proportion of borrowers.

By 1973, the configuration of the mortgage insurance industry was characterized by the existence of four participants: CMHC and MICC (the incumbents), and Insmor Mortgage Insurance Company (IMIC) and Sovereign Mortgage Insurance Company (the new entrants).

This period of peaceful co-existence was exactly that -- the period in which CMHC was successful in not only attracting new firms into the industry, but also in complementing the private sector upon entry. This is evidenced by the volume of mortgage insurance business which was continuously shifted to the private sector, as CMHC gradually retained a residual share.

Given that through the years, the private sector could not compete on price with NHA insurance, the only way that private insurance could compete was on the basis of speed of service. Between 1970 and 1977, this was the method used by the private sector to ensure a sizeable share of the mortgage insurance market, while CMHC was continuously divesting its share of the market. While Insmor and Sovereign largely restricted themselves to insuring single-family dwellings, the operations of MICC (by far the largest private firm) very much resembled those of CMHC particularly in granting full protection to the lender.

Prior to 1979, CMHC set limits on the amount insured for any homeownership dwelling unit, while MICC generally had no such limit. MICC's willingness to provide insurance on single family homes in greater amounts coupled with CMHC's absence from the market for existing rentals, profered to MICC a significant competitive advantage over NHA Insurance. Between 1970 and 1978, NHA insurance was used more to complement the private sector (CMHC insured higher-risk remote areas and resource towns which were neglected by the private sector), although NHA insurance still competed with private insurance in other areas in order to cross-subsidize classes of risk. In this sense, the 1970-1978 era, CMHC was complementing and to a lesser extent, competing with the private sector in mortgage insurance.

Despite the entry of new firms and the growing share of the market which accrued to the private sector, CMHC was not competing entirely fairly with the private sector. The original

application fee of $35 for NHA insurance (which includes an inspection of plans, an appraisal of the property, and a commentary on the suitability of the land) was not altered to reflect the cost of doing business in real terms. The price for an appraisal and the inspection fee charged for MICC insurance was much higher - $20 on single family dwelling units, not including the appraisal performed by the lender which would cost an additional $50 to $100. The subsidization of application and appraisal fees by CMHC made it increasingly difficult for the private sector to compete.

The fact that the private sector was still able to compete and capture a large share of the mortgage insurance market is attributed to its superior efficiency in the approval process. As an MICC insured loan typically took shorter time to be approved[1], MICC would effectively charge a higher price than CMHC for inspection and application fees, through offering a better product in terms of a quick response to the insurance request (primarily due to the lack of inspection requirements).

Due at least to economies of scale involved in insuring mortgage loans and the presence of unfair competition in the form of the $35 fee charged by CMHC for the application and appraisal process, Insmor and Sovereign merged (under the Insmor name) in 1978. Despite this concentration of the private share of the market, the existence of two private firms accounting for roughly 60 per cent of the mortgage insurance market indicates that in the 1970-1978 era, mortgage insurance was successfully operated by the private sector, and the public mortgage insurance program largely met its constraint in providing a favourable competitive climate for competition (by complementing more than competing directly with the private sector) in the mortgage insurance market.

4.4.5 Summary: 1970-1978

During this intermediate period, the liberalization of mortgage terms continued in much the same manner as in the Early Era. Annual average loan-to-value ratios rarely fell below 85 per cent; annual amortization periods approximated 25 years; and there continued a secular rise in the average GDS for insured

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1 For example, CMHC went to great lengths to ensure that the property corresponds to the National Building Code and a variety of other CMHC requirements whereas the private insurer usually leaves the task of determining compliance with standards, plans, and specifications to the municipality and the approved lender.

borrowers. The extent to which the private sector offered similar liberal mortgage terms to borrowers, combined with the growing private share of the unsubsidized portion of the mortgage insurance market, indicate that the net contribution of public mortgage insurance in the easing of mortgage terms became marginal. NHA insurance was used more as a vehicle to deliver social housing projects and subsidized market housing programs.

The elimination of market imperfections, particularly the 6 per cent interest rate ceiling on the chartered banks' mortgage loans, the removal of the NHA interest rate ceiling[1], and the reduction of the minimum term on NHA mortgages to three years were all factors in ensuring an adequate supply of private funds to the housing market.

In spite of some unfair competition provided by CMHC in the form of subsidized application fees, the existence of two private insurers and especially the continued and growing strength of MICC prompted the Matthews Report in 1979 (Report on the Canada Mortgage and Housing Corporation) to conclude that the broad objective of NHA insurance in providing a sound environment for insured mortgage lending, had been largely accomplished.

4.5 (1979-1985) THE CURRENT STATE OF THE MARKET

4.5.1 Objective: Liberalization of Mortgage Terms

Since the late 1970's, the MIF has experienced high levels of claims losses - a situation not encountered in the previous two time periods (see Table 4.21). In response to increased defaults suffered by the MIF, underwriting standards have become tightened and the liberalization of mortgage terms which was ubiquitous in the 1950's through to much of the 1970's, was constricted by the 1980's.

One of the most salient deviations in program design away from continuing the liberalization of mortgage terms was the abolition of the flat premium structure in 1982, and again in 1984. To better reflect the risks involved, premiums have been increased and modified in order to reflect differences in loan-to-value ratios and lines of business. In addition, application and underwriting fees have correspondingly increased (from $35 to $100 in 1982, and up to $350 in 1984)to reflect the increased cost of initiating insured loans - thereby raising the relative cost to NHA borrowers vis-a-vis similar borrowers in the 1960's and 1970's.

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1 The NHA rate converged to conventional rate in 1979, reflecting the growing degree of substitution between NHA and conventional mortgages.

TABLE 4.21
MORTGAGE INSURANCE FUND ($000)(1)

	Revenue			Expenses						
Period	Premiums Received	Other	Total	Gross Claims	Other	Adjustment	Total	Net Income	Insurance In Force
1978	55 013	152 478	207 491	181 825	5 065	-	186 890	20 601	21 317 781
1979	42 154	408 848	451 002	499 090	71 664	-	570 754	(119 752)	26 398 976
1980	30 641	331 410	362 051	491 906	67 548	-	559 454	(197 403)	29 190 398
1981	27 372	360 043	387 415	408 774	75 660	-	484 434	(97 019)	26 804 884
1982	35 277	26 435	61 712	87 787	88 126	(85 509)	90 404	(28 692)	29 132 842
1983	54 536	34 854	215 362	215 362	57 309	77 012	349 683	(260 293)	33 468 664
1984	66 833	29 116	431 536	431 536	244 933	-	676 469	(580 520)	38 280 025

* Source: Canadian Housing Statistics.
(1) In 1982, the accounting system was altered in order to present the Fund's financial situation on an actuarial basis as opposed to a cash basis.

By 1983, access to homeownership (through the liberalization of mortgage terms) based on the criteria of loan to lending value and amortization periods became relatively restricted. By the early 1980's, it became increasingly difficult to receive an NHA-insured mortgage with a downpayment less than 10 percent of lending value. In fact, by 1983, underwriting practices became stringent to the extent that NHA borrowers (for homeownership housing) were unable to obtain a mortgage with less than a 10 percent downpayment (see Table 4.12). Five years earlier, approximately 60 percent of NHA borrowers obtained a mortgage with a downpayment of less than 10 percent.

This same trend away from continuing the liberalization of mortgage terms was also evident with respect to private insurance. In 1979, roughly 30 per cent of all MICC insured borrowers obtained a loan with less than a 10 per cent downpayment. By 1983, the corresponding percentage fell to less than one per cent.

Table 4.13 demonstrates that in terms of amortization periods, the proportion of both MICC and NHA borrowers were restricted to a maximum amortization period of 25 years. The proportion of NHA borrowers obtaining a mortgage with an amortization period between 26 and 35 years fell from 6 per cent in 1976 to a low of 0.3 per cent by 1985. The data reveal that this reversal in the liberalization of mortgage terms was very similar for privately-insured borrowers.

In 1981, the maximum GDS attached to NHA-insured loans was raised marginally from 30 to 32 per cent. Although the consequence of this alteration was a slight increase in the proportion of NHA borrowers securing mortgage credit with a GDS exceeding 30 per cent (see Table 4.11), it was not intended to liberalize mortgage terms per se, but rather to restrict them. The reason for the change in maximum GDS was predicated on total annual principal and interest payments, property taxes, and heating costs (the 30 per cent GDS requirement did not include heating costs). Even though purchasers who possessed more efficient heating systems could in theory benefit from the GDS modification, they (along with all NHA borrowers) still had the restriction of having heating costs added to the GDS formula for the first time.

The de-liberalizing of mortgage terms was especially pronounced with respect to NHA-insured rental construction. In recent years, the success of the program in "supporting rental investment" has became increasingly tenuous. This assertion is demonstrated by the data in Table 4.20 concerning loan-to-project cost ratios for NHA-insured new rental construction. By 1985, the average loan-to-cost ratio for new NHA-insured rental units decreased rapidly to 75.6 percent. The

corresponding average exceeded 80 percent in 1982. The tightening of NHA- mortgage terms, however, is better reflected by the reduced availability of low-downpayment loans for new rental construction. The data in Table 4.20 also indicate that there existed a reduction in the annual percentage of new NHA rentals that qualified for high-ratio loans.[1] In 1982, over 30 percent of all new NHA rental loans exceeded 85 percent of project cost. By 1985, the corresponding percentage of new rentals acquiring a high-ratio loan fell to roughly 13 percent of all NHA-insured rental loans. The higher downpayment requirements for NHA rental loans reflects the increased emphasis of the program by 1985 to reduce the growing incidence of mortgage default and claims losses, by requiring a greater share of borrower equity.

While in the 1950's and 1960's, the primary objective of NHA mortgage insurance was to maintain the favourable standards bestowed upon mortgage borrowers as previously achieved by the Joint Loan Programme, by the 1980's, this objective seems to get lost among the increased emphasis placed upon MIF losses. For example, in the 1984 CMHC Annual Report, it is asserted that "in the mortgage insurance field, CMHC's objectives in 1984 were to improve the long-term viability of the MIF and to improve NHA insurance practices, while continuing to encourage the flow of funds into mortgage loans, easing access to homeownership, and increasing the availability of rental accommodation".

However, while the true objective of public mortgage insurance is to ease mortgage borrowing terms, it must attempt to do so while simultaneously satisfying its constraint of self-sufficiency. In the Early Era (1954-69), the MIF was viewed as experiencing a surplus in reserves, and recommendations were accepted to further liberalize mortgage terms in order to better attain zero cost. Similarly (although the situation is reversed), the recent era (1979-1985) has been marked by substantial MIF losses, and underwriting standards have been tightened in order that the constraint be satisfied. The equity objective of ensuring that borrowers can obtain a mortgage at the lowest possible cost while operating the program on a cost-recovery basis continues to prevail across markets - although no longer across loan-to-value risk classes (or lines of business).

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[1] Loans exceeding an 85 percent loan-to-value.

TABLE 4.22: PERCENTAGE OF NHA HOMEOWNERSHIP (SECTION "6") LOANS EXCEEDING 85% LOAN-TO-VALUE*

	NEW		EXISTING			TOTAL	
	NO.	% LTV	NO.	% LTV		NO.	% LTV
1982	6,189	55.2	18,460	47.5		24,649	49.3
1983	13,209	53.5	59,794	64.7		73,003	62.3
1984	13,483	62.9	65,757	69.9		79,740	68.6

* Source: Mortgage Insurance Portfolio System (MIPS) File.

By increasing insurance premiums and application fees, and raising the downpayment requirement from 5 to 10 percent, the NHA-insurance program has become more restrictive and less auspicious in its activities. However, this does not necessarily entail that the program is still not exerting an impact in easing access to housing. To examine the current net contribution of NHA insurance in easing access to homeownership, the state of the world in the counterfactual situation (i.e., in the absence of NHA-insurance) must be examined. In 1984, over 68 percent of the NHA borrowers or 79 740 borrowers mortgaged in excess of 85 percent of property value. They were typically buying for the first time and purchasing an existing home (See Table 4.22)[1]. The absence of NHA insurance, to the extent that it exceeds the capacity of private mortgage insurance to service the additional business, indicates that this group of high-ratio mortgage borrowers - or at least some of them, would undoubtedly have to delay their home purchase.

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1 Data obtained from Canadian Housing Statistics demonstrate that between 1970 and 1979, the proportion of first-time NHA home buyers purchasing an existing house increased from 37 to 81 percent. The results obtained from the 1983 HIFE (Household Income Family Equipment) survey indicate that this proportion (although not necessarily NHA) rose dramatically from roughly 77 percent in 1980 to approximately 92 percent by 1983 (more recent data is unavailable). These results, combined with the increasing number of NHA-insured existing homeownership units possessing a mortgage in excess of 85 percent of lending value, leads through introspection to the conclusion that NHA insurance continues to exert a significant impact upon "easing access" in the form of enabling first-time buyers to promptly enter the homeownership market.

4.5.2 Constraint I: Supply of Private Funds

As in the 1970-1978 era, the constraint of ensuring an adequate supply of private funds to housing was continuously satisfied. This assertion is evidenced by the close relationship that developed between the mortgage market and the rest of the market for long-term capital, as well as by the low and fairly constant levels of direct NHA lending ($14 million by 1984). It is well established that the elimination of market imperfections and rigidities culminating in 1980 when the minimum term attached to NHA mortgages was reduced to one year, precipitated the free flow of private funds to the mortgage market. While credit rationing rendered the housing sector a residual market for funds even in the years subsequent to the advent of public mortgage insurance, there is no evidence today that the mortgage market is a residual recipient of funds.

4.5.3 Constraint II: Ensuring Competition

Although the private sector in mortgage insurance continued to thrive until the early 1980's, current market results indicate that NHA insurance has not been successful in providing a favourable competitive environment for private insurers in mortgage insurance. This is at least partially demonstrated by the large and rapid decline in the private sector's share of the mortgage insurance market, which ebbed from 55 per cent in 1979 to a trough of 12 per cent by 1984. Market share data (illustrated in Tables 4.23 to 4.26) indicate that while MICC had previously maintained a significant presence in practically all geographical regions (except for Yukon and North West Territories, some remote areas and resource towns) and lines of business (except for large rental projects), it had withdrawn from many of these markets by 1984. Particularly in the market for new rental housing units, MICC captured a market share of 23 per cent in British Columbia and 30 per cent in Ontario between 1974 and 1979. By 1984, MICC had fully withdrawn from these markets.

When NHA Insurance was introduced in 1954, it was not designed to compete on an equitable basis with the private sector -- CMHC was viewed as the sole operating agency in the mortgage insurance field. Subsequent to the full emergence of the private sector in the mortgage insurance market in the 1970's, NHA insurance was not redesigned to provide fair competition to private mortgage insurers.

TABLE 4.23
COMPARISON BETWEEN NHA AND MICC INSURANCE VOLUMES

EXISTING HOMEOWNERSHIP HOUSING

(Number of Dwelling Units)
1984

Region	Regular Ownership		Condominium	
	Urban(1) Areas	Other Areas	Urban(1) Areas	Other Areas
ATLANTIC				
NHA	4 146	3 015	78	11
MICC	1 306	302	45	-
Total	5 452	3 317	123	11
% MICC	23.9	9.1	36.6	-
QUEBEC				
NHA	17 787	6 024	388	97
MICC	1 562	89	93	4
Total	19 349	6 113	481	101
% MICC	8.1	1.5	24.4	4.0
ONTARIO				
NHA	22 466	10 367	6 249	314
MICC	1 998	71	456	3
Total	24 464	10 438	6 05	317
% MICC	8.2	0.7	6.8	1.0
PRAIRIES				
NHA	12 278	5 611	457	87
MICC	1 160	217	98	-
Total	13 438	5 828	555	877
% MICC	8.6	3.7	17.7	-
BRITISH COLUMBIA				
NHA	5 981	4 553	1 164	184
MICC	530	97	142	5
Total	6 511	4 650	1 306	189
% MICC	8.1	2.1	10.9	2.7
YUKON AND NWT				
NHA	-	321	-	31
MICC	-	1	-	-
Total	-	322	-	31
% MICC	-	0.3	-	-

(1) Includes all census metropolitan areas and urban agglomerations

TABLE 4.24
COMPARISON BETWEEN NHA AND MICC INSURANCE VOLUMES

NEW HOMEOWNERSHIP HOUSING

(Number of Dwelling Units)
1984

Region	Regular Ownership		Condominium	
	Urban(1) Areas	Other Areas	Urban(1) Areas	Other Areas
ATLANTIC				
NHA	470	285	54	-
MICC	576	101	1	-
Total	1 046	386	55	-
% MICC	55.1	26.2	1.8	-
QUEBEC				
NHA	8 509	1 229	2 996	119
MICC	455	32	733	1
Total	8 964	1 261	3 729	120
% MICC	5.1	2.5	19.7	0.8
ONTARIO				
NHA	3 608	609	1 009	11
MICC	1 571	17	330	-
Total	5 179	626	1 339	11
% MICC	30.3	2.7	24.7	-
PRAIRIES				
NHA	2 567	685	103	3
MICC	1 326	45	23	-
Total	3 893	730	126	3
% MICC	34.1	6.2	18.3	-
BRITISH COLUMBIA				
NHA	676	751	138	28
MICC	210	26	58	1
Total	886	777	196	29
% MICC	23.7	3.4	29.6	3.5
YUKON AND NWT				
NHA	-	59	-	-
MICC	-	-	-	-
Total	-	59	-	-
% MICC	-	-	-	-

(1) Includes all census metropolitan areas and urban agglomerations

TABLE 4.25
COMPARISON BETWEEN NHA AND MICC INSURANCE VOLUMES

EXISTING RENTAL HOUSING

(Number of Loans)
1984

Region	Urban Areas(1) 1-24 Units	24-49 Units	50+ Units	Other Areas 1-24 Units	24-49 Units	50+ Units
ATLANTIC						
NHA	216	1	-	89	1	-
MICC	21	-	-	2	-	-
Total	237	1	-	91	1	-
% MICC	8.9	-	-	2.2	-	-
QUEBEC						
NHA	789	18	17	177	2	-
MICC	77	4	1	1	-	-
Total	866	22	18	178	2	-
% MICC	8.9	18.2	5.6	0.6	-	-
ONTARIO						
NHA	572	13	11	191	9	1
MICC	97	-	-	-	-	-
Total	669	13	11	191	9	1
% MICC	14.5	-	-	-	-	-
PRAIRIES						
NHA	221	2	0	364	-	1
MICC	4	-	1	4	-	-
Total	225	2	1	368	-	1
% MICC	1.8	-	100.0	1.1	-	-
BRITISH COLUMBIA						
NHA	111	-	-	78	3	2
MICC	1	-	-	-	-	-
Total	112	-	-	78	3	2
% MICC	0.9	-	-	-	-	-
YUKON AND NWT						
NHA	-	-	-	23	-	1
MICC	-	-	-	-	-	-
Total	-	-	-	23	-	1
% MICC	-	-	-	-	-	-

(1) Includes all census metropolitan areas and urban agglomerations

TABLE 4.26
COMPARISON BETWEEN NHA AND MICC INSURANCE VOLUMES

NEW RENTAL HOUSING

(Number of Loans)
1984

Region	Urban Areas(1) 1-24 Units	Urban Areas(1) 24-49 Units	Urban Areas(1) 50+ Units	Other Areas 1-24 Units	Other Areas 24-49 Units	Other Areas 50+ Units
ATLANTIC						
NHA	16	-	-	6	2	-
MICC	1	-	-	1	-	-
Total	17	-	-	7	2	-
% MICC	5.9	-	-	16.7	-	-
QUEBEC						
NHA	65	2	3	-	-	-
MICC	53	-	-	-	-	-
Total	118	2	3	23	-	-
% MICC	44.9	-	-	-	-	-
ONTARIO						
NHA	13	10	14	7	1	1
MICC	-	-	-	-	-	-
Total	13	10	14	7	1	1
% MICC	-	-	-	-	-	-
PRAIRIES						
NHA	50	4	9	18	3	1
MICC	1	-	-	-	-	-
Total	51	4	9	18	3	1
% MICC	2.0	-	-	-	-	-
BRITISH COLUMBIA						
NHA	8	5	16	-	-	-
MICC	-	-	-	-	-	-
Total	8	5	16	-	-	-
% MICC	-	-	-	-	-	-
YUKON AND NWT						
NHA	-	-	-	30	-	-
MICC	-	-	-	-	-	-
Total	-	-	-	30	-	-
% MICC	-	-	-	-	-	-

(1) Includes all census metropolitan areas and urban agglomerations

In 1979, NHA insurance was broadened to include existing rental units, and price limits previously attached to NHA insurance were lifted thereby expanding NHA insurance to the high-priced homeownership sub-market. In addition, CMHC implemented measures to improve its speed of service, effectively removing the private sector's specific advantage in this respect. The 1979 CMHC Annual Report explained these changes to improve and expand NHA insurance as a method to "reverse the decline in CMHC's mortgage insurance activity". In essence, the expansion of NHA insurance into the less risky submarkets for high-priced homeownership and existing rentals, coupled with increased efficiency in service, was a response to the reduction in CMHC's mortgage insurance activity; and in part to the large volume of claims on NHA-insured mortgages, which by 1979 had reached an unprecedented level.

The subsequent effect of these changes to NHA operations is reflected in the marginal reduction in the private share of the market from 55 per cent in 1979 to 51 per cent in 1980. By continuing to subsidize application fees while simultaneously increasing the efficiency in terms of speed of service, it became increasingly difficult for the private sector to compete effectively with CMHC. This is reflected to an extent by the subsequent merger of Insmor and MICC (under the MICC name) in 1981, and the ensuing reduction in MICC's market share from 51 per cent in 1980 to 40 per cent in 1981 (see Table 4.9). A comparison of Tables 4.16 and 4.25 demonstrate that between 1974 and 1979, the market for existing rentals was practically the exclusive domain of MICC. By 1984, MICC's share of this market declined to approximately 7 per cent.

Although in 1982, CMHC adjusted its application fees to better reflect the true cost of insuring mortgage loans, and increased its insurance premiums to better reflect the risks involved, the decline in the private share of the market which began in 1979 continued. Although the expansion of NHA insurance services (while continuing to subsidize application fees) was a factor in initially reducing the private sector's share of the market, MICC still possessed a market share of 40 per cent by 1981. The largest decline in MICC's market share occurred between 1981 and 1982 (40 per cent to 19 per cent) and finally to 12 per cent by 1984. These large reductions in market share occurred at the same time that MICC was facing an increase in defaults resulting from the unfavourable economic environment in Alberta, which led to a large and unexpected growth in claims losses. To protect itself from heavy cash losses, MICC began to exercise Option "B" (limited liability) as a regular method to settle its claims. NHA mortgage insurance continued to offer total risk-free protection to lenders and it became clear to private lenders that NHA insurance and private mortgage insurance should no

longer be considered homogeneous products. The regular use of Option "B" made it more difficult for MICC to underwrite new loans, particularly since NHA insurance only offers Option "A" settlement to its approved lenders.

4.5.4 Constraint III: Zero Cost

The success of NHA insurance in supporting rental investment and in keeping homeownership within the reach of many Canadians, was not accomplished without cost to the government. Every time that the NHA underwriting rules were relaxed in the 1960's and 1970's, the risk exposure to the MIF correspondingly increased. Since the risk premiums on NHA insurance remained unchanged throughout the 1970's, the end result was that the premiums set by CMHC became increasingly inadequate, and by 1979 (and still today), severe losses have been experienced by the MIF, both on a cash and actuarial basis (see Table 4.20). The claims against the MIF have increased appreciably in recent years, largely due to the specific risk associated with loan insurance on AHOP and ARP loans, insuring loans in remote areas and remote towns, as well as the more general depressed market condition, particularly in Alberta and Quebec.

In addition, structural shifts in default risk have adversely affected the performance of the MIF. As indicated previously, the flat premium structure which existed until 1982 did not reflect the growing evidence suggesting that default risks are not homogeneous but vary according to loan-to-value ratios and by lines of business (new or existing units). As a result (and with hindsight), for most of the 1970's and the 1980's, the flat premiums attached to NHA loans have been substantially deficient, and the 50 percent reduction of these premiums in 1969, indubitably exerted a deleterious effect upon the present and future viability of the Fund. As the data in Table 4.20 demonstrate, earned premiums increased by 21 per cent between 1978 and 1984. Loss on claims on the MIF increased by roughly 137 per cent during the same time period. For every year since 1979, total expenses have exceeded the Fund's total revenues.

In order to better satisfy the constraint that premiums be sufficient at least to pay expected loss and expenses on the policies in force, new premium levels have been set (and more flexibility has been given to CMHC in setting them) to reflect the full cost of insurance so that a deficit on new (post-1982) business will not materialize in the future.

Clearly, the original constraining condition of zero cost has been the one most difficult to satisfy. This is largely due to the premise that the setting of premiums for mortgage insurance lacks the actuarial preciseness of premiums that are charged for, say, life insurance, where through the use of mortality

tables, premium rates can be established on a firm actuarial basis. Insuring mortgage loans against total (or even partial) loss is a very different proposition in that it entails the need to forecast future values of real estate - which are inherently difficult to predict (i.e., the macro risk component of default risk).

4.5.5 Summary: 1979-1985

Due to the large claims losses experienced by the MIF in the mid to late 1970's, NHA underwriting standards became more stringent by the 1980's. Due to the increase in NHA insurance premiums, application fees, and in minimum downpayment requirements, the cost of obtaining an NHA mortgage has increased since the 1960's and 1970's. In terms of average loan-to-value ratios and amortization periods, liberalized mortgage terms have been somewhat restricted in this Recent Era.

The uncompetitive environment currently prevailing in the mortgage insurance industry, is reflected by the low and failing private share of the market. CMHC is the price leader in mortgage insurance, and while increasing market share and improving speed of service were measures taken to better satisfy the zero cost constraint, premiums and application fees were not promptly adjusted to reflect the actual risks and costs involved in initiating insured mortgage loans. Beyond the growing competitive imbalance which was created between private and public mortgage insurance, the combination of a shrinking mortgage market with the increasing incidence of claims on privately-insured loans (primarily in Alberta) further pressured MICC to reduce many of its activities and withdraw from certain markets due to resultant capitalization difficulties. By 1982, MICC had begun to use Option "B" claims settlement procedure, thereby compounding its decline in market share. Furthermore, the MIF is not subject to the same capitalization rules as private insurance, is not required to pay taxes or pursue profit-maximization motives, and CMHC, unlike MICC, is immune from financial failure.

The constraint of full cost-recovery of the Fund is a restriction which has not been met in recent years. However, this is a condition which cannot be expected to be fully and categorically satisfied, given the intrinsic nature of mortgage default risk. Issues related to MIF losses will be examined in more detail next.

SUMMARY MATRIX OF OBJECTIVE ACHIEVEMENT

	OBJECTIVE: Liberalization of Mortgage Terms (Ease access)	CONSTRAINT #1: Private Funds	CONSTRAINT #2: Zero Cost	CONSTRAINT #3: Competition
Early Era 1954-1969	Achieved. But given MIF surplus more could have been done. Benefits were not extended to all sub-groups of the housing market.	Not Achieved. Due to interest rate rigidities and other market imperfections, the program relied heavily upon NHA direct lending.	Achieved. MIF had a cash surplus of over $250 million by 1969. Given the low claims experience, it is likely that an actuarial surplus also occured.	Not Applicable.
Era of peaceful co-existence 1970-1978	Achieved. This era was marked by continuous softening of mortgage terms for borrowers. But with the existence of private insurance for high-ratio loans, the net contribution of NHA insurance was reduced.	Achieved. Largely a result of lifting the NHA-interest rate ceiling, introducing the rollover mortgage and removing the interest rate ceiling on bank loans.	Not Achieved. The Fund was in a cash surplus of over $600 million by 1978, but recent claims experience indicates that an actuarial deficit likely occured.	Achieved. Despite some unfair competition provided by CMHC, the private share of market grows and new private firms enter the market. CMHC plays largely a complementary role.
Current Era 1979-1985	Somewhat sacrificed. High-ratio loans are still available but more stringent underwriting rules have raised the cost of borrowing vis-a-vis the other two eras.	Achieved. Mortgage market fully integrated into the capital market at large.	Not Achieved. The fund is in a cash deficit of $59.9 million and an actuarial deficit position of roughly $780 million.	Not Achieved. CMHC streamling its operation, thereby competing head-on with private sector. Private sector comprises one firm whose market share is approximately 15 percent.

4.6 CAUSES AND SOURCES OF MIF LOSSES

The financial problems experienced by the Fund emerged in the late 1970's when defaults under the stimulative AHOP and ARP programs began to rise sharply. The purpose of this section is to identify the main factors which have contributed to the substantial increase in the claims experience by the MIF since the mid-1970's[1].

4.6.1 Determinants of Mortgage Default Risk

While the probability of loss and foreclosure is difficult to estimate, existing literature on the topic suggests that it decreases as lending terms become more stringent and therefore, the degree of risk associated with insuring mortgage loans varies inversely with the restrictiveness of lending terms.

In the literature, risks associated with mortgage insurance are often divided into four broad categories: those associated with the characteristics of the property, the borrower, the loan, and those related to market factors. Within each classification, there exist many risk-related elements which are common among the various types of analysis conducted in the studies surveyed. The risks associated with the loan, the borrower, and the property are generally referred to as "micro" risk, while market-related conditions are considered as being "macro" risk. While micro-risk factors are diversifiable and therefore insurable, macro-risks are closely related to political events and unpredictable macro-economic variations (resulting in declining house prices) which generally affect a large number of households simultaneously, and this correlation tends to reduce the degree of insurability.

1) Property Characteristics

a) Age of the Dwelling

The analysis conducted in much of the literature found that mortgage loans attached to new homeownership tend to be slightly more risky to insure than mortgages on existing homes. The primary reason given is that after a certain number of years a house becomes a "known commodity" in the sense that it has demonstrated an ability to perform satisfactorily, and the home-purchaser is more aware of the attributes connected to and amenities surrounding the house. With a new home, there is more uncertainty with respect to the market's future acceptance of the dwelling, and hence, the future path of price appreciation

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1 The financial position of the MIF as of 31 December 1984 is illustrated in Figure 2.8 (Chapter 2).

is more uncertain. In addition, with a new home, the process of "working out the bugs" may overstrain the home buyer's financial resources. For example, utilities may cost more than anticipated and subsequently increase the probability of eventual default.

When distributed by new tenure and existing tenure, NHA mortgage insurance claims data supports the finding of previous literature. The ratio of claims to approvals on Section "6" homeownership loans (1975-85) for new units is 4.8 per cent; the claims to approval ratio is 2.7 per cent for existing, as illustrated in Table 4.27.

TABLE 4.27
COMPARISON OF CLAIMS-TO-APPROVALS BETWEEN NEW AND EXISTING HOMEOWNERSHIP (1975-85)
(Regular Section "6" Loans only)

COHORT	NUMBER OF CLAIMS	NUMBER OF APPROVED LOANS	RATIO OF CLAIMS TO LOANS
New	10 493	219 493	4.8%
Existing	18 081	692 521	2.7%

Source: Mortgage Insurance Claims and Approvals File.

The apparent risk-differential between the two dwelling types is reflected in the current NHA premiums structure, as the premium attached to existing housing (with one single advance) is one-half a per cent lower (across loan-to-value categories) than for those attached to new homeownership loans.

b) Tenure Form

Although the literature focusses solely on the determinants of default on homeownership loans, NHA insurance data suggest that significant risk differences exist between tenure cohorts. While the determinants of default risk on homeownership loans are relatively straightforward to postulate, many of the studies generally assume that financial viability in the rental sector is associated with cash flow, previous incidence of defaults, expectations regarding future rents and vacancy rates, and the quality and continuity of management. In terms of empirical analysis, the results of the studies on rental mortgage risk are generally inconclusive.

As the data in Table 4.28 indicate, the risk differences between homeownership, rental, and condominium cohorts are substantial.

TABLE 4.28
COMPARISON OF CLAIMS RATIO BETWEEN TENURE FORMS (1975-85)
(Regular Section "6" Loans only)

COHORT	NUMBER OF CLAIMS	NUMBER OF APPROVED LOANS	RATIO OF CLAIMS TO LOANS
Homeownership	20 202	808 551	2.5%
Rental	16 867	218 008	7.7%
Condominium	9 092	103 309	8.8%

Source: Mortgage Insurance Claims and Approvals File.

The NHA Premium structure reflects the risk differences among the tenure types. A one per cent surcharge is attached to the premium on NHA loans on condominium units[1]. The NHA rental premium rate is also scheduled on a completely separate basis than for homeownership loans, in order to reflect the added risk and complexity attached to rental property loans.

c) Quality of the Property

Locational or neighbourhood qualities are often cited as crucial determinants of mortgage default risk. For example, older homes in declining neighbourhoods have often been found to be subdivided into multi-family dwellings. These properties tend to combine a need for heavy maintenance expenditures, and the generally undesirable qualities tend to reduce future price appreciation and income potential of the property. The literature on the topic conclude that in the case of multi-family dwelling properties, income becomes an important element in the borrowers ability to meet mortgage payments and in general, a low creditworthiness associated with this type of property is usually expected.

Although neighbourhood effects and property quality are postulated as determinants of mortgage default risk in the literature, their impact is difficult to measure empirically, and given the objective of NHA mortgage insurance to ensure "equal access" to high-ratio mortgages across geographical markets, the current NHA premium schedule does not differentiate between locational amenities.

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1 A one per cent surcharge is also added if a rental unit is converted to a condominium unit.

2) Borrower Characteristics

a) Income of the Borrower

There is concensus among the literature that default rates are significantly and negatively related to income levels, the hypothesis being that lower income mortgage borrowers are less likely to possess sufficient net worth to make their mortgage payments on a home.

TABLE 4.29
COMPARISON OF CLAIMS RATIO BETWEEN BORROWER INCOME COHORTS (1980-85)
(Regular Section "6" Loans only)

INCOME COHORT	NUMBER OF CLAIMS	NUMBER OF APPROVED LOANS	RATIO OF CLAIMS TO LOANS
Less than $20 000	9,087	132,408	6.9
More than $20 000	13,539	383,865	3.5

Source: Mortgage Insurance Claims and Approvals File

Table 4.29 demonstrates the risk-differential between "low" (less than $20 000 p.a.) and "high" (more than or equal to $20 000) income earners. NHA claims and approvals data also indicate that low-income earners tend to permeate the higher loan-to-value categories. When the effect of loan-to-value is controlled for, the inverse relationship demonstrated in Table 4.29 between claims ratios and borrower income still prevails. Despite the evidence suggesting the presence of differences in risk between the two cohorts, NHA mortgage insurance premiums are not divided into income cohorts.

b) Occupation of Borrower

The profession of the mortgagor is often used in the literature as a proxy variable for income stability. The results often indicate that incomes vary in stability across professions (i.e., professionals versus unskilled labourers and self-employed workers). Professionals such as doctors and lawyers and generally found to be less prone to default on their mortgages than either unskilled labourers or self-employed individuals whose incomes are more sensitive to economic fluctuations and therefore possess a higher degree of future income uncertainty. Controlled samples have shown professionals to maintain a high probability of income security over long

periods of time. In addition, many empirical studies have demonstrated that the number of years the primary borrower has held his/her current job also reflects continued stability of income flows and hence, a greater probability of mortgage repayment.

Despite the evidence in the literature contending that income levels, income stability, and their interrelationship with the source of income at the time of loan origination are significant factors determining mortgage default risk, they are not used as determinants in the setting of NHA insurance premiums.

c) Marital Status of the Borrower

The literature is divided as to the impact that marital status exerts upon the incidence of mortgage defaults. Many studies support the hypothesis that married borrowers tend to have higher disposable income and a less erratic lifestyle, while single borrowers tend to exhibit more lifestyle instability which manifests itself into a lack of psychological commitment or unwillingness to pay in the face of economic adversity.

Other studies contend that single individuals are better risks because they only have themselves to budget for, and therefore possess more control over their finances in the event of adverse economic circumstances. Married borrowers have more dependants and financial responsibilities, and are more prone to be "stretched thin" during periods of economic misfortune. In any event, an ostensible risk-difference between single and married borrowers is not currently reflected in the NHA premium schedule.

d) Age of the Borrower

The age of the head of the household is also found in the literature to exert an influence upon mortgage default propensities. The literature generally concur that age cohorts, like marital status, reflect differences in both income levels and lifestyle. The findings support the hypothesis that older borrowers usually can afford to make larger downpayments and maintain greater stability in their lifestyle and as such, represent lower risks.

NHA insurance data support the conclusions drawn from the literature. As the data summarized in Table 4.30 indicate, the claims ratio, used as a proxy for the probability of default, is highest for the youngest "less than 20 year" age cohort, diminishes sharply in the subsequent "20 to 25 year" age cohort, and then flattens out in the "30 to 35" and "greater than 35 year" age cohorts. NHA claims and approvals data also demonstrate that to a large extent, variations in loan-to-value

ratios among the age cohorts explain the differences in their respective claims ratios. However, when the effect of loan-to-value is controlled for, the inverse relationship shown in Table 4.30 between age categories and claims-to-approvals ratios still prevails, albeit less pronounced. Although default proclivities are related to the age of the primary borrower, the NHA premium structure does not discriminate across age categories.

TABLE 4.30
COMPARISON OF CLAIMS RATIO ACROSS AGE CATEGORIES (1975-85)
(Regular Section "6" Loans only)

AGE COHORT	NUMBER OF CLAIMS	NUMBER OF APPROVED LOANS	RATIO OF CLAIMS TO LOANS
Less than 20 years	6 368	89 568	7.11
20-25 years	5 158	154 363	3.34
25-30 years	6 714	245 096	2.74
30-35 years	4 815	184 826	2.61
Greater than 35 years	6 239	238 007	2.62

Source: Mortgage Insurance Claims and Approvals File.

e) Gross-debt-service to Income Ratio

In the case of single-family dwelling loans, the proportion of gross income that a household must devote to house maintenance, property taxes and monthly amortization payments, is considered to be a crucial influence on the probability of default. This result is derived from the widely held hypothesis that the less disposable income a borrower has available to meet adverse economic conditions which may arise in the future, the higher the likelihood is of future inability to repay the mortgage.

The NHA insurance data which is summarized in Table 4.31 demonstrates that although risk in terms of the claims to loans ratio does not show any variation between the "15 to 20 per cent" and "20 to 25 per cent" cohorts, the positive relationship between household expense-to-income and default risk is exhibited by the dramatic increase in claims ratio from the lowest cohorts to the "greater than 25 per cent" cohort. Although the data support the contention that at a certain point, mortgage risk varies positively with gross-debt-service to income ratios, the NHA premium schedule is not divided into GDS categories. However, only loans with a GDS ratio not exceeding 32 per cent are eligible for NHA financing.

TABLE 4.31
COMPARISON OF CLAIMS RATIOS BY
GROSS-DEBT-SERVICE TO INCOME COHORTS (1975-85)
(Regular Section "6" Loans only)

GDS COHORT	NUMBER OF CLAIMS	NUMBER OF APPROVED LOANS	RATIO OF CLAIMS TO LOANS
15-20%	3 459	196 957	1.7
20-25%	4 541	266 644	1.7
Greater than 25%	14 870	291 819	5.1

Source: Mortgage Insurance Claims and Approvals File

f) Existence of Junior Financing

The gross-debt-service ratio reflects only the principal and interest component on a first mortgage. However, a significant portion of borrowers obtain extra financing in the form of second or third mortgage loans. The presence of other debt payments has been found in the literature to be highly related to delinquency and foreclosure. In addition, if secondary financing exists, the loan balance to house price variable overstates the cohort's true net equity position.

NHA insurance data is supportive of the extra risk attached to loans with junior mortgage financing. As Table 4.32 demonstrates, approximately 40 000 NHA home-mortgage borrowers obtained secondary financing (between 1975-1985), and their overall claims ratio is higher than the claims ratio for primary mortgage borrowers.

Despite the lower level of creditworthiness of borrowers securing secondary mortgage financing, the NHA premium schedule does not dichotomize primary and secondary mortgage borrowers.

TABLE 4.32
COMPARISON OF CLAIMS RATIO BETWEEN PRIMARY
AND SECONDARY MORTGAGE BORROWERS (1975-85)
(Regular Section "6" Loans only)

PRESENCE OF SECONDARY FINANCING	NUMBER OF CLAIMS	NUMBER OF APPROVED LOANS	RATIO OF CLAIMS TO LOANS
Yes	1 706	39 934	4.3
No	27 588	871 926	3.2

Source: Mortgage Insurance Claims and Approvals File

g) Number of Dependants

A few of the studies which were examined used this variable to proxy the gross-debt-service ratio, since there exists a highly positive relationship between the number of dependents and necessary household expenditures; and the number of dependents and the presence of one parent at home, thereby reducing the probability of dual incomes. The literature is unanimous in their conclusion that mortgage risk increases with the size of the applicants household.

The number of dependents is not explicitly considered as a determinant of NHA premiums, but given the maximum GDS of 32 per cent stipulated

> on NHA insured mortgage loans and the positive correlation which exists between household size and household expenditures, the number of dependents in a household is implicitly considered in the underwriting process to influence default risk attached to NHA mortgages.

3) Loan Characteristics

a) Amortization Period

The amortization term of a mortgage is usually acknowledged to affect risk in two ways. First, the shorter the amortization period the smaller is the property risk, since the more quickly the existing loan-to-value ratio is decreased and borrower's equity in the loan is increased. In addition, the uncertainty and difficulty in estimating security values over the lifetime of the mortgage is often mentioned as a risk-reducing attribute of a shorter amortized mortgage.

On the other hand, some of the literature contend that the shorter the amortization period, the larger is the monthly payment required to discharge the mortgage and hence the greater the default risk. The general concensus among the literature is that default risk increases with the length of the amortization period.

NHA insurance data support the contention that a longer amortization period is associated with a higher incidence of mortgage defaults. Table 4.33 demonstrates that the NHA claims ratio on Section "6" homeownership loans rises substantially across cohorts. In order to reflect the increased risk associated with longer amortization periods, the NHA insurance program stipulates a maximum amortization term of 35 years for homeownership loans. NHA premiums, however, do not vary by amortization term categories.

TABLE 4.33
COMPARISON OF CLAIMS RATIO ACROSS
AMORTIZATION TERM COHORTS (1975-85)
(Regular Section "6" Loans only)

COHORT	NUMBER OF CLAIMS	NUMBER OF APPROVED LOANS	RATIO OF CLAIMS TO LOANS
25 years and less	22 827	885 728	2.8%
25-30 years	2 344	28 124	8.3%
More than 30 years	4 123	28 008	14.7%

Source: Mortgage Insurance Claims and Approvals File.

b) Type of Mortgage

The type of mortgage contract is cited in some of the literature as being a determinant of the incidence of mortgage defaults. The three mortgage instruments most often identified are the equal payment mortgage (EPM), the graduated payment mortgage (GPM), and the variable rate mortgage (VRM).

The EPM is generally acknowledged to carry the lowest probability of default. Under the terms of an equal payment mortgage contract, the borrower makes constant payments over the life of the mortgage. If the borrower is able to successfully make payments in the first year of the mortgage, it is widely acknowledged that the probability is high that the borrower's income will be sufficient to service the debt over the life of the mortgage (barring unforeseen circumstances such as loss of employment). This results from the declining oustanding loan balance subsequent to the first year of repayment.

Graduated (or increasing) payment mortgages and variable rate mortgages are generally considered to possess a higher risk of default. Because payments are less than the amount required to meet annual interest on the balance in the initial years after origination, the mortgage balance on the GPM tends to increase rather than decrease in the first few years of repayment. Under such a scheme, the probability of the outstanding mortgage balance exceeding the value of the dwelling at any one point in time is greater than with an EPM, and hence the higher probability of negative equity and subsequent incentive to default.

The high risk associated with the VRM stems from the instability of mortgage payments under such a contract. While EPM's require a fixed nominal interest rate for the term, the nominal interest rate under a VRM contract is characterized by variations in its level.

The higher risk attached to variable rate mortgages and increasing payment mortgages is reflected in the NHA premium schedule, as a 1/4 per cent surcharge is added to VRM and GPM loans.

c) Age (or duration) of the Mortgage

Although not a determinant of default risk, the time profile of default rates indicates at what point during the life of a mortgage borrowers possess the highest propensity to default on their mortgage loans.

Most of the analytical studies which were surveyed conclude that default rates (on FHA mortgages) rise sharply after the first year of origination, peak in the third or fourth year and fall dramatically thereafter until they become negligible, often by the tenth year.

The timetable of NHA default rates is outlined in Table 4.34, plotting approval year by policy year (year of default). The results from the NHA claims and approval file are consistent with the results of studies using FHA data. The longer a given household has resided in a dwelling and the longer it has met its mortgage payments, the greater the probability that the mortgage will not fall into arrears (and subsequently into default) in future years. The NHA insurance data demonstrate that the crucial point concerning equity accumulation is approximately four years, as default rates decline gradually after rising rapidly in the first three years of repayment.

Although the data indicate that the risk of default is not time-invariant and is concentrated within the first few years of repayment, the program continues to insure the entire life of the mortgage with one up-front premium.

d) Loan-to-value ratio

The loan-to-value ratio determines the loan amount and downpayment requirement (given the real value of the property) and is a measure of the "property risk" associated with a mortgage. The "property risk" is the probability that the value of the underlying security will sometime in its life fall below the outstanding loan balance, thereby encouraging default.

Although much of the literature vary with respect to analytical techniques in empirically determining residential mortgage risk, it is widely documented and well acknowledged that the higher the loan-to-value ratio, the higher is the probability that homeowners' accumulated equity in the home will fall short of selling costs in the face of a possible price decline in local or regional markets.

TABLE 4.34
CLAIMS RATES FOR NHA-INSURED SECTION "6" HOMEOWNERSHIP LOANS
BY POLICY YEAR FOR 1970 TO 1984 (1975-85)
(Regular Section "6" Loans only)

POLICY YEAR	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1	0	0	0	0	0.02	0	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.01	0.01
2	0	0	0	0.04	0.01	0.06	0.27	0.47	0.45	0.47	0.44	0.91	0.54	0.39	0.18
3	0	0.01	0.08	0.01	0.05	0.27	0.98	1.08	0.93	0.75	0.99	2.39	1.29	0.90	
4	0.01	0.04	0.01	0.09	0.35	1.27	1.22	0.93	0.66	0.65	1.38	2.60	1.00		
5	0.04	0.01	0.01	0.16	0.22	1.06	0.83	0.58	0.48	0.70	1.35	1.75			
6	0.01	0.01	0	0.39	0.51	0.68	0.72	0.59	0.46	0.73	1.28				
7	0	0	0.01	0.35	0.40	0.40	0.56	0.64	0.63	0.68					
8	0	0	0.01	0.13	0.17	0.28	0.36	0.45	0.45						
9	0.01	0	0.01	0.05	0.05	0.39	0.60	0.38							
10	0	0	0	0.03	0.04	0.09	0.20								
11	0.02	0	0	0.03	0.03	0.05									
12	0	0	0.01	0	0.01										
13	0	0	0.01	0											
14	0.01	0.01	0												
15	0.01	0													
16	0														

The celebrated empirical analysis performed by Von Furstenberg (1970) on the sensitivity of default rates on FHA (the U.S. Federal Housing Agency) insured home mortgages to changes in loan-to-value ratios, indicated that while the default rate increased by roughly 16 per cent on average when loan-to-value ratios increased from 90 to 91 per cent, the default rate rose strikingly by 50 per cent when loan to value ratios were raised from 96 to 97 per cent[1]. This finding is supportive of NHA Insurance data. Table 4.35 exhibits the incremental risk differences among loan-to-value classifications. While the ratio of claims to approved loans increases with the loan-to-value cohorts, the most apparent risk differential rests between the "85 to 90" per cent and "greater than 90" per cent categories, as the claims ratio in the latter is more than double the claims ratio of the former.

TABLE 4.35
COMPARISON OF CLAIMS RATIOS ACROSS LOAN-TO-VALUE COHORTS
(1975-85)
(Regular Section "6" Loans only)

COHORT	NUMBER OF CLAIMS	NUMBER OF APPROVED LOANS	RATIO OF CLAIMS TO LOANS
75-80% LTV	641	54 782	1.2
80-85% LTV	1 686	109 639	1.5
85-90% LTV	5 335	241 728	2.2
Greater than 90% LTV	19 300	308 774	5.1

Source: Mortgage Insurance Claims and Approvals File.

The data indicate that, by and large, the higher the initial downpayment percentage, the greater and more unusual any decline in real estate prices must be in order to erode equity strength to the point that default is the borrower's least-cost option.

The relative importance of the effect that the loan-to-value ratio exerts upon the incidence of mortgage defaults is also illustrated in Table 4.36. Although this section has identified (micro) factors such as the gross-debt-service to income ratio, borrower's income, and borrower's age in influencing residential mortgage risk, these factors themselves show tremendous sensitivity to loan-to-value ratios. For example, within the

1 "Risk Structures and the Distribution of Benefits within the FHA Mortgage Insurance Program", in the Journal of Money, Credit and Banking, (August, 1970), pp. 303-322.

TABLE 4.36
BORROWER COHORTS (SECTION "6" HOMEOWNERSHIP) BY LOAN-TO-VALUE CATEGORIES (HIGH/LOW) 1975-1985

COHORT	NUMBER OF CLAIMS	NUMBER OF LOANS	RATIO OF CLAIMS TO LOANS
GDS exceeding 25% and LTV exceeding 90%	9 061	76 132	11.9
GDS exceeding 25% and LTV between 75-90%	4 990	176 406	2.8
junior financing and LTV exceeding 90%	514	4 397	11.7
junior financing and LTV between 75-90%	160	114 577	1.1
new homeownership and LTV exceeding 90%	3 600	66 358	5.4
new homeownership and LTV between 75-90%	2 745	60 193	4.6
income less than $20 000 and LTV exceeding 90%	9 068	122 023	8.7
income less than $20 000 and LTV between 75-90%	2 664	137 044	1.4
amort. exceeding 30 yrs and LTV exceeding 90%	836	12 256	6.8
amort. exceeding 30 yrs and LTV between 75-90%	211	90 006	0.2
age less than 30 yrs and LTV exceeding 90%	11 042	213 362	5.2
age less than 30 yrs and LTV between 75-90%	4 022	186 313	2.2

Source: Mortgage Insurance Claims (MIF) and Approvals (MIPS) files.

higher-risk "greater than 25 per cent GDS", the risk is demonstrated as being approximately four times as great (in terms of claims to loans ratio) for loans possessing a high loan-to-value than for loans with a low loan-to-value ratio.

In this sense, the large proportion of risk associated with the "greater than 25 per cent GDS" category emanates from the relatively large percentage (65%) of defaulted loans within this sub-group whose loan-to-value exceeded 90 percent. The results are very similar for the other high-risk borrower groupings, which indicate that risk differences across loan-to-value ratios prevent categories such as "less than 30 years of age" from being considered as a homogeneous risk cohort.

While most of the literature pertaining to default risk conclude that the loan-to-value ratio accounts for much of the explanatory power of default rates in their residential mortgage risk equations, Von Furstenberg found that the loan-to-value ratio is sometimes the only mortgage characteristic where a causal relationship with default risk could be firmly established. In this light, any analysis of the Mortgage Insurance Fund's claims and loss experience must center around the seemingly paramount influence that loan-to-value ratios exert upon NHA mortgage default rates.

4) Market-Related Factors

In addition to individual borrower (micro) characteristics, some of the literature include some socio-economic variables in their default risk analyses. Indicators of general economic conditions such as changes in real gross national product, unemployment and bankruptcy rates, and divorce rates are often shown to influence default rates. For example, periods characterized by low and falling GNP combined with high and rising unemployment and bankruptcy rates describe a situation of reduced economic activity which generally culminates in a high probability of a large number of borrowers simultaneously encountering financial difficulties which reduces their ability to make monthly mortgage payments.

An unsettled economy is also generally associated with social changes, often found in the literature in the form of increased divorce rates. Marital problems themselves are shown to exert a deleterious effect upon the incidence of mortgage defaults.

5) Summary of Findings

The purpose of this sub-section has been to test some of the assumptions and results which are often espoused in the literature pertaining to mortgage default risk. In summary, this part of the section addressed theoretically and

empirically, the structure of influences affecting NHA-insured mortgage defaults. In general, four conclusions can be drawn from this exercise:

i) Many of the loan and non-loan effects established in the literature were also found to influence the incidence of NHA-insured mortgage defaults. These include:

- the age of the dwelling
- tenure form
- quality of the property
- borrower's income
- borrower's occupation
- borrower's marital status
- borrower's age
- household expenses to income ratio GDS x
- presence of secondary financing TDS ✓
- number of dependants
- amortization period
- type of mortgage contract
- duration of mortgage
- loan-to-value ratio
- various socio-economic factors (divorce rate, GNP, unemployment rate).

ii) Of all the variables which are postulated to influence the incidence of mortgage default risk, the original loan-to-value ratio is consistently identified in the literature as the major determinant of whether a mortgage will fall into default. This behaviourally based explanation for default lies in the slower equity accumulation with a low downpayment loan, thereby increasing the future likelihood of negative equity in the face of declining real estate values. It is widely acknowledged that barring other considerations, if the outstanding loan balance exceeds the market value of the dwelling (plus transaction costs), borrowers will have a rational incentive to default irrespective of their income or financial capacity.

iii) There exist many determinants of risk which are not considered in the calculation of NHA mortgage insurance premiums. For example, NHA premiums are not stratified by age, income levels, types of profession, locational attributes, household size or marital status. However, the role of CMHC in "easing access to homeownership" through the NHA mortgage insurance vehicle would become tenuous if these individual (micro) borrower characteristics were used in the premium-setting and underwriting processes. For example, while high income borrowers may represent a better risk class than low

income borrowers; or while professionals such as doctors or lawyers possess superior risk characteristics than unskilled labourers or self-employed individuals, discrimination in the form of charging higher premiums to the higher risk cohort would be inconsistent with the objective of "easing access to homeownership".

A major implication of this, however, is that due to the social objective which is attached to the program, CMHC cannot operate the program strictly as a business concern. As a result, CMHC, as an insurer of residential mortgages, becomes subject to losses arising from adverse selection problems since low-risk borrowers are free to obtain financing through means other than that of public mortgage insurance.

iv) Finally, as compared to the determinants of default on home mortgages, detailed studies concerning the factors which influence mortgage default risk on rental projects have rarely been done. As will be demonstrated later in this chapter, the reason for this infrequency stems largely from the difficulty in accurately measuring the impact of determinants such as "future market conditions", "management quality" or "financial viability". In this sense, the factors affecting defaults in rental markets are much more complex and much less amenable to analysis by traditional statistical techniques than those associated with homeownership mortgage loans.

4.6.2 Factors Influencing the Loan-to-Value Ratio

This sub-section has two main objectives. First it examines the relationship between the major factors/variables that have been identified as influencing the risk of default with a view to providing a framework to explain mortgage defaults. Second, drawing from this framework, it explores the causes and sources of MIF losses in recent years.

Given the finding that the initial loan-to-value ratio is the most important determinant of mortgage default risks and is thereby a good proxy for the equity position of a borrower at any point in time in the future, the first question regards what factors make this variable so powerful in explaining defaults. To answer this question, one must start by identifying and analysing the factors which affect each of the two components of the loan-to-value ratio (L/V) variable, i.e., the mortgage loan balance at any point in time (L) and future property values (V).

Determinants of House Prices

Much of the literature pertaining to the determinants of residential construction and house prices have been concerned with selecting a few strategic forces among the myriad of factors which could conceivably determine the volume, and hence the price of residential housing units. This approach has been dictated by the desire for relatively simple, workable models and by the lack of adequate data for one factor or another. This sub-section represents a short excursion into an area not entirely beyond the purview of the subject of public mortgage insurance, given the substantial impact that house price fluctuations exert upon the incidence of mortgage defaults.

Similar to the pricing of other goods and services, the price of housing is determined by the interaction of supply and demand forces. The demand for housing is dependent upon various demographic factors (i.e., net household formation, population growth, immigration, and inter-regional population flows), income levels, the cost and availability of mortgage credit, and the price of housing. Much of the literature adds to this list an observation that the demand for housing will be determined, in part, by policies pursued by the provincial and federal governments[1].

The demand for housing has been found to be very price sensitive. Empirical studies, particularly those performed by L.B. Smith (1974), determined that the price elasticity of demand for housing is approximately 1.0 (this means that a per cent increase in price will result in a one per unit decrease in the quantity of housing services demanded). Household incomes and credit variables are found to exert a substantial influence upon the demand for housing since both variables impinge upon the household's ability to afford the downpayment and monthly payment requirements which are involved with home purchase. By and large, however, the major strategic factor which best determines shifts in house prices (through changes in demand) is often found in the literature to be demographic factors.

With regard to the supply of housing, the housing stock equations found in most of the literature indicate that the existing stock is fixed in the short-run, and is determined largely by the previous housing stock and current housing completions, where completions are represented by past housing starts. Housing start equations usually include as explanatory

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1 For example, the effect of the Canadian Homeownership Stimulation Program was to stimulate demand by improving accessibility to the housing market. Thereby one of the effects of the program was that of inflating house prices.

variables the ratio of expected prices (the measure of income derived from residential construction) to construction costs (costs of supplies, labour, and land), availability and cost of mortgage credit, and government policy (e.g., building restrictions, stimulus programs, etc).

Given that it is the interaction of demand and supply that determines price, it follows from the discussion above regarding the factors that affect supply and demand, that house prices will be determined by the following factors:

. household income
. cost and availability of credit
. construction cost
. government housing policy
. demographic factors

As indicated, these factors determine the level of house prices at any point in time. However, given that in the case of mortgage insurance, it is the change in house prices rather than the level of house prices that affect default risk, it is important in this discussion to examine what causes house prices to move upward or downward. The main factors that lead to changes in house prices are supply/demand imbalances (i.e., situations of excess demand or excess supply). In a dynamic environment, excess demand can be created by a number of factors including the effect of higher than anticipated (by builders) net immigration or inflationary conditions fuelled by speculative forces. Conditions of excess demand of course lead to an increase in the price of housing. By contrast, conditions of excess supply would lead to a reduction in the price of housing. For example, over-building caused by lower than anticipated household formation would create excess supply and lead to a fall in house prices.

Before moving to an examination of the factors that affect the "L" component of the loan-to-value ration (L/V) variable, it is important to examine the determinants of house prices identified above and to make some observations on how these factors can cause defaults and claims against the Mortgage Insurance Fund.

The first observation concerns the fact that in mortgage insurance, there are macro factors that will affect the whole portfolio or a substantial portion of the portfolio of a mortgage insurer. For example, a rapidly expanding population manifesting itself into an increase in household formation, will tend to create excess demand conditions and thereby create upward pressures on the price of housing. By contrast, factors such as tight monetary policy (resulting in high nominal rates

of interest) or net out-migration tend to reduce the demand for housing resulting in house price declines, potentially exposing a mortgage insurer to substantial claims.

The second important observation to be made is that government housing policy can have substantial impacts on the financial results of a mortgage insurer. Government policies that increase the demand for housing will obviously be supportive of mortgage insurance since an increase in the demand for housing would tend to result in higher house prices. For example, stimulus programs such as CHOSP would likely exert that type of impact. On the other hand, supply side programs will tend to create excess supply, thereby moderating or reversing the pressure on housing prices. During the past 10-15 years, supply side programs were used primarily to increase the supply of rental housing. These included programs such as the Multiple Unit Residential Building (MURB), Assisted Rental Program, and Canada Rental Stimulation Program.

Necessary and Sufficient Conditions for Default

Having identified the factors that affect house prices or "V" in the loan-to-value ratio variable (L/V), the next question regards what factors affect the other variable, namely the amount of loan oustanding ("L") at any point in time. There are two major types of factors that affect "L" and these have to do with (i) the characteristics and the design of the mortgage instrument and (ii) those factors that will trigger payment arrears and that may eventually lead to mortgage default.

With regard to the mortgage instrument, the main factors that affect the amount of loan outstanding over time are as follows:

- the amortization period: lengthening amortization means a higher mortgage loan outstanding at any point in time;
- mortgage interest rate: at higher interest rates, less of the debt is being paid during the (more risky) early years of the mortgage;
- mortgage involving planned interest deferrals: depending on the extent of deferral, the mortgage balance outstanding on a graduated payment mortgage for example could be significantly higher than on a traditional equal payment mortgage.

All of these factors, of course, are important in that they increase the probability of a borrower facing a negative equity situation.

Turning to the factors that affect payment arrears, one must at the outset stress that while negative equity is a necessary

condition for default, it is not by itself a sufficient condition. This is evidenced by the fact that even in a very depressed market, the great majority of borrowers do not default. In a situation of negative equity, defaults are triggered mainly by the following factors[1]:

- unemployment;
- bankruptcy;
- excessive debt load;
- reduced income;
- marriage breakdowns.

Earlier in this section, the point was made that some of the factors that will affect house prices in one market - e.g., the general level of inflation, the rise in household income and the cost of credit - will simultaneously affect prices in all other markets, thereby exposing the insurer to macro risks. Given the factors that have been identified above as triggering mortgage payment arrears, it should be clear that deteriorating economic conditions can also play a significant role in affecting "L" in that a general increase in unemployment for example represent a major source of macro risks for a mortgage insurer.

The premise that both "L" and "V" can be affected by macro risk factors coupled with the evidence demonstrating the relative significance of the loan-to-value ratio in determining defaults, an important question arises as to the extent to which mortgage insurance risks can be diversified, and under what conditions such diversification can take place.

Risk diversification in mortgage insurance takes place in two ways. These are as follows:

i) Across Markets: In mortgage insurance, a great deal of risk diversification takes place across markets in that while house prices may be depressed in some markets due to over-production or due to adverse local economic conditions, there can be little or no defaults occuring in most other markets.

ii) Over time: Another way in which risk diversification works in mortgage insurance is in the pooling of risks between good times and bad times. This necessitates, of course, the ability of a mortgage insurer to accumulate sufficient reserves in prosperous times to cover losses during difficult periods.

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1 Results from a Canadian survey published in Mortgage Banking August 1983, p. 76-77.

Given the two ways in which risk diversification can take place in mortgage insurance, there are three major conditions that must be met so that mortgage insurance can be operated on a self-sufficient basis. These are as follows:

i) there must be a multitude of markets, each one accounting for a small portion of the portfolio of the insurer;

ii) markets must be largely independent in terms of default risk so that defaults can occur in one market without occuring in other markets. For example, this can be the case with respect to resource towns. Although the economy of a given mining town may be depressed at a given point in time, other resource towns may be prospering economically;

iii) given the exposure to macro risk in the form of an economic recession affecting all markets simultaneously, premiums must incorporate a component to cover that risk. Implicitly, this means that premiums must be calculated by assuming the existence of a given economic environment and as a result, a condition for self-sufficiency is the continuous existence of the assumed economic environment.

4.6.3 Major Causes of MIF Losses

Having explored the main factors that can cause defaults and having examined the way in which risk diversification takes place under mortgage insurance, the purpose of this sub-section is to identify the main causes of MIF losses during the past 10 years.

Lack of Supporting Economic Environment

As indicated above, once the premium for mortgage insurance has been set, a prerequisite for self sufficiency becomes that of having a supportive economic environment (i.e., an environment that corresponds to the scenario that has been assumed in the pricing of the insurance product). In the Canadian mortgage insurance market, a premium of roughly one per cent was charged throughout the 1970's. This premium level was based on the implicit assumption that the favourable economic conditions that prevailed in the 1950's and 1960's, would continue to prevail in the future.

One of the major causes and perhaps the most significant cause of MIF losses in the past 10 years has been the fact that the economic environment after the mid 1970's has become increasingly less supportive of mortgage insurance. This is illustrated in Table 4.37 which shows historical data on key

indicators depicting the state of the economic environment. As shown in the table, during the period from the mid-1950's to the mid-1970's, economic conditions and demographic factors where supportive of an excess demand situation and thereby, created a favourable environment for mortgage insurance. during that period, housing demand was fueled by favourable demographic conditions in terms of large annual net immigration flows, relatively low mortgage interest rates, and rapidly rising real income. By contrast, economic and demographic conditions have been much less supportive of mortgage insurance in the past 10 years. As the data in Table 4.37 indicate, real incomes have been stagnant or declining, demographic factors have considerably weakened the demand for housing (net annual immigration which had averaged roughly 100 000 people from the mid-1960's to the mid-1970's fell to below the 50 000 level after 1978) and when combined with the effects of high mortgage interest rates, sluggish economic growth and rising unemployment rates the stage became set for an increase in the rate of defaults.

The entire portfolio of CMHC (including the AHOP program) was adversely affected by the faulty (in hindsight) assumption that the favourable economic environment of the 1960's would continue into the future. Because the AHOP program implicity assumed that real incomes and house prices would continue to rise in the future fueled by an inflationary environment, the actual shift to an environment of stagnant and declining real income rendered the program substantially more risky in terms of default. This stemmed from the design of the AHOP program, which relied on the assumption that borrowers would be able to meet increasing mortgage payments because of rising incomes. Stagnant or declining real income coupled with over-production in some markets thus played an important role in creating defaults under the program.

Turning back to the Hellyer Task Force (1969) and its recommendation for a reduction in premiums, it is easy of course with hindsight to be critical of the implicit assumption made at the time of the Task Force that the economic environment of the 1960's would continue to prevail in the future, and thus that a premium of one per cent would be sufficient to cover the risk of default and to build reserves for difficult periods. However, while cutting premiums by half may appear to have been based on faulty judgement, based on the information available at the time, that decision was perfectly acceptable. In fact, market results during the early 1970's demonstrate that three new private insurers entered the mortgage insurance market between 1970 and 1973, indicating that the premium adopted in 1969 was seen as being perfectly adequate.

RELATIONSHIP BETWEEN MORTGAGE INSURANCE CLAIMS AND SELECTED INDICATORS ON THE GENERAL ECONOMIC ENVIRONMENT

	MIF Gross Claims (Millions)	Net Immigration (000's)	%' in Average MLS House Prices	%' in Real Wages and Salaries	%' in Gross National Product	Unemployment Rate
1954	*	N/A	N/A	-1.0	-1.2	N/A
1955	*	N/A	N/A	3.8	9.4	N/A
1956	*	N/A	N/A	8.3	8.4	N/A
1957	*	N/A	6.6	1.7	2.4	N/A
1958	*	N/A	8.2	-2.8	2.3	N/A
1959	0.3	N/A	2.8	3.1	3.8	N/A
1960	1.5	N/A	-0.2	1.7	2.9	N/A
1961	6.7	30	-0.4	1.1	2.8	N/A
1962	8.6	16	1.2	3.7	6.8	N/A
1963	13.9	23	0.8	3.0	5.2	N/A
1964	14.7	44	4.5	5.1	6.7	N/A
1965	15.4	60	5.7	6.5	6.7	N/A
1966	10.4	117	10.2	7.0	6.9	3.3
1967	4.6	131	9.0	4.9	3.3	3.8
1968	2.1	110	11.3	3.0	5.8	4.5
1969	2.4	87	9.2	5.7	5.3	4.4
1970	2.7	81	0.6	3.5	2.5	5.7
1971	7.4	55	5.2	6.0	6.9	6.2
1972	29.3	54	8.2	5.5	6.1	6.2
1973	40.1	93	21.5	6.6	7.5	5.5
1974	19.8	176	27.1	6.6	3.6	5.3
1975	16.9	159	11.7	3.6	1.2	6.9
1976	13.1	106	11.9	7.3	5.8	7.1
1977	46.9	77	4.9	1.1	2.0	8.1
1978	181.8	55	5.1	-0.7	3.6	8.3
1979	499.1	54	10.3	2.1	3.2	7.4
1980	491.9	46	11.1	1.6	1.8	7.5
1981	408.8	45	13.0	1.5	3.3	7.5
1982	213.7	50	-6.9	-4.6	-4.4	11.1
1983	295.9	52	5.8	-1.3	3.3	11.9
1984	356.5	48	-0.1	0.7	5.0	11.3
1985	586.0	N/A	N/A	2.0	4.5	10.5

* Negligible Amount
N/A Not Available

Violation of the "Small/Independent Markets" Condition for Risk Diversification

Violation of the two important conditions for risk diversification (that there be a multitude of small and independent markets) has likely been the second most important source of insurance claims during the past 10 years. The problem in this case stemmed from the impact of reduced oil revenues to Alberta and the effect of the political uncertainty in Quebec following the P.Q. election in 1976. Because losses in these instances were at the provincial level rather than being limited to a few market areas, little risk diversification across markets could take place. Instead, much of these losses had to be covered through reserves accumulated during good times. The impacts of the above factors on population flows, the subsequent effect upon housing demand and house prices, and the resultant increase in mortgage defaults are illustrated in Table 4.38. This table illustrates (i) the impact that political factors had in accelerating the net outflow of population from Quebec; and (ii) the impact of reduced oil revenues which developed in recent years had in reversing net migration flows into Alberta and causing the losses experienced by both MICC and NHA insurance in that province.

TABLE 4.38
IMPACTS OF DEMOGRAPHIC FLOWS
ON MORTGAGE INSURANCE CLAIMS[1]

YEAR	QUEBEC		ALBERTA		CANADA
	Net Migration Flows	Gross Claims (Million $)	Net Migration Flows	Gross Claims (Million $)	Gross Claims (Million $)
1974	-11 852	5.3	14 810	*	10.5
1975	-12 340	8.9	23 463	*	11.1
1976	-20 801	6.2	34 215	*	13.6
1977	-46 536	20.9	32 344	*	57.9
1978	-33 424	69.4	31 987	1.9	253.5
1979	-30 025	155.8	39 212	3.7	514.4
1980	-24 283	237.7	46 933	14.0	363.7
1981	-22 549	171.1	40 243	4.4	245.7
1982	-28 169	107.9	3 962	10.9	196.0
1983	-20 473	52.0	-34 466	45.6	274.2
1984	-12 345	34.7	-39 035	274.2	431.1
1985[2]	-9 372	52.1	-26 453	283.5	464.4

N/A: Not available
*: negligible amount

1 Data show the original mortgage value for loans that went into default.
2 End of Second Quarter 1985

As indicated, because Quebec and Alberta represent a large proportion of the mortgage insurance market, the extent to which losses from those two provinces could be absorbed through excess premium income accruing from the rest of Canada was quite limited. As shown in Table 4.38, the magnitude of gross claims from Alberta alone in the past two years amounted to more than 500 million dollars. Put in perspective, these claims represented more than 60 per cent of all the claims in Canada as a whole during 1984-85 period.

Losses Incurred in Insuring Rental Housing

In the previous section, the point was made that negative equity is a necessary but not sufficient condition for default. In the case of homeownership loans, it was argued that what causes defaults are factors such as unemployment, marriage breakdown, job transfer and so on.

As in the case for homeownership, negative equity is a necessary but not sufficient condition for default in rental housing. However, instead of factors such as marriage breakdown, job transfer and so on, the key cause of defaults in rental housing resides in changes in the perception on the part of investors regarding the continued validity of the assumptions that they made at the time of the initial investment regarding the future viability of the project. For example, changes in assumptions regarding future vacancy rate or future rent escalation can mean substantially longer periods of negative cash flow than had been anticipated at the time of the original investment. In a situation of negative equity, such changes in assumptions can be sufficient to trigger a default.

As previously shown in this study, if one looks at the financial position of the MIF after 30 years, losses incurred by the Fund in regard to the insurance of regular unassisted housing have been concentrated in rental housing. The reason for this stems from the fact that in rental housing, there are a multitude of factors that affect rental prices and rental viability, and given the long list of assumptions that enter into the calculation of viability and into the decision to invest, the risk is high that some assumptions will prove to be invalid and that a default will eventually occur. The following list provides an indication of some of the major considerations and assumptions that enter into the decision to invest in a new rental housing project:

- vacancy rate at building completion time;
- projected inflation in rents;
- projected inflation in operating expenses;
- projected interest rate at mortgage renewal;
- current tax treatment of rental investment;
- effect of government regulations (e.g., rent control).

In addition to these factors which must be considered by both the proponent and by the mortgage insurer, there are a multitude of other factors and considerations that enter the decision to underwrite a given loan. These include:

- assessing the competence of the proponent in managing a rental proejct;
- assessing the financial capacity of the proponent;
- appraising the value of the project;
- evaluating the quality of the project in terms of appearance, durability etc.

Given the long list of factors that affect underwriting risks in rental insurance, three points can be made about rental insurance. First, insuring rental housing is significantly more risky than insuring a homeownership loan. Second, having supportive economic conditions is crucial for the insurance of rental housing to be a self sufficient operation. Third, as for any other type of investment, a climate of stability and certainty is a necessary ingredient to ensure the smooth functioning of the rental market.

Since the introduction of tax reform in 1972, several factors have made it difficult for CMHC to offer insurance on new rental housing on a self-sufficient basis. First, the insurance of new rental housing is an area in which CMHC is most subject to pressures from all the interested parties and in which the social implications of restrictive underwriting are most evident (i.e. lack of availability of rental accommodation). Second, it is an area where the government has continually intervened with on-off stimulus initiatives which have had a destabilising impact on the market. Third, it is subject to a pronounced cyclicality; this is reinforced by the length of time to complete a project (up to 2 years), making it difficult for builders to precisely match supply and demand.

The consequence of rent controls and government intervention has been that necessary market adjustments in rents (or declines in multiple zoned residential land prices) have not always taken place. Thus new rental construction is marginal from an investment perspective, and a shift in the market prior to renting up or in the early years can result in heavy losses and a rational choice on the part of the investor to default on the mortgage. The MURB program reinforced this since with the soft cost tax benefits, investors had little or no money at stake in the property. The consequence of this has been high defaults on rental loans and substantial losses to the MIF. The difficulty for mortgage insurance to play a truly supportive role in rental production, and at the same time achieve self sufficiency is apparent. The alternatives open to the government in this area will be discussed later in this study.

4.6.4 Other Causes and Sources of Defaults

So far in this section, three major factors have been identified as having had an impact in creating mortgage defaults in recent years. These factors are as follows:

i) the fact that economic conditions in the past 10 years (high unemployment, high interest rates and stagnant real income) have become less supportive of mortgage insurance;

ii) the impact that unanticipated demographic shifts in Alberta and in Quebec had on the demand for housing and on house prices in those provinces;

iii) the impact of government policies - in the form of tax incentives, rent controls and supply side programs - in creating conditions of excess supply, thereby depressing rental markets.

Having identified these three major sources of claims against the MIF in recent years, the purpose of this section is to describe other factors that have played a role in creating defaults. Such factors can be grouped under the following three categories:

i) Losses resulting from the pursuit of social objectives;

ii) losses due to the impact of structural changes in the economy; and

iii) losses resulting from the design of the program.

Losses due to the Pursuit of Social Objectives

In Chapter 3 dealing with program rationale, the point was made that the pursuit of social objectives under the program often conflicted with the attainment of the objective of self sufficiency. In this regard, it was also mentioned earlier in this section that because of political and social constraints, CMHC cannot simply operate as a profit maximizing firm. As a result, there have been situations in the past when CMHC had to sacrifice the application of sound business practices in favour of social responsibilities. Although it is not exhaustive, the following list illustrates situations of conflict between business and social objectives that CMHC has faced in recent years:

- in using NHA insurance for economic stabilization purposes, CMHC has often approved more loans that a private insurer concerned strictly with sound underwriting, would have. this

type of problem arose under the AHOP and ARP programs under which production targets were established. As the targets reflected employment objectives as much as housing objectives, over production transpired in some markets;

- to counteract the "tilt" effect of rising inflation and interest rates on access to homeownership and on rental production, CMHC offered insurance on graduated payment mortgages (GPM's). These instruments were predicated on an environment characterized by continued high inflation. At that time, such an environment was predicted to be a feature of the 1980's resulting largely from rapidly escalating energy prices. When these assumptions became invalid, CMHC (and possibly MICC which was also insuring GPM's) faced losses on those loans;

- being a government agency, CMHC had to abide by the 6 and 5 per cent government policy. As a mortgage insurer, this policy had adverse consequences on the real estate operation of CMHC as it limited the ability of CMHC to improve the viability of the rental projects that it held by raising rents.

Structural Changes

Fundamental structural changes have also contributed to the increase in the rate and cost of defaults in recent years. As mentioned earlier in this section, once a homeowner faces a negative equity situation, default will be triggered by factors such as unemployment, marriage breakdown, bankruptcy, and so on. In this regard, the long-term rise in unemployment rate and the sustained increase in divorce rate have likely had an impact on the rate of default. Another important factor that has affected MIF losses has been the long-term rise in nominal interest rates given that accrued interest expenses represent one of the most significant cost elements in mortgage insurance claims. Data depicting the long-term rise in unemployment rate, divorce rate, interest rates and mortgage insurance claims are presented in Table 4.39.

Program Design

As indicated, a final group of factors that have created losses to the MIF in recent years has been those related to the design of the program. In this regard, MIF losses have been incurred as a result of the following reasons:

- under present program arrangements, insurance claims must either be paid cash upon transfer of the title of the property by the lender to CMHC, or through deficiency settlement. At the present time, CMHC cannot settle claims

TABLE 4.39
Relationship Between Mortgage Insurance Claims and Selected Variables Reflecting "Structural" Changes

	MIF Gross Claims (Millions)	Unemployment Rate	Average Mortgage Interest Rate	Divorce Rate Per 100 000 Population
1954	*	N/A	6.0	38.7
1955	*	N/A	5.9	38.6
1956	*	N/A	6.2	37.3
1957	*	N/A	6.9	40.3
1958	*	N/A	6.8	36.8
1959	0.3	N/A	7.0	37.4
1960	1.5	N/A	7.2	39.1
1961	6.7	N/A	7.0	36.0
1962	8.6	N/A	7.0	36.4
1963	13.9	N/A	7.0	40.6
1964	14.7	N/A	7.0	44.7
1965	15.4	N/A	7.0	45.7
1966	10.4	3.3	7.7	51.2
1967	4.6	3.8	8.1	54.8
1968	2.1	4.5	9.1	54.8
1969	2.4	4.4	9.8	124.2
1970	2.7	5.7	10.4	139.8
1971	7.4	6.2	9.4	137.6
1972	29.3	6.2	9.2	148.4
1973	40.1	5.5	9.6	166.1
1974	19.8	5.3	11.2	200.6
1975	16.9	6.9	11.4	222.0
1976	13.1	7.1	11.8	235.8
1977	46.9	8.1	10.4	238.0
1978	181.8	8.3	10.6	243.4
1979	499.1	7.4	12.0	251.3
1980	481.9	7.5	14.3	259.1
1981	408.8	7.5	18.2	278.0
1982	213.7	11.1	17.9	285.9
1983	295.9	11.9	13.3	275.5
1984	356.5	11.3	13.6	259.4
1985	586.0	10.5	12.2	N/A

* Negligible Amount
N/A Not Available

by issuing a debenture in the same way as FHA does in the United States. In the late 1970's when claims under the AHOP and ARP programs escalated rapidly, the fact that CMHC could not use the FHA approach to settle claims created liquidity problems for the MIF. As a result, when the MIF had to dispose of its bond portfolio in 1979, it incurred a loss of $43 million;

- given that NHA Option A insurance provides 100 per cent protection, moral hazard problems can exist since the lender lacks incentive to do proper underwriting. In recent years, some losses - although the amount is probably negligible - have been incurred by the MIF as a result of this problem[1];

- because of the Government of Canada guarantee and the geograhically invariant fee and premium schedule across Canada, the MIF is exposed to adverse selection problems in that private insurance only competes with CMHC for the low risk and profitable loan categories. This means that CMHC must serve non-profitable sub-markets such as resource towns and remote areas. However, this is not a major source of loss for the MIF in that even with perfect adverse selection, the annual cost of serving these borrowers would amount to only $10 million.

4.6.5 Other Program Costs

Much has been said in recent years about the losses that the MIF has absorbed as a result of increased rates of defaults. However, what is not generally recognized in regard to NHA insurance is the fact that (i) over the years, subsidized application fees have represented a substantial cost to the government and (ii) the bulk of these costs is not reflected in either the cash or actuarial position of the MIF.

For much of the past 30 years, CMHC has charged an application fee of $35.00 to cover the cost of insurance initiation. When the program was introduced in 1954, the intention of the architects of the program may have been to set this fee such that it would cover the administrative cost of insurance initiation, including the cost of carrying compliance inspections and performing appraisals. However, from the day

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1 Measures have been put in place in recent years to monitor the performance of lenders and penalize those lenders who have poor claim experience.

when the first loan was insured in 1954 until at least 1 July 1981 after CMHC streamlined its operations and increased the fee to $100, CMHC faced losses in originating loans. This is evidenced from the following excerpt from the 1954 CMHC Annual Report[1] which states:

> "To carry out its new and increased responsibilities, the Corporation was obliged to increase its complement of field offices (by 45%) and to add experienced mortgage field men to those offices previously handling over rental business. The application fee of $35 per housing unit (on the basis of the 1954 experience), is proving insufficient to carry the administrative costs involved. As a result, the Corporation's administrative expenses have risen sharply, and the operating profit of the Corporation dropped by about 60% in 1954 as compared with 1953".

As indicated from this quote, in 1954 - and this remained the case until 1981 - the origination fees were accruing to CMHC rather than to the MIF and similarly, the expenses incurred in originating mortgage insurance were charged to CMHC. As a result, the losses borne by CMHC in mortgage origination were financed through cross-subsidization with other activities carried out by CMHC. The end result was that either people were charged more to obtain services such as direct loans or the government received less profits from CMHC.

Insofar as shortfalls in application fees represented a cost that should be attributed to the program, the next issue concerns the importance that this cost has been over the years. This is difficult to answer since there is only scanty evidence that can be used to generate an estimate of such costs. The evidence is as follows:

- as indicated from the 1954 CMHC Annual Report, a shortfall in application fee existed from the day when the program started in 1954. Thus, an estimate of the total shortfall in fees over the years which would be based on the assumption that the cost of origination was $35.00 in 1954, would be conservative. this assumption is made below in estimating the costs to the government;

- various CMHC documents have discussed the cost borne by CMHC in regard to insurance origination. In a study conducted for

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1 Excepted from page 3 of the Report.

CMHC in 1978, E.W. Clendening[1] showed that in 1975, total losses from that source amounted to $16.5 million. In more recent CMHC documents prepared between 1979 and 1981, reference was made to an annual cost of roughly $15 million. The estimate presented below is consistent with these cost figures;

- in the Clendening study, data were presented showing the cost of the initiation to be as follows for homeownership loans:

  New House: $369.73
  Existing House: $158.34

  These data have been used to estimate the annual shortfall in fee between 1954 and 1975;

- current data related to the cost of initiating insurance are as follows:

	Cost per Unit
Homeownership New	$747
Homeownership Existing	165
Rental New	374
Rental Existing	206
Condominium	391

These data combined with the data presented in the Clendening study have been used to estimate the total cost borne by CMHC.

Between 1954 and 1980, it is estimated that the cost of the program borne by CMHC in the form of subsidized application fees for homeownership housing has amounted to more than $600 million expressed in 1985 dollars, of which $500 million was for new homeownership housing. This is a conservative estimate in that - contrary to the CMHC Annual Report - it assumes a cost of zero in 1954, likely underestimating losses in the ensuing years. As indicated, this estimate also excludes losses that were incurred in originating loans for new rental housing. Detailed calculations regarding the estimated shortfall in application fees are presented in Appendices 1 and 2.

Revenues and losses on application fees have been eliminated since 1980, resulting from two factors. First, application fees were increased successively from $35 to $100 in 1981 and to the

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1 "An Analysis of the Policy Options for NHA Mortgage Insurance Operations and the Implications of these Options for CMHC, the MIF and the Private Insurers", Canadian Economic Services Ltd. and .E.W. Clendening Consulting Limited, Ottawa, March 1978.

current level of up to $350 in 1984. Second, CMHC has streamlined its operations and in recent years, has reduced considerably the number of compliance inspections particularily in well developed markets as municipalities have developed improved capabilities in that field. The next chapter looks at whether there is today a difference in quality between NHA insured and non-NHA single-family housing.

NEW HOMEOWNERSHIP HOUSING

Year	Estimated Cost of Origination (1)	Estimated Shortfall Column (1) Less $35 (2)	No. of Units Approved (000's) (3)	Total Cost (Current $) (4)=(2)x(3) (Million $)	CPI Inflator (5)	Total Cost in 1985 Dollars (6)=(4)x(5) (Million $)
1954	35	-	39.5	-	-	-
1955	39	4	56.7	0.2	4.46	0.9
1956	44	9	36.0	0.3	4.40	1.3
1957	50	15	39.9	0.6	4.26	2.6
1958	56	21	66.0	1.4	4.15	5.8
1959	63	28	49.8	1.4	4.11	5.7
1960	70	35	29.4	1.0	4.06	4.1
1961	79	44	46.5	2.0	4.02	8.0
1962	89	54	37.8	2.0	3.97	7.9
1963	100	65	44.0	2.9	3.90	11.3
1964	113	78	38.3	3.0	3.83	11.5
1965	127	92	36.9	3.4	3.74	12.7
1966	143	108	31.8	4.0	3.61	14.1
1967	161	126	34.6	4.4	3.48	15.3
1968	181	146	42.6	6.2	3.35	20.8
1969	203	168	28.4	4.8	3.20	15.4
1970	229	194	50.0	9.7	3.10	30.0
1971	258	223	66.9	14.9	3.01	44.9
1972	290	255	64.1	16.3	2.88	46.9
1973	326	291	43.8	12.7	2.67	33.9
1974	370[1]	335	34.2	11.5	2.41	27.7
1975	394	359	64.9	23.3	2.17	50.7
1976	420	386	70.1	27.0	2.02	54.6
1977	448	413	54.4	22.5	1.87	42.1
1978	478	443	31.8	14.1	1.72	24.3
1979	509	474	16.7	7.9	1.58	12.4
1980	543	508	12.1	6.1	1.43	8.7
1981	579	-)				
1982	617	-)				
1983	658	-)[3]				
1984	701	-)				
1985	747[2]	-)				
Total Cost	-	-	-	203.6	-	513.9

1 Source: Clendening Study, op. cit., p.85
2 Source: Underwriting Division CMHC
3 It is assumed that after 1982 [illegible]

EXISTING HOMEOWNERSHIP HOUSING

Year	Estimated Cost of Origination (1)	Estimated Shortfall Column (1) Less $35 (2)	No. of Units Approved (000's) (3)	Total Cost (Current $) (4)=(2)x(3) (Million $)	CPI Inflator (5)	Total Cost in 1985 Dollars (6)=(4)x(5) (Million $)
1954	35	-)				
1955	38	-)				
1956	41	-)				
1957	44	-)				
1958	47	-)				
1959	51	-)				
1960	55	-)[1]				
1961	59	-)				
1962	64	-)				
1963	69	-)				
1964	74	-)				
1965	80	-)				
1966	86	-)				
1967	93	58	3.7	0.2	3.48	0.7
1968	100	65	3.7	0.2	3.35	0.8
1969	108	73	3.4	0.2	3.20	0.8
1970	116	81	5.7	0.5	3.10	1.4
1971	126	91	14.5	1.3	3.01	4.0
1972	135	100	21.8	2.2	2.88	6.3
1973	146	111	25.2	2.8	2.67	7.5
1974	158[2]	123	34.4	4.2	2.41	10.2
1975	158	123	46.0	5.6	2.17	12.3
1976	159	124	37.5	4.7	2.02	9.4
1977	159	124	64.9	4.7	1.87	15.0
1978	159	125	65.8	8.2	1.72	14.1
1979	160	125	63.7	8.0	1.58	12.6
1980	160	125	42.7	5.3	1.43	7.6
1981	161	-)				
1982	162	-)				
1983	163	-)[4]				
1984	164	-)				
1985	165[3]	-)				
Total Cost	-	-	-	48.1	-	102.7

[1] Source: Clendening Study, op. cit., p.85

CHAPTER 5

IMPACTS OF PUBLIC MORTGAGE INSURANCE ON THE QUALITY OF SINGLE FAMILY HOUSING

5.1.0 INTRODUCTION

5.1.1 Purpose

The purpose of this chapter is to demonstrate the presence or absence of a quality differential between NHA insured and non-NHA housing. The differences to be examined are those attributable to the requirements of NHA mortgage loan insurance that are additional to those for conventional housing. These are NHA inspections and the technical requirements found in Residential Standards and Technical Builders' Bulletins.

5.1.2 Historical Perspective

The emphasis of the examination is on current or prospective conditions, in line with the federal government's evaluation criteria, and thus is not a historical assessment of the NHA contribution to housing quality in Canada. However CMHC, at its inception, was the major actor concerned with the quality of Canadian housing and it has consistently provided a model that other actors have adopted or emulated after their own fashion.

Its influence has derived from a variety of activities - from Part V research to program and underwriting requirements. Its involvement has been dynamic and although willing to take the initiative CMHC has also been willing to withdraw when others (government and/or industry) have had the interest, commitment and knowledge to further federal objectives.

An historical perspective of the use of NHA loan insurance activities in pursuit of the improvement of housing quality is useful in understanding the status quo. Such a perspective has to be highly qualitative. No quantitative assessment has been made of the impact of the various CMHC activities affecting housing quality over time, and any such assessment aiming to go back more than 10 years would be fraught with difficulty because of a lack of records and the changes which repairs and alterations have made to older housing.

CMHC's technical requirements and its inspections to ensure compliance have been, and are, the principal influences on housing quality available through the loan insurance program. The significance of these influences has varied over time but has been inversely proportionate to the involvement and resources of others in these areas. Thus CMHC's loan insurance activities undoubtedly had a major impact during the 1950s and into the 1960s but during the 1970s and 1980s their influence

has lessened as provincial and municipal willingness and capability to generate, adopt and enforce standards has dramatically improved. Adoption of the NBC by the provinces commenced in the 1950s and is virtually (but not yet entirely) complete.

The Corporation's requirements mirror the NBC in most respects but do go beyond them in aspects related to durability and marketability. CMHC's requirements, because they can be amended quickly, still influence the National Building Code - recent examples relate to flat roofs and roof ventilation. However, it is now estimated by NRC that at least 90% of new residential construction is built in areas subject to building codes wholly or substantially in agreement with the NBC. In these circumstances CMHC's requirements are less influential as a quality determinant than they were in the past.

The situation is similar with respect to inspections, i.e. enforcement of the requirements. Again, CMHC's influence on quality from the immediate post war period to the 1970s, via this mechanism was significant. As municipalities have improved their enforcement capabilities, CMHC has reduced the number of its own inspections and its influence has decreased. It is important to note however, that the application of municipal resources to this task is highly uneven across the country and there is much to do before uniform levels of inspection are available nationally. Historically CMHC has borne the brunt of the inspection work needed to ensure good quality housing but it has increasingly and substantially benefited from municipal involvement in recent years.

CMHC's prime purpose in having standards is to provide financially low-risk housing, although the benefits for occupants of good quality housing are real. CMHC has always equated good quality with low financial risk. Quantitative assessment of that risk is a relatively recent phenomenon and questions now arise as to the need for many standards purely from the risk perspective. However, Canadian housing quality has likely benefitted significantly over the years from CMHC's lending requirements. The improved interest, commitment and knowledge of provinces and municipalities with respect to housing standards and their enforcement has enabled CMHC to withdraw from some activities in some areas since 1980. The effects of this withdrawal on housing quality would be difficult to evaluate for the reasons previously given. However, as part of this evaluation an attempt has been made to determine if differences in quality presently exist between NHA and non NHA housing of the last 10 years. This constitutes the first occasion on which the quality impact of an NHA activity has been assessed.

5.1.3 Approach

As has been mentioned the two main mechanisms by which NHA loan insurance impacts quality are its technical requirements and its inspections. The latter affect housing quality by ensuring that requirements are complied with, or by reporting of non-compliance, and by seeing good building practice is followed. Housing quality does not appear in the early objectives of the program, but its impact on quality in the early years was recognized, and has since been legitimized to some extent as an "additional" public policy objective. The hypothesis behind this impact is that the presence of NHA inspections and technical requirements results in housing that is more durable, more economical to operate, more liveable, more marketable and more safe.

The study further assumes that the quality of market housing in large well-developed housing markets is better than in small less-developed markets. By well-developed is meant markets with many competitive experienced builders, a well trained labour force, and a well structured active code enforcement system.

In well developed markets, technical capacity, consumer awareness, and the regulatory system are thought to largely supplant the regulatory impact of Residential Standards. The expectation would be to observe no systematic quality differences one way or the other between NHA and non-NHA homes. Finding a positive differential in this market would be the strongest possible argument in support of the quality impacts of NHA lending requirements.

In smaller less-developed markets Corporate lending requirements supposedly supplement other regulatory instruments and the industry's technical capacity. Consequently this should be observed in positive quality and perhaps price differentials between NHA and non-NHA houses. Failure to observe such positive differentials would depreciate arguments that the requirements of Residential Standards which are in excess of the requirements of the National Building Code, promote higher quality.

Housing quality is difficult to measure because of the lack of an agreed, specific definition. Those who have an interest in the subject tend to have their own view of what are the most important facets of quality. This evaluation is concerned primarily with the facets or themes of quality which CMHC has used in its administration of the NHA. These are the durability, marketability, liveability, economy of operation and safety aspects previously mentioned.

Information on these aspects of quality is not systematically, collected, and has certainly not been collected with regard to whether or not the building was built to NHA requirements. Data for this examination was generated by survey or sought elsewhere. The split of quality into the above mentioned facets offers the possibility of following several lines of enquiry.

The approach taken in this chapter was to conduct surveys of 100 houses at each of four locations representing the practical limits of an anticipated continuum of local code sophistication and local market size. Several facets of quality were surveyed at each site. An additional source of data on NHA/non NHA differences was available for the period 1977-1981 from the Ontario New Home Warranty Program. The data together with other observations and conclusions arrived at during the study form several lines of evidence which are drawn together in the final section.

5.2.0 Outline of Survey Method

Development of the survey instrument commenced with some redefinition of quality (as it relates to NHA) into aspects of durability, economy of operation, marketability, liveability and safety. The desire to examine actual evidence of impacts on quality meant looking at existing housing where impacts would have had time to develop. The desired emphasis was on impacts of today's NHA loan insurance requirements, but the time lag between construction and realized impacts means this is in reality unattainable, and what is examined is the result of past requirements and procedures at the time of construction.

Four survey locations were chosen on the basis of the environment they contained with respect to other-than-NHA quality influences, and on the basis of their suitability for sampling. The other-than-NHA quality influences that were considered were municipal/provincial code status in the mid 1970s, size of municipality, size of market and structure of industry. These other influences form a continuum and the locations were chosen to represent the bounds within the limitations of the sampling procedure. Any location in Canada can be described in terms of these influences and can thus be placed on the continuum.

The choices of location were as follows:

Scarborough: this municipality, forming part of the large Metropolitan Toronto region, represents a well developed area both in terms of size of housing market and strength of code enforcement.

Richmond, Surrey and Delta: these municipalities, forming the southern fringe of the large Vancouver market, represent a well developed housing market with a mixture of small and large firms. Code enforcement although active has been and still is subject to the strains of a rapidly expanding population base.

Kingston City and neighbouring townships of Kingston, Amherstview and Ernestown represent a well regulated environment, owing to the presence of the Ontario Building Code. Rapid expansion was seen in the 1970s, however, with no increase in the resources devoted to code enforcement. The market is now relatively small and stable and is dominated by two builders.

Moncton city and municipalities of Riverview and Shediac represent the least developed areas in terms of both housing market and code enforcement.

The NHA sample was chosen at random from Corporate records for each locality, but the non-NHA sample was specially selected to match the NHA. The non-NHA houses were thus a random sample of the segment of the conventional market that compares most closely to the NHA stock in terms of size, location, design and building standards.

The sample was split two ways; by era (the period before 1980 when CMHC's requirements and enforcement practices were more rigorous, and the period after 1980) and by NHA status (insured and not-insured). Analysis required about 25 houses in each cell i.e. 100 houses in each locality.

Constraints on budget and survey time and sample size requirements dictated that many structural components and code compliance items could not be included in the survey. A limit of 45 minutes (including 15 minutes travel) was placed on each inspection meaning that observations had to be quick, non-destructive, and little burden on the occupant.

The indicators that were finally chosen for each of the five facets of quality are as follows:

Safety. This indicator is derived from a measurement of compliance with selected regulatory criteria. It is assumed that the observed rate of compliance for the sampled items would be indicative of the true rate for all regulated items, and that this in turn is related to the safety of the dwelling. (Nearly all the criteria are found in the National Building Code which is a health and safety document). The measurement of compliance for each criterion is a simple "present" and "absent". Being nominal values, they can be pooled to give an overall rate for groups of locations as well as groups of houses, provided it is

assumed that each criterion has equal importance. Thus for this indicator a greater degree of compliance is equivalent to a greater degree of safety.

Economy of operation. Repair and problem items of homes were noted as commentaries for each particular home. In each location the recurring items were tabulated and a comparative analysis was performed on NHA and non-NHA houses. Although this indicator relies often on reporting by the occupant, and may thus be incomplete, the frequency of a class of problem may be assumed to be related to the cost of repair, i.e. a home with a lower rate of reported problems is more economical to operate.

Durability. The visible condition of each of 17 major elements of a house was expressed as a single figure equivalent to the percentage of that element that needed replacement. For each element in each location there are 100 houses and consequently 100 scores which can be split by NHA status so as to compare average values. These element scores cannot be aggregated to give an overall rating for a house because of the differing but unknown importance that is attached to one element vis a vis another. Neither can they be aggregated for different locations because of the subjective, judgemental nature of the observation, and the fact of different observers at different locations. This indicator, then, at best can show that, in that particular location, NHA homes have elements that are more (or less) durable than those of non-NHA.

Marketability. The indicator for this aspect is taken directly from the appraised market value. The appraised figure was normalized for such items as size, age and location, to give a stock value per unit area. The average of NHA homes can then be compared to non-NHA to determine whether or not there is a premium attached by the market, i.e. is there a difference in marketability. A greater stock value would indicate a more marketable unit.

Liveability. This is indicated by the presence or absence of various amenities (closet spaces, laundry areas) that are specified in the Residential Standards, but not in the NBC. The measure is the simple percentage of homes that do not contain all the amenities.

5.2.1 Interpretation of Results

Condition

Seventeen components were examined in two major categories (see separate report "Supplementary Report: Survey of Impacts of Public Mortgage Insurance on the Quality of Single Family Housing"), "maintenance" items such as flashings, caulking, driveways and roof coverings and "structural" items such as

foundation walls and roof construction. Each was rated by the inspector.

The condition rating of a component can be regarded as the percentage of that component that needs replacing in the house. As one might expect, the "maintenance" items scored higher than the "structural" items. The frequency of a non-zero response, i.e. where a condition needing work was observed, is generally different for these two categories. For maintenance items, nearly all houses incur some score, and consequently some type of unimodal distribution emerges. However for the structural components the scores are distributed such that the vast majority incur no score (i.e. they are in excellent condition) with just a few observations of "need for some work".

For this reason the interpretation of results is best handled differently for each category of component. The usual statistical tests of significance are appropriate for maintenance items, but with regard to the structural components they carry little meaning no matter what the size of the sample. The distribution observed in this latter category does not fit the assumptions on which the statistical tests are based. Because of the rarity of a non-zero score, almost any score at all can be regarded as significant in a common sense.

All results in the maintenance and structural categories are analysed by NHA status, era, and household size. Where appropriate, analysis is also done for municipality and builder. Data on these analyses may be found in the supplementary report mentioned above.

Deficiencies

Forty-three items, specified in the National Building Code and the Residential Standards were checked for their degree of compliance (see table in Appendix). These were analysed with respect to NHA status, era, municipality and builder where appropriate.

The importance of an occurence of any particular deficiency is difficult to assess. Adequate performance of houses is achieved through redundancy of requirements. This means that if one component is faulty during construction, there will be others in place to do its job. The existence of a deficiency is therefore not in itself a problem, but more deficiencies predispose a house to failures with attendant financial and safety implications.

The analysis of the aggregated deficiencies is included in this chapter. The analysis for each location may be found in the supplementary report mentioned above.

Commentaries

During the course of the survey, the inspectors and appraisers would take note of other items that were visible. Often the respondents had completed the section in the questionnaire on repairs to their house, or sometimes had made additional comments. A summary of these comments is included in this chapter, and the individual comments are listed in detail in the supplementary report mentioned above. Although not methodically collected, these comments can offer useful insight into the quality of housing.

5.3.0 CODE COMPLIANCE SUMMARIES - ALL LOCATIONS

The first housing quality indicator to be addressed is building code compliance. Inspected components either meet or fail to meet code requirements. This evalution requires less subjective judgement by the inspector than condition rating, and consequently the aggregation of deficiency rates across compliance items or survey locations entails few problems. This section examines deficiency rates first by location and then by compliance item.

5.3.1 Analysis of Compliance with Regulatory Criteria

The 43 code compliance items come from two sources and from different eras. The sources were the National Building Code and its provincial deriviatives, and the CMHC requirements additional to the Code as contained in Residential Standards (RS). The eras from which samples were drawn were 1975-1980 and 1980 to date. Whereas it is likely that houses from the early era will not comply with requirements not in effect at the time of their construction this is not to say that these units are functionally deficient. However, in the sense that the latest NHA requirements are a statement of what CMHC now desires in housing quality, the units are lacking.

There are, then, several ways to use the counts of non-compliance to give information on quality trends and patterns among the NHA and non-NHA stock.

Firstly, one can limit the comparison to those regulatory criteria that are common to the entire sample. Basically these are the National Building Code criteria of the earlier era. This provides a comparable measure of the degree of compliance which we call NBC Compliance.

Secondly, one can apply all the applicable criteria of each era to all houses of that era. That is, NHA and non-NHA homes are judged by requirements in effect only for the periods when they were current. This procedure gives a measure of the degree to

which each type of housing fails to meet actual levels of desired quality at the time of construction. This measure is called Effective Compliance.

Finally one can compare NHA and non-NHA on the basis of present-day CMHC criteria. This gives a measure of the degree to which all housing (older, newer, NHA and non-NHA) fails to meet CMHC's current quality requirements. This is called RS Compliance.

NBC Compliance Summary

The weakest quality definition based on code compliance data is that a house should comply with the 25 inspected items specified by the NBC. The remaining RS requirements are ignored in this section.

The whole sample showed 554 deficiencies in 6 848 surveyed items for an overall rate of 8.1%. The rates by site are shown in Table 5.1. NHA houses performed better in total with a deficiency rate of 7.8% against 8.4% for non-NHA houses. Across the study period however the performance of the whole sample worsened from 7.9% deficient in the 1970s to 8.4% in the 1980s. Non-NHA houses improved over the period from 9.1% to 7.5% whereas NHA deficiencies jumped from 6.5% to 9.1%.

TABLE 5.1

NBC COMPLIANCE SUMMARY

SITE	DEFICIENCY RATE			PERFORMANCE CHANGE*
	All Houses	1970s	1980s	
All	8.1%	7.9%	8.4%	-
Non-NHA	8.4	9.1	7.5	+
NHA	7.8	6.5	9.1	-
Moncton	10.1	10.8	8.8	+
Non-NHA	11.3	11.7	9.9	+
NHA	8.8	9.3	8.4	+
Toronto	4.7	4.8	4.7	+
Non-NHA	5.3	7.0	3.6	+
NHA	4.1	2.6	5.6	-
Kingston	6.0	4.1	7.8	-
Non-NHA	6.2	5.2	7.0	-
NHA	5.8	3.2	8.6	-
Vancouver	13.0	11.5	14.7	-
Non-NHA	11.2	10.5	11.7	-
NHA	14.9	12.3	18.9	-

* A decreased deficiency rate indicates improved quality between the 1970s and 1980s and is designated by a '+' sign.

Generally, code compliance seems to be improving in the Moncton and Toronto samples but is declining in those of Kingston and Vancouver. The relative change of NHA deficiency rates over the period was worse than non-NHA deficiency rate changes in all market types.

Given this definition of quality we see strong evidence of a decline in NHA housing and substantial improvement in non-NHA housing. This indicates that industry capability and municipal inspection procedures in the conventional side of the market are improving.

Effective Compliance Summary

The compliance items which were in effect for each particular house (up to 43 for NHA units) showed 730 deficiencies on 9 111 observed items. This is based on NHA units meeting Residential Standards and conventional units meeting the NBC. Since houses are thus required to comply with the code in effect, this is referred to as "Effective Compliance".

Overall the sample recorded a 8.0% deficiency rate. The NHA houses had a 7.6% deficiency rate whereas the rate for conventional houses was 8.6%. Table 5.2 shows the deficiency rates, as defined above, disaggregated by survey site, NHA status and era.

TABLE 5.2
EFFECTIVE COMPLIANCE SUMMARY

SITE	DEFICIENCY RATE			PERFORMANCE CHANGE*
	All Houses	1970s	1980s	
All	8.0%	8.3%	7.6%	+
Non-NHA	8.6	9.5	7.5	+
NHA	7.6	7.5	7.7	-
Moncton	10.2	11.6	8.0	+
Non-NHA	12.2	12.8	9.9	+
NHA	8.9	10.3	7.6	+
Toronto	4.5	4.7	4.2	+
Non-NHA	5.2	6.8	3.6	+
NHA	4.0	3.3	4.5	-
Kingston	6.8	5.2	8.3	-
Non-NHA	6.3	5.4	7.0	-
NHA	7.1	5.1	9.1	-
Vancouver	11.6	11.3	12.0	-
Non-NHA	11.1	10.5	11.7	-
NHA	11.9	11.7	12.1	-

* a decreased deficiency rate indicates improved quality between the 1970's and 1980's and is designated by a '+' sign.

From the 1970s to the 1980s the rate in all housing fell from 8.3% to 7.6% indicating that code infractions are being controlled more successfully in more recent housing. The NHA rate rose from 7.5% to 7.7% while the non-NHA rate fell from 9.5% to 7.5%. This suggests that builder performance and municipal regulatory activity is improving in conventional housing and is at best static in NHA housing.

RS Compliance Summary

This section uses the Residential Standards definition of quality for NHA and non-NHA houses and any failures to meet compliance items specified in RS are counted as deficiencies. By this definition there were 993 deficiencies in 11 469 valid observations giving an overall deficiency rate of 8.7%. The deficiency rate summary is given in Table 5.3.

TABLE 5.3

RS COMPLIANCE SUMMARY

Site	Deficiency Rate			Performance Change
	All Houses	1970s	1980s	
All houses	8.7%	9.5%	7.6%	+
Non-NHA	9.5	11.0	7.5	+
NHA	7.8	8.0	7.7	+
Moncton	10.2	11.4	8.0	+
Non-NHA	11.7	12.3	8.9	+
NHA	8.7	9.8	7.6	+
Toronto	4.4	5.3	3.6	+
Non-NHA	4.9	7.3	2.5	+
NHA	4.0	3.4	4.5	-
Kingston	7.3	6.0	8.5	-
Non-NHA	7.6	7.2	7.9	-
NHA	7.0	5.0	9.1	-
Vancouver	13.9	15.3	12.1	+
Non-NHA	14.2	16.5	12.1	+
NHA	13.5	14.3	12.1	+

* A decreased deficiency rate indicates improved quality between the 1970s and 1980s and is designated by a '+' sign.

Using this more stringent definition of quality, NHA houses can be seen to have substantially lower deficiency rates than conventional houses. The total NHA deficiency rate was 7.8% compared to 9.5% and the NHA rate was lower in all survey sites.

A comparison of the deficiency rates over the two periods shows that the NHA overall quality advantage held in the 1970s, no longer exists. The total deficiency rate data masks the fact that NHA houses had a 3% rate advantage in the 1970s houses. However the conventional rate fell to 7.5% in the 1980s sample while the NHA houses managed only a slight deficiency rate decline to 7.7%. In the 1980s the NHA houses had lower deficiency rates only in Moncton. They were equal in Vancouver and had higher rates in Kingston and Toronto.

Conclusion

With respect to basic building standards (NBC Compliance), NHA houses in the sample are better overall but the conventional market is improving faster. With respect to standards actually applied (Effective Compliance) conventional housing is better and is improving while NHA is more often deficient with respect to its own higher standards. NHA effective compliance deteriorated over time. For the highest building standards (RS Compliance) NHA housing is better and is improving, but not as rapidly as non-NHA housing.

The important inference to be drawn from the compliance summaries is that non-NHA housing is showing a positive trend towards improved code compliance. The question of whether NHA housing is better or worse quality depends on how the deficiencies are counted, but the more rapid improvement of non-NHA housing is apparent, irrespective of how quality is defined.

5.3.2 Analysis of Major Deficiency Items

The summary deficiency rates discussed to this point have reported all deficiencies found in all code compliance items inspected. When the results are disaggregated by 43 separate items, the mass of detail becomes difficult to interpret. Some items have few or no deficiencies and some have relatively few valid observations. Thus a small number of deficiencies might result in a high rate where few observations were made.

This section examines 15 compliance items specified in Residential Standards which recorded 20 or more deficiencies. This is an arbitrary cut off and concentrates on high deficiency rate items. Tables 5.4 to 5.7 give the data in total, and disaggregated by NHA status, by age, and by NHA by age. An item is deficient if it fails to comply with the requirements of the Residential Standards.

Table 5.4 summarizes 838 deficiencies found in the 15 items. The most frequent deficiency is in steps and rails on exterior walkways and entrances, where 131 infractions were found. Other requirements frequently violated were adequate ground clearance of wood siding, caulking of window and door frames, roof ventilation, and thermal breaks in metal window frames.

TABLE 5.4

NBC AND RS DEFICIENCY TABLE

Whole Sample (N=402)

ITEM	DEF.	TOTAL	RATE
All 15 items	838	4 348	19%
Required width of walkways	21	391	5
Presence of walkways	44	386	11
Required steps and rails	131	218	60
Required ventilation of roof	85	330	26
Weepholes	58	238	24
Flashing	27	185	15
Siding ground clearance	106	235	45
Required caulking	96	386	25
Spans	33	300	11
Notches or holes	24	225	11
Bridging	42	269	16
Required weather strips on exterior door	27	312	9
Thermal break in window frame	73	120	61
Double glazing	46	379	12
Guards and handrails as required	25	374	7

Table 5.5 gives deficiency counts and rates by NHA status. Disaggregation of overall deficiency counts, first by compliance item then by other criteria such as NHA status, sharply reduces the numbers of cases available for analysis. A formal testing procedure was adopted to measure the difference between sample deficiency rates. This distinguishes items which show evidence that they represent different populations (with different deficiency rates) from those in which differences in sample rates probably arise from chance variation. Items marked with an asterisk show statistically significant differences between NHA and non-NHA deficiency rates at the 95% confidence level.

Of the six significant differences, NHA houses performed better on five, showing weaker compliance only with respect to width of sidewalks. The superior performance of NHA houses in the RS Compliance Summary is thus seen to be based on two framing advantages (joist notches and bridging) two weatherproofness features (weather strips and inslulated window frames) and the safety features incorporated in the steps and handrails requirements.

Table 5.6 subdivides the deficiency data by construction era. Based on the summary results cited earlier in this section the newer houses are expected to perform better. Of eight significant rate differences five are in favour of 1980s housing (steps and rails, roof ventilation, weather strips, thermal breaks and double glazing). This suggests that on what might loosely be called technical criteria, 1980s housing is better while on items related to workmanship (flashings, siding clearance and joist spans) earlier housing is better. It seems clear that the encouraging conclusions relating to overall temporal trends in code compliance must be tempered by some concerns over workmanship aspects of quality.

Table 5.7 gives the deficiency data by era by NHA status. During the 1970s the NHA houses had a clear performance advantage in most items and in the items where large differentials were observed such as steps and rails, roof ventilation, and bridging. As seen in earlier sections, this advantage disappeared in the 1980s with non-NHA deficiency rates being lower on most compliance items including four where the rate differential was 10% or more. The largest absolute difference was in thermal breaks where 80% of non-NHA houses were deficient but no deficiencies were found in NHA houses. Apart from this item however, NHA performance in the 1980s is weaker than non-NHA.

With respect to non-NHA houses, the 1980s stock performed better on nine items, including four where the difference was more than 10%. The only item where a large 1970s advantage appeared was flashings.

For NHA houses the 1970s units were better on nine items. Again it appears that features involving workmanship, such as weepholes in masonry facades, flashings and siding clearance, were more carefully executed in the 1970s while technical items, such a window design were better in the 1980s.

5.4.0 SUMMARIES OF RESULTS FOR EACH LOCATION

This section summarizes the results for each of the four locations in the survey. The results themselves are fully documented in the technical supplement to the evaluation which is printed separately. For each location the summaries describe the inspector's comments on problems observed and reported by residents (which comments reflect economy of operation) and the condition and compliance results (which reflect durability and safety).

5.4.1 Moncton

The Moncton location represents market areas characterized by the absence of a provincial building code, modest municipal code enforcement activity, and small scale builders.

Since enforcement of the National Building Code by municipalities is not mandatory in New Brunswick, the effectiveness of building inspection accords with local priorities. Moncton construction firms are smaller than those in major metropolitan markets. There is a strong tradition of owners acting as effectiveness of their own general contractors, and a considerable incidence of part-time tradesmen employed in residential construction. Consequently, the production side of the market may be considered to be more fragmented than in any other survey location, particularly in the 1980s since the bankruptcy of one of the major Moncton builders.

TABLE 5.5

NBC AND RS DEFICIENCY TABLE

Subsample by NHA

COMPLIANCE ITEM	NON-NHA			NHA		
	DEF.	TOTAL	RATE	DEF.	TOTAL	RATE
*Required width of walkways	2	193	1%	19	198	10%
Presence of walkways	27	193	14	17	193	9
*Required steps and rails	65	96	68	66	122	54
Required ventilation of roof	41	163	25	44	167	26
Weepholes	30	131	23	28	107	26
Flashing	13	86	15	14	99	14
Siding ground clearance	52	117	44	54	118	46
Required caulking	45	190	24	51	196	26
Spans	16	144	11	17	156	11
*Notches or holes	17	110	15	7	115	6
*Bridging	27	130	21	15	139	11
*Required weather strips on exterior door	18	145	12	9	167	5
*Thermal break in window frame	50	66	76	23	54	43
Double glazing	24	186	13	22	193	11
Guards and handrails as required	13	181	7	12	193	6

* Significant difference at 95% confidence level.

TABLE 5.6

NBC AND RS DEFICIENCY TABLE

Subsample by ERA

COMPLIANCE ITEM	1970s			1980s		
	DEF.	TOTAL	RATE	DEF.	TOTAL	RATE
Required width of walkways	8	211	4%	13	180	7%
Presence of walkways	23	208	11	21	178	12
*Required steps and rails	94	138	68	37	80	46
*Required ventilation of roof	62	183	34	23	167	14
Weepholes	24	109	22	34	129	26
*Flashing	7	80	9	20	105	19
*Siding ground clearance	53	128	41	53	107	50
Required caulking	53	209	25	43	177	24
*Spans	12	176	7	21	124	17
Notches or holes	13	124	10	11	101	11
Bridging	19	149	13	23	120	19
*Required weather strips on exterior door	23	185	12	4	127	3
*Thermal break in windown frame	45	67	67	28	53	53
*Double glazing	46	198	23	0	181	0
Guards and handrails as required	10	193	5	15	181	8

* Significant difference at 95% confidence level.

TABLE 5.7

NBC AND RS DEFICIENCY TABLE

Subsample by era by NHA

COMPLIANCE ITEM	1970s				1980s			
	NON-NHA		NHA		NON-NHA		NHA	
	Def/Total	%	Def/Total	%	Def/Total	%	Def/Total	%
Required width of walkways	2/108	2	6/103	6	0/85	0	13/95	14
Presence of walkways	16/109	15	7/99	7	11/84	13	10/94	11
Required steps and rails	50/67	75	44/71	62	15/29	50	22/51	44
Required ventilation of roof	38/94	40	24/89	27	3/69	4	20/78	26
Weepholes	15/61	25	9/48	19	15/70	21	19/59	32
Flashing	3/36	8	4/44	9	10/50	20	10/55	18
Siding ground clearance	30/67	45	23/61	38	22/50	44	31/57	54
Required caulking	26/106	25	27/103	26	19/84	23	24/93	26
Spans	9/94	10	3/82	4	7/50	14	14/74	19
Notches or holes	10/69	14	3/55	5	7/41	17	4/60	7
Bridging	16/81	20	3/68	4	11/49	22	12/71	17
Required weather strips on exterior door	17/92	18	6/93	6	1/52	2	3/74	4
Thermal break in windown frame	22/31	71	23/36	64	28/35	80	0/18	0
Double glazing	24/101	24	22/97	23	0/85	0	0/96	0
Guards and handrails as required	6/95	6	4/98	4	7/86	8	8/95	9

Inspector's Comments

The most common problems or complaints observed in Moncton houses were; lack of eavestroughing, need for powered ventilation, leakage through foundation, less than satisfactory framing, and condensation, all having an incidence of more than 10%.

Breaking down these figures between NHA and non-NHA houses results in a notable divergence with regard to windows. In NHA homes poor quality designs were absent and no windows had been observed to have been replaced. Also notable was better NHA performance in bathroom repair, and in the need for extra or re-insulation. Other lesser differences were seen in recladding and condensation problems and framing irregularities (NHA slightly worse) and the need to add storm windows, foundation leaks and roof leaks (NHA slightly better).

Analysis by era shows the expected trend, newer housing has fewer problems. Problems with condensation and need for insulation are much fewer; those connected with a deterioration over time are almost non-existent. Problems at a slightly higher rate in new homes are seen with foundation leaks, less than satisfactory framing and roof leaks.

Within the overall sample of 101 houses, two were in very poor condition, although not dangerous. One, an NHA home, was being ravaged by uncorrected moisture problems in the attic space, resulting in noticeable sag in the roof line and appalling condensation and mould problems. The other, a non-NHA home, had suffered major foundation leakage requiring excavation and renewal of the drainage tile, coupled with severe uneveness of floors, resulting from deep notching of the central load-bearing beam to accomodate a doorway. This notching had been carried out by the original builder, with no supplementary supporting of the beam. Four similar homes on the same street, and built by the same builder also had uneven floors and the same defective construction is supsected.

Condition and Compliance Survey

The picture that emerges from the Moncton area is that in markets of this type, housing is in fairly good condition, as measured by repair requirements. Condition scores were low for a group of components which can be described as maintenance items, examples of which are roofs, eaves and soffits and interior decoration. In most houses, scores were zero for structural components indicating no repair requirement.

Of all condition scores the NHA homes exhibited the strongest advantage on handrails (where many non-NHA homes were missing a

handrail to the basement or lower living areas of elevated bungalows). Another notable difference was on walks and drives where NHA homes were significantly in worse condition.

With respect to code compliance, NHA houses were better on bridging and worse on nailing. Compliance was generally slightly better in the 1980s than in the 1970s. NHA units held a compliance advantage in the 1970s but this disappeared due to improved performance by conventional housing in the 1980s.

Two more powerful explanations of quality emerge; age, and builder. As one would expect the older the house, the worse its physical condition. It would perhaps be surprising to have not found this trend. The slight NHA influence is more or less the same in both older and newer housing. An analysis by builder showed that some builders exhibit weaknesses in their method, or often just some aspect of the overall construction practice. This was particularly noticeable for structural items. The difference in NHA and non-NHA homes was most clearly seen in these items.

Although Moncton builders tend to build either within or outside of the NHA, one firm had several of both types of unit. With respect to code compliance, there was very little difference between the two types of houses.

Thus we have a situation where the better homes are built in the NHA because the better builders build in the NHA, not because a builder improves his performance solely for NHA insured homes.

The three municipalities in this area showed some interesting traits. The smallest and most rural of them, with only a part-time inspector in fact had the best performance for many items. This area in fact was well-organized, being part of a regional planning body with several other surrounding municipalities with whom they shared a full time inspector. Another municipality, one which has seen rapid growth during the last ten years, accumulated all of the seriously deficient framing problems. This area has had a full time inspector for 12 years.

NHA requirements have had a positive quality impact with respect to structural components of housing and code compliance.

5.4.2 Toronto

The Toronto survey was undertaken in Scarborough and represents what is probably one of the most highly developed housing markets in Canada. It is characterized by many large and experienced builders, a well-trained, full-time, professional workforce, and a thorough building inspection system.

Consumers may be less well informed than those in Moncton, in the sense that proportionately fewer would be capable of acting as general contractors, but they demand high building standards and are willing to pay for expert advice. The industry is very competitive insofar as many firms are active, none has a majority of the market, and advertizing and other marketing strategies are used extensively.

Inspector's Comments

Examination of the commentaries recorded by the inspectors and the homeowners revealed no major problems of a structural nature, but showed a very high frequency of minor defects and early failure of some components.

Half of the houses surveyed had some form of foundation leakage with NHA homes having a higher problem incidence. This problem is found equally between older and newer housing. Over one quarter of the homes had drywall ceilings showing sag between the roof truss members to which they are fastened. This was found slightly more commonly in NHA homes, nearly all in the 1980s sample. This appears to be a problem with newer homes.

Wind driven rain leakage, roof sheathing sag, poorly finished exteriors and moisture damaged windows were other problems but thses showed infignificant variations between NHA and non-NHA units. Poor quality windows were mostly confined to older housing, but were found more often in the NHA stock.

One in five homes had had at least one (and often all) windows replaced. This was split equally between NHA and non-NHA but, as one might expect, it was essentially confined to older housing. This means that 40% of homes built in the 1970s in Toronto have had to replace some or all windows.

There was some use of interior grade doors on the exterior, but this appears to have been confined to the older housing where it was common practice, and is found mostly in non-NHA homes. This same pattern is found in homes where doors had been replaced.

Condensation staining, replaced soffits and deficient weather stripping were insignificantly scattered. An interesting observation is that in about 12% of homes a basement handrail had been removed, presumably to make easier access to the storage or laundry areas.

Condition and Compliance Summary

Housing in well developed markets, as measured by the Toronto results, is in good condition. There appears to be a marginally positive net effect on quality attributable to NHA loan

insurance. Most of this positive effect stemmed from the 1970s exterior door component, where, in the non-NHA stock, interior grade doors had often been used. This problem was not observed at all in the 1980s stock. In other categories, NHA homes were on average rated in worse condition with respect to walks and better with respect to handrails.

Older housing, as in Moncton, was in worse condition pretty well across the board, and especially so with exterior doors as mentioned above. Analysis by builder also explains condition (not as strongly as Moncton) with three builders accumulating a majority of the poorly rated components. The better builders tended to build NHA more often than non-NHA, but this effect was weak. Structural condition was very good in Toronto, except for leaking foundation walls which were dreadful (even more dreadful in the NHA stock). Framing problems were rare and only found in non-NHA units. Basement floor cracking and leaking was very rare and found only with NHA units belonging to one builder. The leaking foundation wall is a perennial problem in the Toronto area, and all builders seem to be associated with it. It is an industry problem. Only two builders had a sufficient mix of houses to permit analysis by NHA status. No difference was seen with one, and slightly worse NHA units were seen with the other.

The average rate of deficiency in the Toronto sample was the best of all locations (4.4% against 8.7% on average). On analysis there were few significant differences, between NHA and non-NHA. Generally the housing is regulatorily homogeneous. Non NHA stock was better on meeting required walk width in spite of there being no sidewalk requirement for these units. Market forces in Toronto are as strong an influence as regulations, if not stronger. Newer housing had marginally lower deficiency rates. The builder with the worst deficiency rate also had the best overall condition rating, indicating there is not necessarily a link between the two quality indicators.

5.4.3 Kingston

The number of municipalities, the experience of builders, and the geographic distribution of construction activity give the Kingston region regulatory system some characteristics of both poorly developed and of well developed markets. The degree of concentration in the Kingston market is higher than in any of the other survey locations and suggests that Kingston is the least competitive of locations surveyed. The labour force is mainly professional with few part-time workers involved.

The level of municipal inspections has varied over the past decade, and differs among the three municipalities included in the survey. Inspection staff is largest in Kingston City while

new construction volume is only modest. Growth pressures were severe throughout the 1970s on Kingston Township which grew from 17,387 to 27,960 between 1971 and 1981. Inspection staff was essentially constant over the period but has been expanded since 1981. Amherstview in Ernestown Township experienced most of its growth before 1980.

Inspector's Comments

The comments from Kingston were of a minor nature, none of the observations requiring attention immediately, and most of them probably never needing it.

Foundation leaks were the most commonly reported item, but it must be emphasized that the evidence was of very minor and infrequent occurrence. In this, NHA homes are not a great deal different from non-NHA. The largest differences were found in uneven walls, moisture damage to interior, wind driven rain leakage and dubious stair framing. In all of these NHA homes had the larger share of problems.

Older homes generally had more problems, but there were some exceptions. Uneven floors, dubious stair framing, overspanned joists and masonry settlement were found mostly in newer housing. Bathroom repairs and wind driven rain leakage were also seen more often in the newer stock.

The breakdown between the two major builders indicates a pattern similar to that between older and newer houses. It is not possible to separate out the cause of the construction problems as being builder, or era of construction.

Condition and Compliance Summary

The picture that emerges from the Kingston region is one of housing in excellent condition. There appeared to be no overall difference in quality which could be attributed to NHA loan insurance.

As with the other locations, age is a powerful explainer of condition. Older housing is in worse condition than newer. Within the older housing, exterior doors of the NHA insured stock were in considerably worse shape than non-NHA, but no other differences between NHA and non-NHA were significant. An analysis by builder indicated no differences that could not be explained by era of construction. Structural conditions requiring work were extremely rare and found only in the non-NHA stock.

Two builders in this area had enough houses in and outside the NHA to permit comparison. One builder (whose stock was built

predominantly in the 1970s) performed worse under the NHA, and the other (whose stock was found predominantly in the 1980s) showed no difference in performance.

The rate of compliance with regulatory criteria varied by item but there appeared to be a tendency for NHA housing to have been better in the 1970s. The average rate of deficiency for Kingston was better than the overall average for all four locations (7.3% against 8.7%).

Overall the quality of housing in the Kingston sample was excellent, with no visible effect attributable to NHA loan insurance. Indeed it is difficult to see how it could be improved at all. The mixture of market concentration and what can be termed intermediate municipal code enforcement practice is apparently a workable combination. It also seems to imply comparatively high housing costs. Insofar as it is representative of conditions in similar markets, housing quality is very good.

5.4.4 Vancouver

The Vancouver survey was carried out primarily in Richmond and Surrey with a few other inspections in Delta. The market is well developed with large numbers of experienced builders and a professional labour force.

The British Columbia Building Code was published in the early 1970s and has been enforced in all three municipalities since then. The technical content of the BCBC is the same as the NBC, although some amendments are now being considered.

Inspector's Comments

A rather flat picture of faults emerged from the comments of the inspector, appraiser and homeowners. There was no single problem that stood out against the rest, but rather a miscellany that indicates lack of attention to detail, and lack of care during construction.

The most common fault noted was in caulking. Many newer homes were found to have never been caulked at all. This was slightly more common in NHA homes than non NHA, and was highly concentrated on one builder. This particular defect was often associated with stuccoed homes. Another fault very strongly associated with this same builder was use of thinly prepainted siding and trim, with no attention paid to sealing the end grain of the lumber. Again the same builder was identified with problems in slab construction (blocking of the cast-in heating ducts) resulting in very high repair costs. One very distressed lady had had to resort to a law suit to rectify this problem. Slab problems were uncommon in the NHA stock.

An unusual item concerned problems with chimney flashings, this being more common in new housing. Other items followed the expected trends of new housing faults and an aging stock.

Condition and Compliance Summary

Housing is in very good condition in this market. There appears to be no net effect on quality attributable to NHA loan insurance.

Unlike the other locations, age is not a very powerful explainer of condition. The 1970s condition ratings were generally as high as those of the 1980s. In both eras, windows were extremely good (perhaps because of the prevalence of aluminium frames) meriting a perfect score, but caulking and exterior walls were poor. The 1980s caulking was significantly poorer in the NHA stock compared to non-NHA, mainly because there were many houses with absolutely no caulking at all, which seems to be common local practice when the houses have a stucco finish.

Analysis by builder was inconclusive. The Vancouver sample indicated a mixture of small builders and large developers (one now defunct). NHA houses were found more often with the developers. The defunct developer's homes which were found only in the 1970s segment (which were all NHA) were rated in better condition than the other developer's homes built in the 1980s (which were mostly NHA). This last developer had a suitable mix of housing to permit NHA/non-NHA analysis. There was no discernible difference other than caulking condition as mentioned above.

The type of construction found in this location was unusual for Canada as a whole, but typical of the Fraser river delta where the water table is high. In modern housing, slab-on-grade construction was universal and showed occasional problems of settlement, and several problems related to the cast-in heating ducts; most of these problems were seen in the non-NHA stock. The method chosen to heat these houses was unusual - forced air gas furnace utilizing slab ducts for the lower floor, and baseboard electric heaters for the upper floors.

This observation, coupled with use of pre-painted siding and trim where the end-grain of the lumber was untreated, suggest a highly competitive market with close attention to profit margins.

The average rate of deficiency was the highest of all locations (13.9% against an average 8.7%). Siding ground clearance deficiences increased significantly in the 1980s, probably as a result of slab-on-grade construction. Thermal breaks in metal frames and double glazing became deficiency prone in this milder

area. NHA requirements for a thermal break have an effect in the NHA stock but not outside it, which fact tends to disprove the theory of general improvement in building practice by builders who build only partly within the NHA. Double glazing was rarely used in the 1970s, but is now the norm. The larger developer's NHA homes had a lower deficiency rate in siding ground clearance, in addition to the thermal breaks as mentioned above.

In the Vancouver market, the NHA sample has some better features and some worse, but overall there is no net effect. This result was anticipated in well-developed markets but the lack of influences of age on condition is surprising.

5.5.0 MARKET VALUE ANALYSIS

The connection between market value and housing quality, if it exists, must discount non-building related items (e.g. land value), deferred maintenance items which are unrelated to construction and material standards, and additions and upgrading expenditures. The resulting value will indicate the economic resources devoted to the production of the building in question.

A value called stock building value was defined as:

Stock building value = Appraised value - Land value - Additions and improvements + Depreciation

This figure indicates the degree to which the market values the basic housing unit as it was constructed. It does not however, control for size of the housing unit. This was done by calculating per square metre stock value.

The market values per square metre for each location are shown in Table 5.8. The table also differentiates between NHA and non-NHA values.

5.5.1 Moncton

The mean appraised value of houses in the Moncton sample was $64 683. Non-NHA houses were about 8% more expensive than NHA houses, averaging $67 230 versus $61 980. The stock value of non-NHA houses was $52 882 compared to $46 573 for NHA houses.

Per square metre, non-NHA units averaged $384 versus $359 for NHA. The difference is due to a different mix of house types in the NHA and non-NHA samples. When per square metre values are compared for particular house types, there are only minor differences between NHA and non-NHA houses.

5.5.2 Toronto

The mean appraised value of housing in the Toronto sample was $89,480 for non-NHA units and $88,523 for NHA. When stock building values were calculated NHA units became slightly more

TABLE 5.8

MEAN STOCK VALUE PER SQUARE METRE

(By location and NHA status)

SITE	All Houses	Non-NHA	NHA
Total	$432 ($4.25)* n = 403	$434 ($6.03) n = 203	$431 ($6.02) n = 200
Moncton	$372 ($9.69) n = 101	$384 ($13.28) n = 52	$359 ($14.05) n = 49
Toronto	$381 ($2.69) n = 101	$382 ($4.57) n = 49	$380 ($3.00) n = 52
Kingston	$469 ($11.34) n = 102	$465 ($15.05) n = 52	$474 ($17.18) n = 50
Vancouver	$380 ($4.99) n = 99	$380 ($8.45) n = 50	$379 ($5.30) n = 49

* Figures in brackets are standard errors of the mean.

expensive at $45,282 versus $44 423 for non-NHA units but per square metre values were very close at $380 (NHA) versus $382 (non-NHA). There is no evidence of a value difference between NHA and non-NHA houses in well developed markets.

5.5.3 Kingston

The appraised value of Kingston non-NHA houses was $93,640 while average stock value was $71,239. Corresponding values for NHA houses were $84,576 and $63,994. NHA houses were significantly cheaper but when per square metre value was calculated the direction of the difference was reversed. On a per square metre basis, non-NHA houses were valued at $465 while NHA houses were valued at $474. This difference is not significant.

5.5.4 Vancouver

The appraised value of NHA houses in the Vancouver sample was $95 058 against $121 891 for non-NHA houses. This indicates that the match between NHA and non-NHA samples was weaker in Vancouver than at any other site but some of this difference disappears when stock values are calculated. The average stock value of non-NHA houses was $65 971 compared to $50 043 for NHA houses. On a per square metre basis however the difference evaporates and both types of unit are valued within a dollar of $380. The Vancouver non-NHA houses are larger and better located than the NHA houses but this does not translate into any observable difference in per unit building value.

A thorough assessment of factors contributing to building value would require a regression analysis of the price and characteristics information. On the basis of this simple comparision of mean values controlling for land values, improvements, and size, it would seem that NHA status would not turn out to be a useful variable in explaining building value.

5.6.0 ONTARIO NEW HOME WARRANTY PROGRAM DATA

The analysis of the quality differentials between NHA and non-NHA housing is primarily based on the quality survey data collected duringthe autumn of 1985. During the data gathering phase of the study contact was made with staff of the Ontario New Home Warranty Program to discuss new housing quality problems. As a result of these discussions, Warranty Program staff provided a short time series of total program enrollment, total complaints, NHA enrollment and complaints on NHA houses. The Warranty Program enrolls all houses built for sale in Ontario. This universality of coverage makes Program files a unique and authoritative source of data on faults and repair costs in new housing.

Table 5.9 shows total enrollment, freehold and condominium enrollment, and complaints from 1977 to 1981. Unfortunately recording of mortgage insurance information was discontinued after 1981. Also, the characteristics of complaints are not described in the table, but could be determined from the records from which the data were extracted, and which are held by the Warranty Program.

When a new house is occupied in Ontario, a Certificate of Completion and Possession is filed with the Program. Any further complaints not handled directly by the builder are referenced by this file number. Only about one complaint in fifteen results in a claim being filed against the Program.

TABLE 5.9

ONTARIO NEW HOME WARRANTY PROGRAM
COMPLAINT DATA

YEAR	HOUSES ENROLLED	NON-NHA			NHA		
		ENROLL-MENT	COM-PLAINT	%	ENROLL-MENT	COM-PLAINT	%
Freehold							
1977	40,254	26,897	4,212	15.66	13,357	1,756	13.15
1978	30,874	22,178	3,018	13.60	8,696	923	10.62
1979	29,759	23,918	3,839	16.04	5,841	802	13.73
1980	20,713	18,202	3,945	21.69	2,511	507	20.19
1981	23,336	21,501	5,179	24.09	1,835	411	22.40
Condominium							
1977	30,442	11,287	614	5.44	19,155	1,136	5.93
1978	8,698	8,416	342	4.06	282	34	12.06
1979	2,828	2,389	204	8.84	439	23	5.24
1980	3,449	3,235	214	6.62	214	24	11.22
1981	3,173	2,772	191	6.89	401	36	8.98

The complaint rate in the freehold non-NHA units varied from 13.60% in 1978 to 24.09% in 1981. Complaint rates in NHA units were very close to 2% lower than Ontario rates every year for which there was data. This is a definite indication of a greater of NHA houses, since the figures are based on all houses built ineach year.

Complaints for condominium housing show a considerably different pattern with NHA rates usually exceeding conventional rates. The mean conventional complaint rate over the 1977-1981 period was 5.57% while the NHA mean was 6.11%. Both rates were lower than the corresponding freehold rates.

In general, freehold units registered by the Program are single family detached housing while the condominiums will be some form of multiple dwelling structure, probably either townhouses or highrises. The condominium complaint data thus gives an indication of housing quality in multiple dwelling units, and is the only data on multiples available in this study.

It is clear that construction faults leading to disputes between builders and buyers are fewer in condominium housing. The relative advantage of freehold NHA housing over conventional housing is absent with respect to multiple housing. This may

indicate that other quality control mechanisms, such as municipal inspections or developer's use of supervising architects and engineers, are in place. In any event the data indicate that other quality control mechanisms, such as municipal inspections or developer's use of supervising architects and engineers, are in place. In any event the data indicate that construction faults are considerably fewer in multiple units. This conclusion must be considered tentative since it is based on summary data provided by the Ontario New Home Warranty Program, and does not distinguish low rise from high rise construction nor does it detail the nature of complaints.

The Warranty Program pays for the correction of building faults that they judge eligible, and that are not resolved between the occupant and the builder. Using cummulative figures to the end of 1984 for complaints filed and for resulting claims and payouts, an average cost per complaint can be calculated. Then assuming that the 1977-1981 pattern of NHA/non-NHA complaints (calculated with a weighted average) is maintained through 1984, the cost per complaint of each type may be compared. The results are shown in Table 5.10.

The average cost per complaint for NHA houses was $6 less than the non-NHA houses. For condominium units it was $5 more. The per unit complaint costs do not include costs that are absorbed by the builder either before or after the lodging of the complaint, and probably represent only a fraction of the true cost of faults. There is then, some financial benefit attributable to NHA, although small.

5.7.0 CONCLUSIONS

The purpose of this part of the evaluation was to demonstrate the presence or absence of a difference in quality between NHA insured and non-NHA housing in order to draw conclusions about the impact of the mortgage loan insurance program on quality. Most of the conclusions are based on the results of the field survey. The limited parameters of this survey have already been cited, in particular, that it is small scale, that it is not Canada-wide, that it does not deal with all types of housing and that it samples only two decades. The survey did not seek to assess the total impact of the NHA on housing construction quality. Nevertheless, the rationale behind the choices of location and method makes the result a reasonable reflection of the true state affairs.

These conclusions look first at the general survey results and second, at those particular attributes of quality (durability, marketability etc.) where differences were sought.

TABLE 5.10
ONTARIO NEW HOME WARRANTY PROGRAM
CLAIM PAYOUT ANALYSIS

	HOUSING TYPE	
	SINGLE-DETACHED	CONDOMINIUM
1. Cumulative payments*	$5 859 706	$3 186 596
2. Enrollment to 12/84	226 393	60 434
3. Complaints to 12/84	39 735	3 524
4. $ Cost per complaint (1 ÷ 3)	$147.46	$907.25
5. NHA complaint rate, 1977-1981	13.64%	6.11%
6. Non-NHA complaint rate, 1977-1981	17.92%	5.57%
7. Expected cost per NHA unit (4 x 5)	$20.11	$55.25
8. Expected cost per non-NHA unit (4 x 6)	$26.42	$50.37

* Re: warranty and structural defects, excluding deposit claims, to 12/84.

5.7.1 General Conclusions

A.
- **the condition of the inspected housing stock in all four locations was good to excellent;**
- **few repair requirements were found.**
- **different components of a house can show different patterns in quality; they are not necessarily interdependent.**

NHA insured are better in some instances, e.g. structure in Moncton, door and window condition in Toronto; however non-NHA are better in others, e.g. walkways in Moncton and Toronto. Nevertheless in the majority of instances where a condition problem exists, it is evident in both NHA and non NHA construction. The prime examples are caulking deficiences

across the board, foundation leaks in Toronto, moisture and ventilation problems in Moncton and sagging ceilings in recent Toronto housing.

B. o **the hypothesis regarding the influence of market development was sustained.**

The quality impact of NHA insurance appears to be regionally and locally variable depending on the sophistication of the local housing market. No major quality difference is readily and uniformly apparent between NHA and non-NHA units in markets where there are many competitive, experienced builders, a well-trained labour force and a well-structured code enforcement system. For example, 40% of the 1970s housing in Toronto have had at least one window replaced, but no more so in NHA than non-NHA; basement leaks in Toronto are found across the board as are caulking problems. A quality difference was however observed in the least developed market (Moncton) where NHA insured units were better structurally and where in 9 of 11 complianceitems the NHA housing had a superior score. The differential narrowed after 1980.

The above conclusions suggest that the quality related requirements of the mortgage loan insurance program have the greater impact in less developed or sophisticated markets.

C. o **non-NHA quality is improving whereas NHA quality is static or declining based on code compliance data.**

On balance, the NHA insured units appear to be of marginally better quality regarding compliance with regulatory criteria. The NHA insured units were slightly superior to the non-NHA in the 1970s stock but the 1980s stock shows little difference. This suggests that non-NHA quality has improved since the 1970s whereas NHA has declined to a small extent. The performance of NHA housing was poorer than non-NHA for those criteria common to all housing, not specific to NHA. This could suggest that the municipal inspections are not performed as rigorously on NHA houses as they are on non-NHA, possibly due to a reliance placed on CMHC inspections.

D. o **the capability of builders probably has greater impact on housing quality than the fact of NHA insurance.**

The survey indicated substantial differences in the capability of builders. The majority build well most of the time but others have weaknesses which show up consistently. Each location seemed to have its "poor" builders. There was no obvious performance difference between the NHA and non-NHA houses of particular builders. This suggests that monitoring systems aimed at adjusting the levels of inspection by builders have validity.

E. o **the stock inspected was in good to excellent condition yet exhibited many deficiencies and departures from the National Building Code or Residential Standards.**

This suggests the stock has a high tolerance to deficiencies and very many deficiencies would be required before failure could occur. This result is not totally unexpected and corroborates the theoretical argument of the discussion paper, "Technical Housing Problems and the Regulatory Process".

F. o **of the four locations, Toronto exhibited the lowest deficiency rate and Vancouver the highest.**

The high Vancouver figure derives partly from the high incidence of double glazing and thermal break (in metal window frames) deficiences. This latter may be less of an issue than it appears and raises the question of the appropriateness of national standards in local circumstances. Certainly the non-NHA sector sees no need for this requirement in the Vancouver area.

G. o **notwithstanding the fact that there are marginally fewer deficiencies in the NHA stock, the quality effectiveness of CMHC inspections in well regulated markets is slight.**

This is because the real gain that occupants may derive from this fact might be very small due to the aforementioned tolerance of deficiences. Additionally the net effectiveness of CMHC inspections may be marred by a withdrawal of other inspections because of a reliance placed by municipalities on CMHC.

5.7.2 Attributes of Quality

The survey tried to isolate differences in quality between NHA insured and non-NHA in the attributes of durability, economy of operation, liveability, marketability and health and safety.

The survey provides conflicting signals so far as durability is concerned. Basement leaks in Toronto are common to NHA and non-NHA, lack of or deteriorated caulking is common, as is the observed ceiling sag in more recent Toronto housing. On the other hand NHA houses appear to have the better doors and windows.

Insofar as compliance with requirements is a proxy for safety, NHA insured units are safer. They are significantly better in 5 of 15 compliance items and worse than non-NHA in only one. It should be noted that there is a significant NHA superiority with

respect to handrails - many basement stairs in non-NHA insured housing have been constructed without handrails, especially in the Moncton area.

Code compliance improved from the 1970s to the 1980s. However, the improvement is largely based on technical items, and masks some deterioration in items related to workmanship.

The survey results show that NHA housing is no more or less "liveable" than non-NHA. The difference sought in this category was with respect to the presence of laundry space and closets - all units had these amenities. The NHA requirements for walkways appears to be responsible for a greater incidence in NHA insured in Moncton but their condition was significantly worse in NHA units in both Moncton and Toronto. Liveability features are being adequately delivered by the market.

Nothing in the survey suggests that NHA insured housing is more marketable than non-NHA. For each location the market values per unit floor area were almost identical for NHA and non-NHA homes.

The survey has provided very little information with respect to economy of operation because heating cost data was rarely available in a usable form. Domestic hot water and heat were generally combined, often for a recent month, which could not be expanded to an annual value. Most respondents had little idea of the costs of home heating. Some data were returned on recent repairs, but costs were usually omitted. Qualitative information on maintenance and repair requirements was included in the commentaries. It tends to show the common repairs as being more or less equally found in the NHA and non-NHA sectors.

5.7.3 Exeunt

Undoubtedly CMHC in its range of activities from research, through the provision of advisory information, to its development and enforcement of program criteria for many programs, has had a profound beneficial effect on the quality of Canadian housing. As the national agency it has set standards which others have followed. Historically the Mortgage Loan Insurance Program has been one of the tools for indirectly affecting housing quality. "Indirect" because fundamentally the rationale for the technical requirements of the program has always related to financial risk. At the present time the fact of NHA insurance does not, in the majority of Canadian single family housing markets, appear to result in a better built product. Other factors particularly the capability of the builder and of the local code enforcement, are more influential.

CHAPTER 6

ALTERNATIVE ROLES FOR THE GOVERNMENT IN THE MORTGAGE INSURANCE MARKET

6.1 INTRODUCTION

There is no doubt that conditions in the mortgage market at large and in the derivative market for mortgage loan insurance have changed considerably since the introduction of NHA insurance in 1954. The evolution of these markets came as a result of two major developments. First, substantial economic efficiency improvements were achieved largely through actions taken by the government to deregulate the mortgage market in the late 1960's and early 1970's and by using NHA insurance as a means to transform the mortgage instrument into an attractive vehicle for investors. Second, following legislative changes made in 1970, private insurance formally emerged and throughout the 1970's, served an increasingly larger proportion of borrowers.

Because market conditions have improved considerably since 1954, many housing commentators have argued in recent years that the long-term role of the government in the mortgage insurance market should be redefined. These were essentially the recommendations of the Matthews Task Force in 1979 and of the Economic Council of Canada in 1982 which argued that CMHC should gradually withdraw from the direct provision of mortgage insurance and redefine its role in this area by providing reinsurance to private sector insurers operating in this field.

The need to redefine the role of government in mortgage insurance and to examine alternative forms and means of government intervention stems from four major factors. First, there is ample evidence suggesting that the original constraint/objective of NHA insurance in ensuring an adequate supply of private funds to housing, has largely been met and to a large extent, this is evidenced by the fact that today - albeit with Option A coverage being available - housing borrowers are treated by the lending institutions on an equal footing with other types of borrowers. Second, experience in the United States, Australia and in Canada indicates that the private sector through private mortgage insurance can provide borrowers - in many housing sub—markets - with access to high-ratio financing. This, of course, suggests a lesser need for public mortgage insurance. Third, the emergence of private insurance by itself implies changing roles for the government at least to the extent that new forms of intervention are needed to ensure that firms in the industry maintain sufficient reserves to honour their insurance obligations and offer the service at competitive prices. Finally, with private insurance now being available, there is a need to examine whether public mortgage insurance is still needed, and if so, what relationship it should have with private insurance - viz. whether public and private insurance should compete against each other or whether public insurance should complement private insurance.

In the face of these questions and largely in response to the Government of Canada which directed CMHC to look at the long-term role of NHA insurance, this Chapter outlines some broad policy choices open to the government in mortgage insurance and for each of these choices, it examines various policy instruments that would enable the government to meet the identified public policy objectives.

6.1.1 Background

As indicated in Chapter 3 on Program Rationale, the need for mortgage insurance stems from the regulation which prevents the major lending institutions from making mortgage loans in excess of 75 per cent of the value of the property. This regulation constitutes an artificial restraint on the supply of mortgage funds and on the demand for housing thereby preventing the free play of market forces from operating to allocate resources in each of the markets concerned.

In a perfect financial market without regulation, the free play of demand and supply establishes the price of credit, including default risk premiums. Under these conditions, financial markets play an allocative role by channelling funds into fields of investment which generate the highest return, consistent with the risk involved. An example of a nearly perfect financial market is the market for corporate bonds. In that market, the combined forces of supply and demand for the securities establish the default risk premium for the various grades of bonds - viz AAA vs AA vis A bonds. Unlike in the market for mortgage insurance, risk premiums in the corporate bond market are priced on a continuing basis as buyers and sellers trade the securities and the risk premiums also vary across bond grades (AAA vs AA) to reflect the risks involved. Because there are few if any artificial restraints on supply and demand and because that market meets most of the criteria for a perfectly competitive market, the corporate bond market is generally regarded by economists as an efficient market.

If the 75 per cent regulation did not exist, the mortgage market would be no different from the corporate bond market or from the market for personal loans and business loans. As is the case presently with respect to these latter types of loans, the financial institutions would perform risk intermediation to diversify the risk of default on high-ratio mortgages. Risk intermediation involves two components: risk pooling and risk spreading. The financial institutions perform risk pooling by assembling a well diversified portfolio and thereby pooling the risks involved. For the manager of the portfolio, the overall risk is then usually less than the sum of the risks associated with each individual item in the portfolio. On the other hand risk spreading operates by spreading the risk over a large

number of investors, such as the depositors in a financial institution and thereby this decreases the risk borne by any one person.

The 75 per cent regulation on mortgage lending is aimed at limiting the extent to which the major financial institutions perform risk spreading on high-ratio mortgages. The purpose of the regulation has nothing to do with the mortgage market itself. Its purpose is solely to protect the investors and depositors in the financial institutions concerned against potentially imprudent lending behaviour by the managers of the institution. A discussion of whether the 75 per cent regulation is still needed today, particularly given the existence of the Canada Deposit Insurance Corporation, is beyond the scope of this paper.

While in the absence of any corrective measure, the presence of the 75 per cent loan-to-value regulation would prevent housing borrowers from obtaining a high-ratio mortgage and correspondingly, from buying a home with a small downpayment or investing in an residential rental project with a small amount of equity, the presence of the regulation itself does not irrevocably create the need for government intervention. This is evidenced from the fact that in regard to non-residential construction which is also affected by the regulation, the government has never intervened to correct the impacts of the regulation in discouraging investment in that sector.

In regard to housing, however, the reality is totally different in that while there are many countries that have introduced regulations limiting the lending institutions in making high-ratio loans, there are few if any countries that have chosen not to intervene. In countries such as the United States and Australia, government intervention has taken the form of directly providing mortgage insurance in much the same way as in Canada since 1954. In other countries, however, mortgage insurance does not exist and in lieu of mortgage insurance, governments have put in place various schemes to help people accumulate a large downpayment so that people do not need high-ratio mortgages. One such measure which is popular in some European countries takes the form of a contractual saving scheme. Such schemes exist in France and Germany and serve the same role as mortgage insurance in Canada - although in a much more limited way since such schemes tend to be targetted primarily to ease access to homeownership.

Under a contractual savings scheme, an individual renter or existing homeowner enters into a contractual arrangement to make annual deposits into a special fund up to a prescribed annual and lifetime limit. While the funds are in the account, the participant receives only a modest interest rate (say four or

five per cent). However, there are many incentives for people to participate in such schemes. First, the interest income on the savings is tax free. Second, the government provides bonuses in the form of either a matching contribution or an interest bonus to augment the individual's savings. Third, participation in the plan allows an individual to obtain a second mortgage at a preferred interest rate to purchase a home.

In the Canadian context, the Registered Home Ownership Savings Plan (RHOSP)- although limited to renters - played in some sense a role similar to the contractual savings schemes in France and Germany, in that RHOSP enabled renters to accumulate a downpayment for a home. As a substitute to mortgage insurance, the government could of course introduce a contractual savings scheme like those that currently exist in France and Germany to enable people to accumulate a sufficiently large downpayment so that they do not need a high ratio mortgage to buy a home.

The main problem with a contractual savings scheme lies in its cost to taxpayers. In this regard, it is estimated that an adaptation of the French and German models to the Canadian context would cost the government in excess of $300 million annually. By contrast, market results in Canada (excluding the cost of AHOP and ARP), in the United States and in Australia, indicate that reliance on credit in the form of high-ratio loans can be done at little or no cost to taxpayers. An important implication of this approach however, is that the government is substituting risk for expenditures.

6.1.2 Policy Choices

In a world with the 75 per cent loan-to-value regulation, mortgage insurance serves a useful purpose in maintaining a balance between prudent lending by the financial institutions and access to high-ratio loans by residential mortgage borrowers. As indicated, without the insurance, a market failure would exist in that, with the 75 per cent constraint, those borrowers who are prepared to pay a price commensurate with the risk involved, would be denied access to a high ratio mortgage. The net result would be underinvestment in housing with the consequential shift away from the optimal allocation of resources that would exist if the free play of market forces were allowed to function without hindrance. With regard to the major financial institutions, albeit the presence of mortgage insurance, the 75 per cent regulation prevents them from obtaining the higher yields associated with investment in high-ratio mortgages. On the other hand, one should also note that without the 75 per cent constraint, some of the smaller

lenders such as the caisses populaires and credit unions, which are local in nature, may not be able to provide high-ratio loans without mortgage insurance.

However, while the 75 per cent regulation creates the need for mortgage insurance, it does not necessarily imply a need for government intervention in one form or another. In a world in which private insurance is available as it is the case now in Canada, the issue of whether the government needs to intervene in the mortgage insurance market depends entirely on the role that the government chooses to play in that market. In essence, there are two broad policy choices open to the government in mortgage insurance and these centre around the following questions:

(i) Does the government want to play an active role in mortgage insurance so as to ensure that people in all parts of the country have access to high-ratio mortgages under similar terms and conditions - i.e. same mortgage interest rate, same insurance premium structure, same application fee, same down-payment requirement... - so as to support homeownership and rental investment;

or

(ii) Does it want to play a more passive role and simply ensure that the mortgage insurance market works well by supporting private sector initiatives to ensure that high ratio mortgages are available in all parts of the country - the implication being that people would obtain mortgage insurance at a price that reflects risk and that access to high-ratio mortgages would no longer be equal in all parts of the country?

The fact that public mortgage insurance can be used to meet either of the two objectives stated above, has been a major source of debate and confusion in recent years as to how the program should be operated. This confusion largely stems from the ambiguity in the way in which the mandate of public mortgage insurance is described in official government documents. The official objective of public mortgage insurance is described as that of ensuring an adequate supply of high ratio mortgages in all parts of Canada, subject to the program being run at no cost to the government. The ambiguity in operationalizing this objective stems from the fact that the mandate of the program does not specify what price CMHC should charge borrowers for mortgage insurance - i.e. whether borrowers in all parts of the country should be charged the same price or whether the price for mortgage insurance should vary across markets and geographical locations to reflect the risks involved.

Because of the ambiguity as to what price CMHC should charge for mortgage insurance, two schools of thought have emerged as to the way in which public mortgage insurance should be operated and in particular, as to how the constraint of program self-sufficiency should be interpreted. On the one hand, those who believe that CMHC should charge a price that reflects risk at the individual loan level, correspondingly argue that public mortgage insurance should be operated solely in a business-like fashion and thereby, these people view self-sufficiency largely as the end result of operating the program as a sound business entity. On the other hand, the proponents of the social role of mortgage insurance - viz. those who believe that the mandate of public mortgage insurance is that of promoting access to homeownership and supporting rental housing by providing equal access to high ratio loans - view self-sufficiency as a constraint that can only be achieved through cross-subsidization - i.e. low-risk borrowers subsidizing high-risk borrowers.

6.1.3 Structure of the Chapter

This Chapter is divided into two parts, corresponding to the two major policy choices defined above. The first part examines alternatives related to the government choosing to play a pure economic efficiency role in the mortgage insurance market - i.e. borrowers paying a price that reflects risk and the government simply ensuring that the market works well so that high ratio mortgages are available in all parts of the country. Part two, on the other hand, examines alternatives related to the other objective - viz. that of ensuring equal access to high-ratio mortgages in all parts of Canada. In looking at the equal access objective, the issue of whether the program should be universal or whether it should be targetted, will also be examined.

PART I

ALTERNATIVES TO ENSURE THE AVAILABILITY OF HIGH RATIO MORTGAGES

6.2 THE ROLE OF GOVERNMENT IN THE CONTEXT OF ECONOMIC EFFICIENCY

As indicated in Chapter 3 on program rationale, the evolution in the mortgage insurance market since 1954 has constantly been towards increased economic efficiency. This came as a result of the deregulation of the mortgage market and the evolution of the conventional mortgage particularly after the entry of private insurance. As it was also shown in the Chapter on program rationale, the only difference between pure economic efficiency results and current market results resides in the fact that presently, the mortgage insurance premiums do not reflect variations in risk across markets and the application fees do not reflect the true cost of originating insurance in remote areas.

Given the evolution of the mortgage insurance market during the past 30 years, one option open to the government would be to allow the market to move to a pure economic efficiency configuration - whereby borrowers would pay a price that reflects the risks involved. A discussion of alternatives open to government that would yield pure efficiency results in the mortgage insurance market forms the essence of this first part of the Chapter on alternatives to public mortgage insurance.

To be able to properly evaluate the appropriateness and effectiveness of alternative potential instruments of government intervention to achieve pure economic efficiency results, one must start by addressing two major issues. The first issue regards the functions or roles that the government should perform in the mortgage insurance market if the government's objectives were simply to ensure that the market worked well so that high ratio mortgages are available in all parts of the country. The second issue consists of identifying the ideal market configuration that government intervention should aim at replicating in the long term.

6.2.1 The Role of Government

If the only preoccupation of the government in mortgage insurance were to ensure that the market works well, then the roles of the government in that market would be the same as in any other market. As in other markets, the first role for the government would be to ensure competitive results so that in the long-term, firms in the industry obtain what economists refer to as a "normal rate of profit" and correspondingly, borrowers pay the lowest possible price for mortgage insurance. Competitive or economic efficiency results also mean that market forces do not allow firms in the industry to charge discriminatory prices or predatory prices to obtain extra profits either in the short-run or in the long-run.

A second role for the government would consist of ensuring that all borrowers who are prepared to pay a price commensurate with the risks involved, can obtain the insurance. Situations in which this precept is violated are usually referred to as "market failures" and present one of the classical rationales in favour of government intervention.

A third role for the government in the mortgage insurance would consist of ensuring that there are no impediments to the free flow of private risk capital to the industry. Such impediments may take many forms. For example, in the market for residential rental housing, some commentators have argued that the presence of rent controls and the discriminatory tax treatment against residential rental as compared with other types of investments have been major impediments to the flow of private risk capital into the market. In the case of mortgage insurance, the point has been made that one of the major impediments to the flow of private risk capital has come in the form of unfair competition from public mortgage insurance - such unfair competition resulting from CMHC charging inadequate premiums and fees in the early 1980's.

A fourth role, but one that would exist whether the government pursues an economic efficiency role or the objective of equal access, is that of performing a supervisory function to ensure that private firms maintain "sufficient" reserves to meet potential future claims. This implies that as in any insurance market, the government has a role to play in regulating the behaviour of firms in the industry to ensure that they meet solvency and financial solidity criteria.

Finally, as in other insurance markets in which the insurer is exposed to catastrophic risk, e.g. hail, flood or earthquake insurance, the government may have a role to play in providing relief after a catastrophe has occurred. In the case of mortgage insurance, a role for government would exist in the event of a catastrophe if failure by private insurance were to jeopardize the viability of the financial sector and society's confidence in its financial institutions.

6.2.2 The Optimal Market Configuration

Having defined the roles of government in the mortgage insurance market, the next step consists of depicting the ideal market configuration that government intervention should aim at replicating in the context of the government pursuing economic efficiency objectives. As it turns out, the answer to this question is relatively simple as one can infer from the four roles of government described above. The ultimate objective of the government in mortgage insurance would be one of replicating the conditions that exist in insurance markets such as the

markets for life insurance, automobile insurance or property-casualty insurance. In those markets, private firms offer insurance at competitive prices and all consumers who want the service can obtain it at market prices. The only form of government intervention in these markets consists of performing a supervisory function to ensure that firms meet whatever solvency and financial solidity criteria that the government judges to be appropriate.

Given the long-term objective of government policy identified above, the next issue becomes one of determining among various instruments of intervention, which instrument or combination of instruments is likely to be the most effective and cost-efficient in transforming the mortgage insurance market from its current state to the optimal configuration of an economically efficient private market. The exploration of this question forms the central focus of Part I of this Chapter.

6.3 PUBLIC MORTGAGE REINSURANCE

Among the alternatives to public mortgage insurance that have been proposed in recent years for consideration by the government, the one that has been most often suggested is the concept of public reinsurance. This is one of the reasons why it is the first alternative examined in this chapter. A second reason which is as compelling as the first stems from the fact that as it will be shown in this section, of all the alternatives examined in the context of an economic efficiency role for the government, public reinsurance is the only instrument of intervention that would allow the government to perform all of its identified roles - directly or indirectly - with a single instrument. While the word reinsurance may seem to be surrounded by a veil of mystery, the concept of reinsurance itself is relatively straightforward. Reinsurance is just like traditional insurance and, as such, a contract for reinsurance is conceptually similar to any other insurance contract in that it is simply a risk sharing agreement between two parties. The only difference is that instead of having a consumer and an insurer as the two parties in the contract, the reinsurance constract ties two insurers, one called the ceding company, the other being the reinsurer.

Like the law of insurance, the law of reinsurance is based primarily on the law of contracts. Reinsurance contracts may be quite sophisticated and distinctive if the parties wish them to be and there do not currently exist any standard or uniform versions either required by law, regulation or established by common preference. However, the single uniform component which prevails among reinsurance contracts is the rule of "utmost good

faith". Although this is the underlying principle of all insurance agreements, it is the cornerstone of a reinsurance transaction.

Not only is reinsurance a relatively simple concept, but one should also keep in mind that there is nothing magic about reinsurance. In this regard, the first observation to be made is that the mere operation of reinsurance cannot in a mysterious way transform an inherently uninsurable risk into a risk that is insurable. By the same token, given that both the insurer and the reinsurer have access to the same actuarial valuation techniques, both face the same difficulties in attempting to price a risk that embodies exposure to catastrophic hazards. Finally, one should note that reinsurance cannot convert an under-rated risk into an adequately-rated risk or, more generally, transform "bad" business into "good" business.

6.3.1 Major strengths and Limitations of Reinsurance

While one must recognize at the outset that reinsurance is not an all-encompassing mechanism, it is a fact that one of the prime uses of reinsurance is that of allowing a primary insurer to obtain catastrophe protection - although the type of catastrophic event generally covered under common reinsurance contracts tend to be quite different from the macro risks present in mortgage insurance. A second common use of reinsurance is that of providing primary insurers with a means to increase their capacity to underwrite new business.

Corresponding to the two prime uses of reinsurance, there are two basic types of reinsurance contracts. The first is called "Excess of Loss" reinsurance and it is this type of reinsurance which is sought by primary insurers for "catastrophe" protection. The second type of reinsurance is called "Quota Share" and it is usually sought by a ceding company for capacity reasons.

Excess of loss reinsurance is an arrangement whereby the ceding insurer pays a premium to the reinsurer in return for a promise by the reinsurer to pay a portion of each loss which exceeds a specific amount. For example, a reinsurer might agree, for a premium, to pay in the event that an automobile accident claim exceeds $50 000. Under this arrangement, the ceding company would pay the first $50 000 of claims arising out of an accident and would be certain that no matter how large the claim or how many claims were filed as a result of one accident, the reinsurance contract would protect it against having to pay more than its deductible or retention. To the extent that the probability of large claims and the distribution of dollar

losses for such claims can be estimated, this sort of arrangement can obviously be profitable for a primary insurer and a reinsurer.

Excess of loss reinsurance is a very attractive mechanism for primary insurers since it offers them protection against the shock of large or multiple losses. By the same token, excess of loss reinsurance provides insurers with a means to stabilize their financial results. Excess of loss reinsurance actually has the effect of levelling off the peaks and troughs of profits and losses to produce smoother, less erratic financial results from year to year. There will still be losses, but with reinsurance, the fluctuations in financial results tend to be within more manageable proportions.

While excess of loss reinsurance can be very useful for insurers, the example of automobile insurance claims presented above can also be used to illustrate some of the limitations of that form of reinsurance. One of the major problems faced by reinsurers in recent years under this type of contract resulted from the effect of unanticipated inflation on the value of claims. The problem faced by reinsurers stemmed from the fact that during periods of escalating inflation, not only did the claims inflate in value, but a fixed retention (like the $50 000 amount used in the previous example) was essentially being devalued by the influence of a rise in inflation. Furthermore, because of rising inflation, many of those claims which would have been settled within the ceding company's retention in the absence of the increase of inflation, attained a value within the excess of loss cover. Thus, without any special provision to share inflation shifts between the reinsurer and the primary insurer, the large part of the burden of inflation was borne by the reinsurer. As a result of this problem, most excess of loss reinsurance contracts now incorporate a stability clause (or index clause) whereby the extra costs arising from unanticipated inflation are shared equally between the insurer and the reinsurer. This special provision has become a necessary condition for the continued underwriting of excess of loss reinsurance in any inflationary environment.

On the basis of this problem, two major observations can be made about reinsurance. First, just like a primary insurer, a reinsurer cannot diversify and, therefore, price macro risk. Second, if there are macro risks, a reinsurer will prefer to stay away from excess of loss reinsurance and offer another form of reinsurance contract, namely <u>quota share</u> or proportional reinsurance. Under this form of reinsurance, the reinsurer accepts a fixed share or proportion of the liabilities assumed by the primary insurer. Thus, for example, the risk might be apportioned on a 50-50 basis so that the reinsurer agrees to pay 50 per cent of the claims in exchange for 50 per cent of the

premiums. If there are macro risks involved as in the example of automobile insurance above, a quota share contract will provide the reinsurer with a means to minimize the exposure to macro risks.

Turning specifically to the subject of public reinsurance, it is clear that due to the presence of macro risks in mortgage insurance, a private insurer would want to see the government offer excess of loss reinsurance. However, just like in the case of a private reinsurer, it is also evident that taxpayers at large would prefer the government to offer quota share reinsurance so that the exposure of the government to losses resulting from a catastrophe would be lessened. This latter solution, of course, is conceptually similar to that of the government offering the insurance directly and co-existing with private insurance. However, from the point of view of improving the solvency and financial solidity of private insurance, excess of loss reinsurance would, of course, be much more effective. By the same token, excess of loss reinsurance would be effective as a means to attract private risk capital into the mortgage insurance market.

A major advantage of public mortgage reinsurance might be in facilitating the entry of new firms into the industry and thereby increasing competition and market efficiency. Quota share or proportional reinsurance could play a major role in this regard since that type of insurance contract has the direct effect of increasing the underwriting capacity of insurers. Quota share reinsurance is a particularly useful mechanism for small insurers because it allows them to write a greater volume of business than they would otherwise be able to finance out of their own resources.

This can be done in a number of ways. For example, with quota share reinsurance, a small insurer can accept all the business it can obtain from its agency force, and then pass on to the reinsurer part of the liabilities along with part of the premiums. Similarly, because primary insurers do not raise equity capital on a continuing basis, a rapidly growing insurer may use quota share reinsurance as a means to free up some of its capital by selling some of its existing liabilities and unearned premium reserves to underwrite more business. In short, quota share reinsurance provides an advantageous means by which small insurers can effectively compete with larger firms. In this regard, it has been claimed that:

> "Reinsurance permits the small and medium size companies to compete with giant companies. Without reinsurance, an oligopoly could exist in the property and liability insurance

> industry similar to that which exists in the automobile manufacturing industry."[1]

Having noted the positive aspects of quota share reinsurance, one should also be aware of the down side of this approach and that is the danger that the government be forced to sell mortgage insurance "through the back door". If the mortgage insurance market consisted of a large number of small firms, the danger is that the government could end up holding the bulk of the risk exposure and all that the private sector would do would be to serve as insurance agents for the government. Under this situation, the government could face substantial risks if the contracts with private firms did not provide sufficient incentives for them to minimize losses on default claims.

A final advantage of public reinsurance would be that of providing the government with a means to ensure that private insurance serves all groups of borrowers. With excess of loss reinsurance covering macro risks, a private insurer would be capable of insuring loans in one-industry towns just as well as homeownership loans in Montreal, Toronto or in any large urban centres.

6.3.2 The Efficiency and Appropriateness of Public Reinsurance

If public reinsurance presents major advantages and could be used as an instrument to help the government in meeting all of its economic efficiency objectives in the mortgage insurance market, it would also present significant disadvantages and difficulties for the government in operating such a scheme. The purpose of this section is to examine whether public reinsurance would be an efficient and appropriate instrument of intervention to help the government meet its objectives in the context of ensuring economic efficiency results.

6.3.2.1 Financial Solidity and Solvency of Private Insurance

An important role that was identifed for the government consists of ensuring that firms in the industry are solvent and financially solid. With regard to this objective, there is no doubt that the provision of excess of loss reinsurance would increase the capacity of private insurers to survive difficult economic periods - assuming, of course, that reserve requirements were not reduced to lenient levels following the introduction of reinsurance.

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1 "Catastrophe Loss Reinsurance: A General Treatise", by Harvey W. Rubin, The Journal of Insurance Issues and Practices, Winter, 1980.

However, while public reinsurance may have the effect of increasing the financial solidity of private insurance, this does not by itself provide a compelling argument for the introduction of public reinsurance on a permanent basis as there exist alternatives for private insurers to excess of loss reinsurance. One of these alternatives is self-insurance. Self insurance simply refers to the action of retaining a risk exposure and setting aside funds into a contingency reserve so that a provision for losses is made in advance.

The main problem with self insurance stems from the fact that it takes time for an insurer to build up a solid contingency reserve. However, this problem is not unique to the mortgage insurance market today. Other types of insurers face the same problem and this problem also existed in the mortgage insurance market when private insurance emerged in 1970. The only role for the government in this regard simply consists of ensuring that there are no impediments in any form - legal, tax or otherwise - to a private insurer building up contingency reserves. Presently, there are no impediments preventing a private insurer from building up contingency reserves.

In the long run, another alternative open to private insurance to enhance financial solidity might become available through the emergence of private reinsurance in some limited form. The key to the availability of private reinsurance lies in the ability of private insurance to demonstrate a sound track record and sustained profitability. This is certainly not an impossible task. Private insurers in Australia have succeeded in negotiating reinsurance contracts in the international reinsurance market and similarly MGIC, which is the largest private insurer in the U.S., has recently secured a reinsurance contract with a syndicate of European reinsurers.

In summary, financial solidity and solvency objectives do not provide a compelling argument for the introduction of public mortgage reinsurance on a permanent basis. An alternative, of course, would be for the government to introduce a reinsurance program with a sunset clause. However, the difficulty with this alternative stems from the reality that in general, programs with a sunset clause tend to become permanent fixtures.

6.3.2.2 Impediments to Private Risk Capital

There is little doubt that if CMHC were to gradually withdraw from the direct provision of insurance and offer mortgage reinsurance instead, investors' confidence in mortgage insurance would improve and the flow of private risk capital to the mortgage insurance market would increase substantially.

However, this raises an important question and this is whether public reinsurance is needed at all to attract private risk capital.

Market results in Australia, the United States and Canada - until very recently - indicate that public reinsurance at large is not needed to attract private risk capital. In fact, even under current conditions in the Canadian mortgage insurance market, the view has been expressed by experts in the field that CMHC withdrawal from some sub-markets and/or a restructuring of NHA insurance would be sufficient conditions to attract private risk capital.

While in many housing sub-markets CMHC withdrawal might be sufficient to attract private risk capital to serve these markets, this is not true for all sub-markets owing particularly to the fact that default risks are not invariant across all markets. In this regard - although one cannot be certain because the provision of implicit subsidies provided by CMHC has likely been an impediment in the past - it is unlikely that CMHC withdrawal would be a sufficient condition for private insurance to serve all sub-markets, particularly those dominated by one industry or communities located far from major urban centres. However, if this problem were to exist following CMHC withdrawal, it does not call for reinsurance at large, but rather for reinsurance targetted to these problem areas. This type of policy instrument, i.e. targetted reinsurance - will be examined later in this Chapter.

As a final point, one should also note that just as NHA insurance (because of inadequate premiums and fees in the early 1980's) was a major impediment to the growth of private insurance, public reinsurance at large could also become a major impediment to the emergence of private reinsurance in Canada or a disincentive to obtain reinsurance in the international market. Of course, this would happen if the premiums charged by the government as a reinsurer incorporated implicit subsidies. The difficulty of pricing reinsurance will be examined next.

6.3.2.3 Competition and Economic Efficiency

If one looks at other markets, it is clear that insurance markets can be highly competitive. This is the case for example for the markets for life insurance, automobile insurance and property and casualty insurance in which dozens of firms compete against each other.

There is, however, one major difference between these markets and the market for mortgage insurance and this relates to the presence of substantial macro risk in mortgage insurance. Because of the presence of macro risks, as will be seen later in

this Chapter, the Department of Insurance has put in place rules and regulations to ensure that private mortgage insurers have a well diversified portfolio across markets. This however has also meant that private insurers in Canada must operate on a large scale across the country, with the implication that the market can only accommodate a few mortgage insurers. In this regard, based on the experience in the U.S., Australia and Canada and considering the size of the respective markets, the view has been expressed by experts in the field that the Canadian mortgage insurance market could not accommodate more than four or five firms.

The availability of public reinsurance in the form of quota-share or excess-of-loss arrangements would increase the scope for having a large number of firms and thereby a highly competitive mortgage insurance market. This stems from the fact that with reinsurance, and in particular excess-of-loss reinsurance, the requirements of the Department of Insurance regarding portfolio diversification could become much less stringent. However, as noted before in this Chapter, the downside of this approach would be (i) that the government would be writing mortgage insurance "through the back door" and (ii) the government would continue to have a large risk exposure in mortgage insurance.

6.3.2.4 Unserviced Borrowers

As noted earlier in this Chapter, one of the roles of the government in mortgage insurance from an economic efficiency perspective relates to the objective of ensuring that all borrowers who are prepared to pay a price commensurate with the risk involved, can obtain the insurance. This is the classical "market failure" argument for government intervention.

As for many of the other government objectives, this objective does not provide an argument in favour of public reinsurance at large, but rather, for some form of targetted reinsurance. This stems from the fact that as market results in the U.S., Australia and Canada show, private insurance can serve many sub-markets without government involvement. In Canada, this has been the case in regard to homeownership loans in large urban centres. As indicated previously, targetted resinsurance as an alternative instrument of government intervention will be examined later in this Chapter.

6.3.2.5 Cost to the Government

To be effective in creating a highly competitive mortgage insurance market, the government would have to offer both quota-share and excess-of-loss reinsurance. Further, excess of loss reinsurance would have to be offered to each insurer on its

total portfolio. As indicated previously in this Chapter, these measures would be needed to make it possible for small scale insurers to operate in the mortgage insurance market.

If this were the case however, of all the alternatives examined in this Chapter including the Status Quo, public reinsurance would be potentially the most costly approach in terms of total risk exposure to the government. This stems from the fact that even if private insurance has only a small share of the market now, at least the government is exposed to no risk on the 15 per cent of the loans that MICC insures. This conclusion is even more significant if one considers that in the 1970's, private insurance served nearly half of the market without access to any form of government guarantee or partnership.

6.3.2.6 Summary and Conclusion

In summary, public mortgage reinsurance could be used as a policy instrument to meet all four objectives identified for the government in the context of pursuing economic efficiency results. However, the problem with public reinsurance stems from the fact that it does not meet any one of these objectives very well. In regard to three of the four objectives pursued by the government - viz., the supervisory function and the roles of removing obstacles to private risk taking and that of ensuring that all borrowers are served - public reinsurance could only be justified on a temporary basis or as a measure targetted to specific high risk sub-markets that would otherwise be neglected by the private sector.

Public reinsurance at large could only be justified as a means to increase the number of firms in the mortgage insurance market. The issue of whether the number of firms in the market is important to ensure competitive results will be examined next.

6.4 ALTERNATIVES TO ENSURE COMPETITIVE RESULTS

In the foregoing section, the point was made that while public reinsurance might be an effective tool to encourage new firms to enter the mortgage insurance market, it could be an expensive way of ensuring competitive results if one considers the size of the risk exposure that it would entail for the government. The purpose of this section is to examine whether there are better ways than public reinsurance to ensure competitive results in the market for mortgage insurance. To this end, four alternatives are explored in this section and these centre around an examination of four major questions. The first question is whether, in the absence of public mortgage insurance, having a large number of firms is necessary to ensure competitive results in the mortgage insurance market. As it

will be shown in this section, if the market for mortgage insurance were "contestable"[1] or could be transformed into a contestable market, even a monopoly configuration could produce a perfectly competitive outcome. Because there are trade-offs between making the mortgage insurance market contestable and ensuring that firms meet solvency standards, the second question relates to whether regulation of the pricing and underwriting practices of the incumbent firm(s) in the absence of competition would be sufficient to ensure that borrowers pay the lowest possible price for mortgage insurance. The third question relates to whether staged privatization would be effective as a means to move quickly towards a competitive mortgage insurance market. The fourth and final question concerns whether public/private competition could yield a sustainable and competitive market configuration.

6.4.1 Market Contestability

Traditional economic theory postulates that perfectly competitive behaviour can only occur when there is a large number of firms, each of which is unable to affect market prices. The theory is based on the precept that perfectly competitive markets are the benchmark for desirable industrial organization and a necessary condition for the efficient allocation of resources. It was on the basis of this theory that the Matthews Task Force and the Economic Council of Canada expressed concerns about the likely outcome of government withdrawal from the mortgage insurance market.

Recent research results in the area of competition policy have seriously challenged the traditional argument that perfect competition is always the most desirable market structure, that monopoly is always the least desirable, and that efficiency in the allocation of resources always increases as the number of firms increases. This challenge is embodied in the theory of contestable markets[2], which recently appeared in the economic literature.

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1 The concept of market contestability will be examined in the next sub-section.

2 "Contestable Markets and the Theory of Industry Structure", W.J. Baumol, J.C. Panzar and R.D. Willig, Harcourt Brace Jovanovich Inc., 1982.

The theory of contestable markets postulates that in the absence of barriers to entry and exit, even if the cost-minimizing market structure allows for only one firm, that firm has little or no monopoly power. The possibility of entry into potential competition for the market entices the incumbent to behave as if competition actually existed within the market. This body of new[1] economic thinking has recently been applied in the United States to deregulate the airline industry.

The theory attributes several important welfare properties to a contestable market. First, excess or abnormal profits are not sustainable or may not actually occur in a contestable market. Second, any form of inefficiency cannot exist in the long-run since unnecessary costs create an opportunity for entry. Third, marginal cost pricing must prevail which suggests that cross-subsidization or predatory pricing cannot be used to effect unfair competition.

If the mortgage insurance market were contestable, the competition argument would provide no rationale for government intervention in one form or another. This raises the question of whether the mortgage insurance market is contestable in its present state. As it will be shown next, the answer to this question is negative.

6.4.1.1 Impediments to Market Contestability

As indicated, the key aspects to market contestability rest in the absence of barriers to entry - which, if they exist, can result from government regulation, sunk entry costs and others - and the ability for firms to exit at no cost. An analysis of the mortgage insurance market shows that there are presently barriers to entry into and exit from the market. These barriers are caused by government regulations and by the nature of the mortgage insurance product itself.

The principal entry barrier stems from the requirements that (i) mortgage insurance, for actuarial purposes, be separated from other classes of insurance and (ii) that, for risk diversification purposes, firms must operate on a national scale. The inability to pool default risks with other types of unrelated risks means that an existing insurance firm seeking entry into the mortgage insurance market must create a

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1 In general, many of the ideas in the theory of contestability also exist in traditional economic theory. However, it is their development in a consistent analytical framework with a central focus on entry and exit - as opposed to a price taker assumption - that differentiates the theory of contestability.

subsidiary company and operate on a large scale across the country. These requirements do explain the full scale entry of MICC, Sovereign and Insmor and may have accounted for the lack of interest to date from well established casualty insurance companies.

Similarly, entry into the Canadian market by foreign mortgage insurers has also been made difficult by the requirement to create a Canadian subsidiary distinct from the parent company, thereby preventing foreign firms from pooling default risks across national boundaries. The impact of this regulation has been to discourage the entry of foreign mortgage insurers.

Another factor which makes large scale entry difficult stems from the dilemma that to take a large share of the market, a firm must have built a reputation of financial solidity and a sound track record and these, of course, are not characteristic features of a new entrant. To the extent that this sort of image cannot be acquired instantly, instantaneous entry into the mortgage insurance market is difficult and in turn, this reduces the likelihood of "hit and run" against the incumbent firm(s).

There are also barriers to exit from the mortgage insurance market which stem primarily from the long-term nature of the mortgage insurance contract. The cessation of underwriting new policies does not constitute an exit as the mortgage insurance in force is a contingent liability which cannot be terminated at the pleasure of the insurer. An exit can only be effected by selling to a potential entrant or by merging with an existing competitor; this was evident in the mergers between Insmor and Sovereign in 1978 and between Insmor and MICC in 1981. The inability to achieve rapid exit and redeploy assets elsewhere is perhaps the most significant impediment to a highly contestable mortgage insurance market.

6.4.1.2 Measures to Make the Market Contestable

There are measures that the government could put in place to transform the mortgage insurance market into a highly contestable market. Necessarily, these would have to involve softening the requirements governing entry and, in particular, introducing means to allow firms to exit easily and quickly. However, as it will become evident, the problem with making the market highly contestable stems from the fact that any movement towards the attainment of that objective conflicts with the achievement of other government objectives.

Barriers to entry could be significantly softened by allowing life, property and casualty insurers to underwrite limited volumes of mortgage insurance and pool these risks with other insurance risks. Given that many of these firms are relatively

large, even only a limited number of firms underwriting a small volume of mortgage insurance could take a substantial portion of the market.

The problem with this approach stems from the presence of macro risks in mortgage insurance and the danger that a catastrophe in mortgage insurance coupled with unexpected large losses in other insurance activities, would increase the probability of failure of these firms. The end result might be that a life insurance company, for example, would be unable to honour liabilities associated with its main life insurance activities.

As an alternative, entry into the mortgage insurance market could be eased for foreign mortgage insurers. This could be done by allowing such firms to pool the risks on loans underwritten in Canada with risks related to loans underwritten in other countries.

There are problems with this approach as well in that it would expose domestic lenders to the risk that a catastrophe occurs in one of the countries in which a foreign insurer operates and as a result of financial failure of that insurer, the lenders would be left with insurance policies that could not be honoured. In fact, this constitutes the prime reason why the Superintendent of Insurance requires that foreign insurers create a Canadian subsidiary and maintain reserves - related to the policies that they sell domestically - in trust in a Canadian financial institution.

Turning to the problem related to the fact that large scale entry is made difficult by the important role that name recognition plays in the mortgage insurance market, one should note that unlike in the United States, this problem can be easily surmounted in Canada. This stems from the fact that there is currently no rule preventing Canadian lenders from investing in a mortgage insurance company, and, as a result, it is conceivable that a new entrant could immediately operate on a national scale and take a large portion of the mortgage insurance market. By contrast, in the United States, state regulations prevent ownership of a mortgage insurance firm by the lending institutions. The rationale for such regulation in the U.S. stems from a recommendation by the Alger Report which, in 1934, ruled out such ownership links following the Great Depression and the joint failure of mortgage insurers and lenders.

The question of whether the same regulation should also exist in Canada is beyond the scope of this paper. However, one should note that allowing ownership of a mortgage insurance company by the lenders contravene somewhat the thrust of the 75 per cent rule on conventional lending. The thrust of this rule is to

prevent the lenders from self insuring. In the extreme case of a lender owning fully a mortgage insurance firm, this rule would be totally circumvented and to that extent, one could argue that partial ownership allows the lenders to partially circumvent the rule.

Among the impediments to having a highly contestable mortgage insurance market, it was mentioned that the most significant one centres around the difficulties that prevent costless exit from the market. As indicated, this problem stems primarily from the long-term nature of the mortgage insurance contract which, by itself, inhibits the feasibility for a firm to exit quickly with its capital and invest elsewhere.

There are two ways in which this problem could be addressed but neither of these are satisfactory. The first method would consist of shortening the term of mortgage insurance from the present term which equals the life of the mortgage to say, one year and with the additional feature that an insurer would have no obligation to renew the insurance policy. The problem with this modification is that it would defeat the purpose of mortgage insurance. Under a one-year term policy, borrowers and lenders would face substantial uncertainty in situations in which default risks have increased during the expired term of the policy. In the case of borrowers, the uncertainty would relate to the amount of premium to be paid at next renewal. With regard to the lenders, uncertainty would exist regarding whether the insurer would be prepared to renew the policy and whether the borrower, particularly in a negative equity situation, would accept to pay the next premium or in the extreme case, would rather choose to default. While one could argue that one-year term policies would make mortgage insurance essentially comparable to other insurance products (e.g. automobile insurance and property insurance), the downside of this approach would be that the lenders would be forced to self insure against a major portion of the risks on high ratio lending. This practice, of course, would conflict with the thrust of 75 percent regulation which prevents the lenders from self insuring their portfolio of high ratio mortgages.

Another way of easing exit would be for the government to undertake to assume the insurance portfolio of any firm which wanted to vacate the market. However, the only way for this approach to be effective would be for the government to take over the unearned premium reserve at face value along with the insurance portfolio. This would simply open the door to massive exit by private insurers when economic conditions worsen and allow them to shift losses to tax-payers at large.

6.4.1.3 Summary and Conclusion

In its present state, the market for mortgage insurance is not contestable and, although there are actions that the government could take to transform it into a contestable market, such actions would largely be undesirable for two major reasons. First, the objective of having a contestable market largely conflicts with the role that the government has to play to ensure that firms are financially solid, solvent and have a high probability of remaining solvent. The main difficulty in this regard is for the government to maintain a balance between reducing barriers to entry and exit on the one hand and preventing the entry of "fly by night operators" on the other. The second difficulty with contestability is to determine which among many possible sets of solvency standards will lead to an efficient and sustainable industry configuration. In this regard, the danger is that, while in good times, liberal solvency standards may make the market contestable, the same standards, if they are too lenient, could also contribute to the failure of firms in difficult times. This was essentially the experience in the U.S. prior to and during the Great Depression, where as a result of lenient solvency standards, the number of private insurers grew quickly from 11 firms in 1920 to 50 firms in 1930 and then fell to zero in 1934 as all of these firms had failed.

6.4.2 Regulation of the Competitive Behaviour of Firms

Given that the mortgage insurance market cannot be transformed into a contestable market, the worries expressed by the Matthews Task Force and the Economic Council of Canada regarding the exploitation of short-run and possible long-run monopoly power by the incumbent private insurer seem to be quite relevant. In light of this problem, action would be required by the government to ensure that in the event of CMHC withdrawal, borrowers pay the minimum possible price for mortgage insurance. To achieve this objective, an alternative open to the government would consist of using existing competition law to regulate the pricing and underwriting practices of the incumbent firm(s).

It is important to note, however that there would be a number of difficulties associated with regulation particularly because of the nature of mortgage insurance which embodies a significant degree of macro risks. Normally, regulation touches upon three aspects of pricing. These include whether (i) premiums are excessive; (ii) whether they are unfair discriminatory; and

(iii) whether they are predatory[1], i.e. set at a level sufficiently low to drive out competition in the short run. While the Department of Consumer and Corporate Affairs (CCA) - which administers the Combines Investigation Act - has the tools and the authority to regulate private mortgage insurer(s), the difficulty in mortgage insurance is to determine at what levels premiums start to be "excessive", "discriminatory" or "predatory". Given that no one can price mortgage insurance risks accurately, the task of the regulator would be extremely difficult. The problem would be compounded by the fact that the Combines Investigation Act is a relatively ineffective piece of legislation in that experience has shown that it is very difficult for the government to prosecute under that Act.

While regulation by the Department of Consumer and Corporate Affairs may be far less than perfect, the combination of competition laws and other checks and balances may be sufficient to ensure that prices are reasonably close to those that would be obtained in a competitive environment. Starting with predatory pricing, one should note that this pricing behaviour would be made difficult by the fact that the Superintendent of Insurance regulates minimum premium levels with a view to ensuring that premiums are adequate and sufficiently high so that insurers can accumulate sufficient reserves for solvency and financial solidity purposes.

Turning to the issue of potentially excessive or unfair discriminatory premiums, the most effective check on this pricing behaviour is inherent in the market itself in that the threat of large-scale emergence of substitutes to mortgage insurance is likely to be sufficient to prevent non-competitive behaviour by the incumbent firm(s). Mortgage brokers probably represent the main potential outlet to provide borrowers with access to substitutes to mortgage insurance - in the form of high-ratio uninsured first and second mortgages. In the past, primarily because of the relatively low mortgage insurance premiums charged by insurers, the market for such financing has been thin. However, this is not to imply that this market would not develop if mortgage insurance premiums were perceived by potential borrowers to be excessive.

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1 Predatory pricing occurs when a firm prices its product or service below cost in order to drive out competition in the short-run, and then raises the price above cost in the long-run to recoup its losses, reducing social welfare in the process.

While substitutes to mortgage insurance would provide effective competition to mortgage insurers, the degree of competition from substitutes will vary across sub-markets and in some sub-markets the incumbent firm may retain effective monopoly power. Substitutes to mortgage insurance will tend to be easily available in urban centres since mortgage brokers are active in those areas. However, a much lesser degree of effective competition from substitutes is likely to exist in communities located outside urban centres and, as a result, borrowers in those areas would tend to be at the mercy of a monopolist insurer. Similarly, in the case of large rental projects, an investor even in a large urban centre, may have difficulty in securing an uninsured high-ratio mortgage. For example, finding a $4 million uninsured first mortgage or a $1 million uninsured second mortgage to finance a rental project may not be possible even in the largest metropolitan areas.

As a final point, one should note that while the potential emergence of substitutes to mortgage insurance may be sufficient to discipline the incumbent firm(s) in mortgage insurance, there are some downsides to this approach. First, in some sense, reliance on uninsured second mortgages represents a regression back to the days prior to 1954 when mortgage insurance was not available. Second, if in the future a substantial number of borrowers were to secure low-ratio first mortgages, coupled with uninsured secondary financing, the risks faced by the lenders on their portfolio of uninsured first mortgages would increase significantly. As as result, this would also lead to a rise in interest rates on low-ratio first mortgages relative to other interest rates.

In summary, substitutes to mortgage insurance can provide effective competition in some markets, but this conclusion cannot be generalized to all sub-markets. For example, in small communities or large rental projects, concerns related to effective monopoly power in the absence of public insurance are legitimate.

6.4.3 Privatization

Given that competition from substitutes may not exist in some sub-markets, a question arises as to whether it would make sense for the government to successively create and privatize new mortgage insurance firms. In fact, the government could sequentially create and privatize as many firms as desired and thereby force a relatively rapid movement of the mortgage insurance market towards its optimal market configuration.

If the only objective of the government in mortgage insurance were that of ensuring that competitive results are obtained, staged privatization coupled with regulation of the behaviour of firms would be a quick and effective way of transforming the mortgage insurance market into an efficient market configuration.

However, this approach would also have some disadvantages. First, because the mortgage insurance market will continue to shrink over the years to come[1] on account of declining housing requirements, no one can tell what should be the optimal number of firms in the market. In fact, this depends on a number of considerations including whether there are economies of scale in delivering mortgage insurance and, if so, how large they are; what should be the minimal size of a firm for risk diversification purposes; and what is the likely size of the market in the years to come.

A second problem with privatization stems from the fact that no one can tell whether the new firms would be active in those sub-markets where competition is needed, i.e. in small communities and in large rentals. In fact, many of these sub-markets in the past have been those that private insurance was largely neglecting. This will be discussed further later in this Chapter.

A third problem is that there is no guarantee that the newly-privatized firms will not collude together and with the existing mortgage insurer. Any collusion among these firms would, of course, completely negate the benefits that would have been sought through privatization.

6.4.4 Public/Private Competition

An approach that has been used extensively in Canada and in other countries to promote market efficiency is that of public/private competition. In Canada, there is a number of crown corporations whose primary objective appears to be that of competing with private sector firms and thereby ensuring that consumers obtain a given product or service at the lowest possible price. If the only objective of the government in the mortgage insurance market were that of ensuring that the market worked well - i.e. that competitive results are obtained - public/ private competition could be used in at least two different forms. These are described below as (i) the "Status Quo" and (ii) the "Australian model".

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[1] Projections of the volume of mortgage insurance to the year 2 000 are presented in Appendix 1.

6.4.4.1 Status Quo

Under this approach, CMHC would continue to sell Option A policies while private insurance would offer Option B coverage. The term of the insurance would remain equal to the life of the mortgage. NHA insurance would also maintain a tax-free status, it would continue to be exempt from the capitalization rule imposed by the Department of Insurance on private insurers and it would not be required to make profits and pay dividends.

All of these differences between public and private insurance indicate that NHA insurance was not designed with a view to simply providing fair competition to private insurance and as a result, the present model is largely inappropriate as an instrument of intervention if the government had no other public policy objective in the mortgage insurance market than ensuring competitive results.

6.4.4.2 "Australian Model"

If the objective of the government in mortgage insurance were simply that of ensuring competitive market results, a better model would be the approach currently used in Australia. Under that approach, NHA insurance would be modified so as to provide fair competition to private insurance. As under the Australian model, the MIF would be required to pay taxes, make profits and pay dividends, and obey the same capitalization rules as private insurers. These changes would ensure that CMHC adopts a pricing and underwriting behaviour consistent with a private sector firm.

To be effective in enticing new firms to enter the mortgage insurance market, changes would also be made to the insurance product itself so as to make mortgage insurance more manageable and attractive for private sector insurers. These changes[1] would consist of replacing Option A insurance with limited liability (Option B)[2] insurance and of making the insurance renewable annually rather than having the term of the policy equal to the life of the mortgage as is presently the case. This latter change would improve the viability of mortgage

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1 These would be variations from the "Australian Model".

2 It has often been argued in the past that NHA insurance, because of its full risk protection and Government of Canada Guarantee, was instrumental in attracting funds from off-shore sources. Appendix 2 provides a discussion regarding the contribution of that source of funds to the total supply of mortgage funds.

matching cash inflows and outflows, thereby largely eliminating the liquidity problem that insurers are otherwise exposed to face during difficult periods.

This approach would have many advantages, the main ones being as follows:

- even if CMHC had only a token market share, its presence alone would be sufficient to make the market contestable in that the threat of renewed competition by CMHC would be sufficient to discipline the incumbent firm(s);
- all borrowers who are prepared to pay a price commensurate with the risk, would be served;
- continuation of public mortgage insurance would allow the government to pursue other public policy objectives, namely housing quality; economic stabilization; innovation in mortgage contracts; mortgage backed securities; and delivery of social programs.

On the negative side, one should note that even if all the changes described above were made, this approach would have limited effectiveness in attracting new firms for two reasons. The first reason has to do with the government of Canada guarantee which confers a substantial competitive edge to NHA insurance; the second reason centres around the fact that in the past, CMHC has never been operated as a business concern and as a result, new firms may be reluctant to enter the mortgage insurance market. A detailed examination of these two factors is presented next.

6.4.4.3 The Government of Canada Guarantee of NHA Insurance

The Government of Canada guarantee confers a significant competitive edge to NHA insurance mainly during periods of economic difficulties. This stems from the unique nature of mortgage insurance which embodies exposure to catastrophic risks on the one hand, and provides long-term risk protection on the other. Because of the presence of catastrophic risks, a major factor that a lender must consider in choosing among mortgage insurers centres around the question of how likely it is that a given insurer will be around in five, ten or fifteen years. If public mortgage insurance is available, the only certainty in that regard is that the Government of Canada will always be present to honour its liabilities.

One way of looking at the Government of Canada guarantee in mortgage insurance is to assume that C.P. Air for example were in competition with an airline backed by God. If in that market, God's aircrafts were immune from crashing, one could think immediately of many individuals who would never consider

flying C.P. Air. In a general sense, the immunity of NHA insurance from financial failure confers CMHC the same type of competitive edge as immunity from crashing would provide an air carrier in the airline industry.

There are two ways in which fair competition could exist between public and private mortgage insurance. These are:

i) that the government guarantees the liabilities of private insurers so that in the event of failure, the insured lenders would be guaranteed that the insurance policies would be honoured;
ii) that CMHC's legal status be changed so that it becomes a quasi-private enterprise which, like any private sector firm, can face financial failure.

There are significant problems with each of these alternatives. The first approach would result in a major departure from the government's traditional role in the area of private insurance, from one of enforcing solvency standards to protect policy holders to one of formally guaranteeing payment to policy holders. In the event of failure by a private insurer, this would also force the government to go well beyond its identified role which is one of providing relief if and only if failure of private insurance were to jeopardize the survival of Canada's financial institutions.

Turning to the second alternative, it might be possible for the government to create a new insurance company which, like any private firm, could face financial failure. This could be done through joint government and private sector ownership. The problem with this approach is that it would provide little or no social advantages compared with total privatization of CMHC.

6.4.4.4 Social Versus Commercial Objectives

To compound the problem of unfair competition conferred by the Government of Canada guarantee, new firms may be reluctant to enter the mortgage insurance market given that in the past, CMHC has often adopted a behaviour that was destructive of competition rather than a behaviour based on strict business principles. This resulted from the fact that over the years, there has been a multitude of situations in which political realities have prevented CMHC from operating NHA insurance in a strict business-like manner. Starting with the most recent ones, the following list provides some examples of situations that have occurred in recent years:

- the situation in Calgary early last year when CMHC was pressured to reverse its decision to introduce more stringent underwriting standards;

- the political constraints that have entered into the establishment of the new premium structure announced early in 1985. While the Board of Directors approved an increased premium structure in May of 1984, changes in ministers, the government restraint program, the elections, the change of government, and the need for regulation change caused an eight-month delay before the new premiums could be implemented;
- in periods of difficult economic conditions, the inability of CMHC to raise premiums to reflect increased risks owing to conflicts between commercial and economic stabilization objectives;
- because of political constraints, the inability of CMHC to raise premiums and/or introduce more stringent underwriting rules in reflection of falling housing demand in Quebec after 1976;
- the reduction in premiums by half in 1969 in reflection of the fact that the magnitude of MIF reserves had become a political embarrassment to the government.

One way of isolating CMHC from political constraints and thereby allowing CMHC to operate as a business concern, would be through the creation of a new insurance company that would be more at arms-length with the government than the present Crown Corporation. This could be done through joint government and private sector ownership of the new company. However, while there may be some merit to this approach, the problem is that it would provide little or no social advantage compared with total privatization of CMHC given that in this context, NHA insurance would only be competing with the private sector without having any public policy objective.

6.4.5 Summary and Conclusions

If the only objective of the government in the mortgage insurance market were that of ensuring that competitive results were obtained, of all the alternatives examined so far in this chapter, privatization coupled with regulation would likely be the best policy instrument. Like other approaches, this approach would ensure that the market works efficiently. The main advantage of the privatization/regulation approach would be that unlike reinsurance at large and unlike the public/ private competition model, this approach would entail no risk exposure to the government and therefore no cost to taxpayers.

6.5 ALTERNATIVES TO ENSURE THAT ALL BORROWERS ARE SERVED

As noted previously, another justification for government intervention would exist if some market imperfection prevented some borrowers who are prepared to pay a price communsurate with the risk involved from obtaining the service.

There currently exists an artificial restraint on the supply of mortgage insurance in that there is a rule imposed by the Department or Insurance which prevents private insurance from offering Option A (100 percent protection) insurance when the loan-to-value ratio exceeds 75 percent. Because of this regulation, if public mortgage insurance were not available, the lenders would be faced with three choices. First, they could accept to lend with Option B insurance and price the risk that losses upon default of the loan exceed Option B coverage, by incorporating a default risk premium into the interest rate. This type of behaviour would be consistent with a well functioning market. At the other extreme, the lenders could refuse altogether to make high ratio loans with Option B insurance. This would be a clear case of an inefficient market resulting in a lending gap problem. A third alternative - which is likely to be the approach taken by the lenders - would be a combination of the two alternatives described above. Under this approach, the lenders could continue lending in low risk markets but stay away from high risk markets, or they could adopt a combination of price rationing and quantity rationing by charging higher interest rates and adopting more stringent underwriting rules in high risk markets or for high risk borrowers. To the extent that some borrowers were left unserved as a result of the artificial restraint preventing private insurance from offering Option A, market inefficiencies would exist with the implication that a role for government would exist to address such inefficiencies.

There are two sources of evidence suggesting that mortgage lending gaps would emerge if "Option B" were the only type of insurance protection available to the lenders. First, there is the fact that Option B coverage exposes the lenders to substantial losses. This is illustrated in Table 6.1 which shows the portion of losses that would have been borne by the lenders compared with the losses that would have been borne by CMHC if CMHC had exercised Option B on its regular non-subsidized insurance business during the past 15 years. Clearly, most lenders that do not have a well diversified portfolio would not accept such risks. Second, during the housing consultation process, some of the major mortgage lenders through their associations indicated that a shift away from Option A to Option B would force them to reduce significantly the volume of mortgage lending that they do in high risk markets. This is likely to be the case in some towns dominated by one industry, in some rural and remote areas where house prices can fluctuate widely, or in some resource towns, particularly those where economic activity is based on a resource characterized by a highly volatile demand on international markets.

There are a number of alternatives open to the government to address mortgage lending gap problems. These are:

TABLE 6.1

LOSSES FACED BY INSURERS AND LENDERS

Type of[1] Housing	Average Loss Borne by Insurer		Average Losses Borne by Lender Under Option B Coverage $[3]
	Option A Insurance $[3]	Option B[2] Insurance $[3]	
Homeownership New	49	28	21
Homeownership Existing	51	29	22
Rental New	59	22	37
Rental Existing	33	21	12

1 Excluding AHOP, ARP and Social Housing
2 Based on 25 per cent coverage for homeownership and 20 per cent for rental loans
3 Per $100 of original loan amount

Source: NHA Insurance Claims data.

- allowing private insurance to offer Option A coverage;
- direct lending;
- optional "stacked insurance" as a way to target reinsurance.

6.5.1 Allowing Private Insurance to Offer Option A

Elimination of the offending regulation would obviously be the most direct way of addressing the problem. Under this approach, the government would allow private insurance to offer protection as high as 100 percent of the risk involved subject to the insurer keeping reserves commensurate with the risks taken. The end result would be that private insurers could offer different degrees of coverage - e.g. 25, 40, 50... percent Option B coverage - at different prices and allow the lenders to choose the degree of risk protection needed.

While on the surface, this would be a simple way of addressing the problem, market results in Canada and in the United States indicate that this approach may not be effective in ensuring that private insurance is available in all parts of Canada and in all sub-markets. There are two sources of evidence supporting this conclusion. First, in spite of its success, the private sector has never shown any interest in the United States in offering mortgage insurance in all sub-markets. For example, to this day, private insurance in the United States has shown little interest in insuring rental housing projects. In Canada, the situation has been different in that MICC has insured rental housing. However, during the recent consultation process, MICC has shown no interest in insuring rental housing in the future. Similarly, MICC has shown no interest in offering more protection than is currently offered under Option B. In fact, it has been MICC's contention not only that Option A offers too much protection to the lenders and should be replaced by Option B insurance, but MICC has also suggested dilluting further Option B insurance by covering only 20 percent of gross claims as opposed to 25 percent as is now provided.

As indicated above, allowing private insurance to offer more than 25 percent Option B coverage would necessitate that private insurers maintain more reserves on those policies that provide more coverage. Obviously, this would not create a problem if private insurance could easily raise new capital. While this may not be a problem in the long run, the situation is likely to be different in the short and medium term as private insurance will have to demonstrate sustained profitability before it can have easy access to new capital.

Another problem which is likely to exist in the short and medium term relates to the fact that even if private insurers could and did offer more than 25 percent coverage in high risk markets, the success of this measure would hinge on the lenders confidence in private insurance for high risk loans. Given the recent difficult experience faced by mortgage insurers in Canada, it is likely that private insurance will have to build a solid track record in the future before the lenders accept to make privately-insured high ratio loans in high risk markets.

In summary, removing the regulation which restricts the amount of coverage of private insurance would likely be an effective solution in the long term to permit private insurers to offer to the lenders the degree of protection demanded in high risk markets and for high risk loans. However, because of the need for private insurance to build a sound track record and thereby to restore first the confidence of lenders and investors, this measure would likely have limited effectiveness in the short and medium term. For this

reason, there is a need now for other measures to support/complement private sector initiatives. The two alternatives examined next could be considered in this context.

6.5.2 Direct Lending

Under this approach, CMHC would provide direct loans in those areas left unserved by the private sector. In doing so, CMHC would attempt to make those loans at an interest rate commensurate with the risk involved. The interest rate charged on direct CMHC loans would be higher than the interest rate charged by private lenders. There are two reasons for this. First, this would result from the fact that CMHC would be focusing its activities in high risk areas and thereby the additional risk taken by CMHC would have to be reflected in the interest rate charged to borrowers. Since under this program, the loans would not be insured against the risk of default, the interest rate on those loans would have to incorporate a default risk premium and this is another reason why the interest rate charged by CMHC would be higher than the rate charged by private lenders in low risk areas.

Direct lending has been suggested by many housing commentators who, in recent years, examined the role of government in mortgage insurance. As a program, the provision of direct loans would not represent a problem for the government since CMHC has both the legislative authority and the experience as a direct supplier of mortgage funds to deliver a direct lending program successfully.

There are, however, a multitude of disadvantages with this approach. The main problems are:

- a direct lending program would not appropriately address the fundamental problem which in the absence of public mortgage insurance, would not result from a shortage of private funds, but rather by the presence of more macro risks in some sub-markets and the fact that the lenders may want more risk protection in those markets;
- under this approach, all default risks would be borne by the government and as a result, the risk exposure to the government would be substantially higher than under the "stacked insurance" approach (discussed next) which encourages private sector - private lenders and insurers - to assume some of the risks on all loans;
- depending on the lenders' perception of default risk which of course are not static over time, the volume of direct lending and thereby the demand for public funds could be quite substantial. For example, if all new rental loans and all

loans in resource towns had to be made in the public funds, the amount of public funds needed would be roughly $1 billion annually;
- under a direct lending program, if borrowers perceived that the interest rate were subsidized, the government would be pressured to extend the program to other sub-markets. The end result would be that of crowding out private risk-taking;
- among the alternatives examined in this section, a direct lending program would be the most costly to administer. This stems from the fact that instead of dealing with the lenders directly, CMHC would have to deal with individual borrowers. This implies a need for a multitude of branch offices and correspondingly, a large field staff.

In summary, a direct lending program would not be an appropriate solution either in the short run or in the long run. In the short run, because the lenders may not want to lend in high risk markets with Option B coverage, massive amounts of public funds might be needed to fill lending gaps. The provision of public funds to address this problem would have the effect of substituting public funds for private funds and bringing the mortgage market back to the conditions that existed prior to 1954. In fact, under those conditions, a joint loan program, as existed between 1935 and 1954, would be a better solution than a direct lending program.

In the medium and long term, if private insurance built a strong capacity to accept risk, a direct lending program would be inefficient in that CMHC would need to maintain an elaborate network of branch offices to serve a small number of borrowers.

6.5.3 Optional "Stacked Insurance" or Targetted Reinsurance

In light of the fact that direct lending crowds out private risk taking, one option open to the government would consist of introducing a new insurance product that would supplement the risk protection offered by private insurance. This could be done if the government offered insurance protection that could be "stacked" on top of the risk protection offered by private insurance. Currently, under an Option B policy, the lender bears the risk that losses resulting from a loan in default will exceed 25 percent of gross claim (20 percent in the case of rental projects) which is the maximum amount that a private insurer must pay. Under a stacked insurance program, a lender would be able to obtain from CMHC, protection against the risk of losses exceeding the coverage provided by a private insurer. The principal features of such a program would be as follows:

- the insurance protection would be optional;
- like in the case of NHA insurance now, the premium would be collected up-front from the borrower (or from the insurer if the program took the form of reinsurance);

- all privately insured mortgages would be eligible for stacked insurance as long as coverage provided under Option B represented, as a minimum, 25 percent of gross claims in the case of homeownership loans and 20 percent for rental loans;
- in the event that losses on a claim exceeded payment from private insurance, the government would pay a proportion (say 75 percent) of such excess losses to the lender. (As an alternative, the government could offer 100 percent protection which would make the combination of Option B private insurance and government stacked insurance equivalent to Option A insurance as currently offered under the NHA);
- if the lender were to bear some of the risks on default, moral hazard problems resulting from careless underwriting by a lender would be minimized. The problem of poor underwriting would also be reduced given that eligible loans would also have to be insured by private insurance. This implies that the degree of risk assessment undertaken by CMHC would be minimal, consisting mainly of spot checks. (On the other hand, if the government were to provide 100 percent risk protection, CMHC would have to devote more efforts to risk assessment);
- premiums under the program would be calculated to relfect the degree of residual risk borne by the government, taking into account, of course, the degree of risk coverage provided by private insurance. For example, a higher premium would be charged on a rental loan on which private insurance covers 20 percent of gross claims as opposed to a homeownership loan on which 25 percent coverage is provided by private insurance;
- the insurance product would be marketed by private insurers, thereby allowing CMHC to vacate the field as a primary insurer.

The major advantages of a stacked insurance program would be as follows:

- the demand for such insurance would be market determined in that market forces would dictate how much coverage is provided by private insurance and competition among the lenders would determine in what sub-markets stacked insurance is needed;
- by offering a product that complements rather than competes with private insurance, the government would have a major impact in changing investors' confidence in mortgage insurance and in attracting new firms to enter the market;
- to the extent that the government is successful in attracting the private sector to serve all sub-markets, the risk exposure and thereby the potential cost to taxpayers would be reduced compared with a program such as direct lending under which the government would bear all default risk in those markets that it serves;
- given that a lender would have to obtain private insurance to qualify for stacked insurance, the need for elaborate risk

assessment by CMHC would be reduced. This means that the program could be administered like a reinsurance program whereby eligible loans would be specified in a master agreement between CMHC and the lenders. This implies that the operation could be highly centralized, necessitating fewer staff than would be required to administer a direct lending program.

The main disadvantages of stacked insurance would be as follows:

- given that the demand would be primarily for loans in high risk markets, a large degree of adverse selection would be implicit in such a program. In turn, this implies that the combined premium for Option B insurance and stacked insurance in those areas would be substantially higher than the premium presently charged by CMHC. The implication is that access to homeownership and rental investment would be adversely affected in high risk market;
- because eligible loans for stacked insurance would have to be insured privately, some duplication in risk assessment would be inherent under this program in that CMHC would at least have to do some spot checks to ensure that the government does not take undue risks;
- from the point of view of the lenders, stacked insurance would be more cumbersome than the present system since they would have to deal with two insurers instead of one in the event of a claim.
- since "stacked insurance" would not improve the overall viability of private mortgage insurance, the degree of success of this alternative in attracting new firms might be limited.

In summary, the main advantage of stacked insurance lies in its reliance on market forces to determine where government intervention should be targetted to ensure that all borrowers have access to high ratio mortgage loans. In addition, by selling a product that complements rather than competes with private insurance, the problem of public/private competition supplanting private insurance, would be eliminated. This should have positive impacts in restoring investors' confidence in private insurance and thereby encouraging the entry of new firms in the mortgage insurance market. An important concern, however, is whether there would be a sufficient number of firms to ensure competitive results in the long-term.

6.5.4 Housing Implications of Economic Efficiency Role

If the government decided that the only role that it wanted to play in mortgage insurance was that of ensuring that the market operates efficiently, then the best policy prescription would be staged privatization coupled with optional stacked insurance or targetted reinsurance in the short/medium term. This

combination of instruments would ensure that all borrowers who are prepared to pay a price that reflects the risk involved, can obtain the service.

Government endorsement of this new role in mortgage insurance however, would have major implications for the housing sector. These would be as follows:

- if premiums were set to reflect the risk involved, borrowers in high risk markets would pay considerably more then they pay now. This would be particularly true in resource towns - e.g. Sept-Iles (Quebec) and Thompson (Manitoba) - where people would have to pay a premium of roughly 10 per cent for Option A insurance (or to cover the combined price of Option B and "stacked insurance"). It is estimated that loans initiated in those markets represent three to five per cent of all loans. In those markets, the net impact would be to make access to homeownership more difficult and to make rental investment even less attractive than it is now. The winners from this approach would be borrowers living in low risk markets (e.g. Toronto) who would have to pay only for Option B coverage rather than for Option A as is currently the case under NHA Insurance;
- similarly, if mortgage insurance origination fees were to reflect the true cost of doing business, people living in communities far remote from major urban centres - e.g. Labrador, Northern Manitoba, Yukon and North-West Territories - would have to pay substantially higher origination fees than they pay now to obtain mortgage insurance. Currently, under NHA insurance, origination fees do not reflect the true cost of doing business in that borrowers in large urban centres subsidize people living in remote areas. It is estimated that five percent of mortgage insurance policies are originated in northern communities located far from major urban centres and that the cost of originating loans in those areas amounts to roughly $1 000 per loan. This is substantially more than the amount of $250 - $350 for homeownership loans charged under NHA insurance;
- a shift away from the way in which NHA insurance has been operated in the past towards a pure economic efficiency role would also affect rental investment in two ways. First, the decision to insure would strictly be based on profit maximization rather than on social preoccupation regarding the availability and affordability of rental accommodation. This implies that in choosing between the risk of doing too much underwriting with loose markets and defaults being the consequence, and adopting restrictive underwriting with tight markets and rent pressures being the end result, insurers would always choose the latter approach even if that meant the risk of severe housing shortgages. The second way in which

rental housing would be affected, would be through an immediate increase in premiums and/or through the adoption of more stringent underwriting rules. If the attainment of pure economic efficiency results were the sole government objective, these measures would be needed to restore the viability of rental underwriting. Viewed from a short/medium term perspective - i.e. based on the recent default experience - it is estimated that rental insurance premiums would need to be roughly doubled to restore short-term viability. However, while raising premiums may help restore viability and may result in the entry of new firms in mortgage insurance, one should note that the consequence of these actions would be a reduction in private investment in rental housing as mortgage insurance would become less supportive of rental housing;

- finally, a shift towards a pure efficiency role would mean substantially higher premiums for borrowers in Alberta for two reasons. First, there is the fact that the Alberta economy is extremely volatile and given the present state of uncertainty regarding the oil situation, it is highly likely that the recent high default and experience in that province could continue into the future. Second, the fact that a lender or a private insurer cannot exercise personal convenant against a borrower in the event of foreclosure increases the risk of mortgage lending in Alberta. Based on the recent default experience illustrated in the table below, it is likely that premiums in Alberta would be two to three times higher than in other provinces.

Weighted Average Ultimate Foreclosure Rates (1978-1985)

	New Homeownership	Existing Homeownership
Canada	6.15%	5.72%
Canada, excluding Alberta	4.96%	4.40%
Alberta	13.20%	13.50%

In summary, charging premiums that reflect risk and origination fees that reflect the true cost of doing business would be a major departure from the way in which public mortgage insurance has been operated during the past 30 years. The net winners from this approach would be borrowers living in large urban centres like Toronto and Montreal. Benefits to these people would take the form of lower premiums and application fees. The net losers from this approach would be people living in high risk markets including Alberta, those living in areas far remote from major urban centres and renters in general in that the introduction of higher premiums and more stringent underwriting rules would reduce access to home ownership and it would lead to an immediate reduction in rental production and eventually, pressure on rents.

PART II

ALTERNATIVES TO ENSURE EQUAL ACCESS TO HIGH RATIO MORTGAGES

6.6 BACKGROUND, TRADE-OFFS AND ISSUES

As indicated in Chapter 3 on the role of government, public mortgage insurance has been used during the past 30 years as a means to provide equal access to high ratio mortgages to borrowers in all parts of Canada. It was only recently (in 1982) that CMHC started to distinguish between individual borrowers on the basis of differences in micro risk characteristics and to charge higher premiums to those representing a higher risk of default. This is now done by charging higher insurance premiums to people having a more modest downpayment and by imposing premium surcharges to people purchasing a condominium and to those obtaining a graduated payment mortgage, because of the risks involved.

However, while the program underwent significant changes in recent years mainly to restore self sufficiency, public mortgage insurance today still provides borrowers with equal access to high ratio mortgages across geographical areas in that people in higher risk one-industry towns such as Windsor and Sudbury, pay the same insurance fees as people in Toronto and similarly, those who need a high ratio mortgage in a rural area or in a remote northern community pay the same origination fee as those living in major urban centres.

Given the way in which public mortgage insurance has been operated during the past 30 years, charging differential premiums and application fees across geographical location would be a major departure in government policy. On the basis of the results of the consultation process, one can expect that this would create substantial provincial discontent. This is evidenced by the fact that the Officials' Report of the Federal/Provincial Market Housing Sub-committee endorsed "the continuation of the federal role in the mortgage insurance field, to ensure that people in all parts of the country have access to mortgage financing under similar terms and conditions". One should note that this mandate for the program was also endorsed by the Nielsen Task Force in its review of housing programs.

6.6.1 Implications of Pursuing The Objective of Equal Access

There are a number of major implications that such a public policy role implies in terms of alternative instruments of intervention open to the government. The first implication is that cross-subsidization between low risk and high risk markets becomes a crucial element to achieve the equal access objective

and simultaneously meet the constraint of zero cost to taxpayers. What this also means is that by providing implicit subsidies in high risk markets, private insurance will be ruled out of these markets.

A second implication is that the pursuit of equal access as an objective largely rules out competition in the mortgage insurance market in that competitive results - i.e., prices reflecting risk - would be inconsistent with the attainment of equal prices across markets. This means of course that competitive models such as the Australian model described in Part I of this chapter, or the model proposed by MICC[1] to ensure fair competition, must be ruled out.

A third implication is that the universal introduction of Option B insurance must be ruled out if the government decided to continue to pursue equal access as a public policy objective. This stems from the fact that with Option B, the lenders bear a significant portion of the risk and to the extent that the lenders would be pricing the risk that they bear, interest rates and down payment requirements would vary across markets. This would obviously defeat the objective of equal access pursued by the government.

A final implication is that unless the government forced the private sector to sell only Option A coverage and regulated the price of private insurance, the objective of equal access could never be fully attained in that if the market worked properly, people in low markets paying for Option B coverage from private insurance would be paying less than borrowers living in high risk markets and paying for Option A coverage. To some extent, this is the case now in that MICC charges lower application fees and insurance premiums than NHA insurance to borrowers buying a new home from selected large builders in some large urban centres.

6.7 ALTERNATIVES THAT RULE OUT EFFECTIVE COMPETITION

Given the four implications noted above, it is clear that the only models that would allow the government to fully meet the equal access objective at zero cost to taxpayers will be (i) those that rule out effective competition in the mortgage insurance market and (ii) those that offer Option A coverage so that the lenders do not bear and correspondingly price any of the risks involved. There are three basic models that would do this. These are as follows:

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1 One of the proposals made by MICC during the Housing Consultation process was that Option B insurance replace Option A and that term insurance replace coverage that equals the full life of the mortgage.

(i) a totally public model;
(ii) a tightly regulated private monopoly;
(iii) a tightly regulated oligopolistic model.

6.7.1 A Totally Public Mortgage Insurance Model

This was the model that existed in Canada from 1954 until 1970, prior to the entry of private insurance. Under this model, CMHC was charging a flat two per cent premium for Option A insurance, regardless of whether a borrower lived in Toronto, in a rural community or in a one-industry town. Similarly, application fees were a flat $35.00 and again, the same fee was charged regardless of whether inspectors and appraisers had to go to Frobisher Bay or to Montreal.

The main advantages of this approach are as follows:

- maximum efficiency can be obtained from cross-subsidization in that cream-skimming of borrowers living in low-risk markets could not be done by private insurance. This means that the objective of equal access (same price, same underwriting rules... in all markets) could be fully achieved at zero cost to taxpayers;

- the government has total control on premiums, application fees and underwriting criteria;
- with Option A insurance whereby all risks are borne by the government, the lenders charge the same interest rate and impose the same borrowing terms and conditions in all geographical areas;

- having 100 per cent of the mortgage insurance market, the government has maximum leverage and can use mortgage insurance to achieve a variety of other public policy objectives:

  . housing quality;
  . economic stabilization;
  . innovative mortgage instruments;
  . mortgage backed securities;
  . delivery of social programs.

However, there are also disadvantages to this approach. These are:

- this approach precludes the private sector and as such, the government bears all default risks. Currently, MICC's total amount of insurance in force stands at roughly 17 billion dollars. Correspondingly, given that private capital is at risk, the implication is that tax payers at large are less exposed to risks and losses through the operation of public mortgage insurance;

- because public agencies are not guided by the profit motive, they lack incentives to attain maximum efficiency in production. As a result, a totally public mortgage insurance model may not be fully advantageous to consumers;

- while cross-subsidization would work best under a totally public model, this would still not guarantee self-sufficiency in that there is always the possibility that severe losses caused by macro risk factors could not be recouped by charging higher premiums to future generations;

- this approach would be denying borrowers in low risk markets the possibility of obtaining a better deal from private insurance;

- "turning back the clock" to the days prior to private insurance becoming legal, would not be politically acceptable.

In summary, the totally public mortgage insurance model was ruled out in 1970 and while this model presents distinct advantages in terms of enabling the government to meet the equal access objectives at zero cost to taxpayers, it is a model that is no longer politically acceptable.

6.7.2 A tightly Regulated Private Monopoly

As an alternative to a totally public model, the government could withdraw from mortgage insurance and create a model similar to the "Bell Canada Model" by giving monopoly powers to MICC. By tightly regulating the behaviour of MICC, the government could ensure that cross-subsidization is used to achieve the objective of equal access. Transposed to the case of telephone, this would be similar to the government forcing Bell Canada to use cross-subsidization between local service and long distance service.

In the case of mortgage insurance, equal access could be achieved by a private monopoly without public reinsurance.

The main advantages of this approach would be as follows:

- as under the totally public model, this approach would make maximum use of cross-subsidization with the implication that the objective of equal access could be met at zero cost to taxpayers;

- to the extent that the lenders perceived that the risks of the private monopolist facing financial failure were nil, universal Option A insurance would yield the same interest rate/borrowing term configuration as under a totally public model;

- because of the profit motive, a private monopoly model may yield some efficiency gains in production compared with a totally public model.

However, this approach would have significant disadvantages. These would be:

- the main difficulty with this approach would be in determining the price that the monopolist should charge for mortgage insurance. In this regard, the difficulty stems from the fact that because of the presence of macro risks and because of changing perceptions about the risks involved, no one can predict accurately what price will provide a fair rate of profit to the insurer;

- in the event of financial failure of the monopolist insurer, the government would be exposed to pressures to honour the contingent liability;

- the creation of a private monopoly by the government would likely be a precedent in Canada;

- this solution would not make much sense in that from a practical standpoint, Canada is now much closer to a government monopoly situation in mortgage insurance than to a private monopoly situation;

- finally, unlike Bell Canada which is a "natural monopoly" due to economies of scale, the market for mortgage insurance does not have the inherent features that would lead to a natural monopoly configuration.

In summary, under a tightly regulated private monopoly model, MICC would simply replace CMHC as the agent of the Government of Canada in mortgage insurance. This model would not provide any advantage compared with a totally public model. On the negative side, a private monopoly model would be cumbersome for the government in that given the difficulty of pricing mortgage insurance, price regulation would be an unsatisfactory process for both the government and the private monopolist.

6.7.3 A Tightly Regulated Oligopolistic Model

Another alternative that would enable the government to fully meet the equal access objective at zero cost to taxpayers would be to put in place an adaptation of the CN/CP model in which each firm in the industry must serve unprofitable lines of business - passenger rail service in the case of CN/CP - through cross-subsidization. Applied in the context of mortgage insurance, this could take the form of quotas whereby an insurer would be allowed to insure loans in low risk markets for each

loan insured in high risk markets. By tightly regulating price and quotas of high/low risk markets and urban/remote areas, the government would force insurers to rely on cross-subsidization to achieve profitability and by the same token, this would ensure that the objective of equal access is met at zero cost to taxpayers.

The main advantages of this approach would be as follows:

- as in the case of the previous two models, this model would enable the government to meet fully the objective of equal access at zero cost to taxpayers through (i) the use of universal Option A insurance and (ii) through effective cross-subsidization;

- continuation of public mortgage insurance means that the government could continue using NHA insurance to meet other public policy objectives such as:

  . housing quality;
  . economic stabilization;
  . innovative mortgage instruments;
  . mortgage backed securities;
  . delivery of social programs.

However, this model would have significant disadvantages which would by far outweigh its advantages. These would be:

- the difficulty of defining which markets are high versus low risk given the fact that such definition depends more on the perception of lenders and insurers at any point in time than on data related to past experience. Under this type of model, it is likely that CMHC would end up serving all market areas which are not judged risky by the regulator but that are judged to be overly risky by MICC;

- the difficulty of determining what is a remote area especially if the two insurers have different number of branch offices, with many branch offices being in different locations. In such circumstances, the definition of the term "remote area" would obviously include a much wider territory for the insurer with the fewest number of branch offices;

- another difficulty for the regulator would be that of determining the price that the incumbent firms should charge for mortgage insurance. This problem stems from the presence of macro risks which makes mortgage insurance impossible to price accurately.

In summary, this model would be extremely cumbersome to administer. Given that tight regulation of the incumbent firms

would effectively rule out competition and thereby prevent any possible efficiency gains resulting from competition, this model would present no advantage over the totally public or private monopoly models presented above.

6.7.4 Assessment of Three Alternatives Presented in This Section

As indicated, all three models presented in this section would make maximum use of cross subsidization and as such, they would enable the government to fully meet the objective of equal access to high ratio loans - same price across markets - at zero cost to taxpayers. However, the full attainment of the equall access objective at zero cost would be done by sacrificing totally any of the benefits accruing from competition since all three models would involve either a monopoly or a regulatory framework that would effectively rule out competition.

All three models presented above must be rejected either because they already have been ruled out by the government - e.g., the totally public model was ruled out with the introduction of private insurance in 1970 - or because they are impractical and cumbersome. A summary assessment of the three models is presented in Table 6.2.

6.8 ALTERNATIVES WHICH SACRIFICE THE FULL ATTAINMENT OF THE OBJECTIVE OF EQUAL ACCESS

Given that because of the irreconciliable conflict between the objectives of equal access, competition and self sufficiency, there are no alternatives that would permit the full attainment of all three objectives/ constraints simultaneously, alternatives that would allow their simultaneous partial attainment must be examined. This section discusses three alternatives that would involve different degrees of attainment of each of the three objectives. These alternatives are as follows:

- compulsory "stacked insurance" or reinsurance model;
- Status Quo; and
- the optional limited liability model.

6.8.1 Compulsory "Stacked Insurance"

As under the three models presented in the previous section, Option A coverage would be the only product offered under this first model. However, instead of Option A coverage being offered directly by the private sector, private insurance would continue to offer Option B and similar to the stacked insurance model presented in Part I of this chapter, the government would provide insurance protection covering excess losses above Option B. The main differences between this model and the stacked

TABLE 6.2
ASSESSMENT OF ALTERNATIVES

CRITERIA	ALTERNATIVES		
	Totally Public Model	Private Monopoly	Regulated Oligopoly
Equal Access to High Ratio Mortgages	Government has total control on pricing.	Monitoring needed to ensure that high risk groups are served.	Need monitoring. Very cumbersome to administer.
Self Sufficiency/ Cost to the Government	Optimal cross-subsidization enables achievement of self sufficiency.	Government at the mercy of private monopolist if losses are incurred.	Government exposed to pressures to guarantee profitability.
Competition/ Private Sector Presence	Private sector ruled out.	MICC becomes the agent for the Government of Canada.	Effective competition ruled out.
Overall Assessment	Best of three approaches. But, was ruled out in 1970.	Government creating a private monopoly would be a precedent.	Impractical; very cumbersome to administer.

insurance model described early in this Chapter would be that under this model, stacked insurance would be compulsory rather than being optional and CMHC would remain as a supplier of mortgage insurance in competition with private insurance.

The main features of this model would be as follows:

- both CMHC and private insurance would effectively offer Option A insurance to the lenders;

- while private insurer(s) would sell Option A coverage, their risk exposure would be limited to Option B coverage as is the case now. The additional risk above Option B coverage would be borne by the government. In return for taking this risk, the government would be collecting a premium from the private insurer. Conceptually, this would be similar to a reinsurance program;

- given that historical data indicate that Option B covers about 50 per cent of losses, the premium for stacked insurance could be set at roughly 50 per cent[1] of the premium charged by MICC;

- all privately insured mortgages would have to be insured for the excess risk above Option B coverage.

Making stacked insurance compulsory would have several major advantages:

- this would allow the government to take maximum advantage of cross-subsidization in regard to the portion of the risk in excess of Option B coverage. Correspondingly, with effective cross- subsidization between low and high risk markets, this would permit the government to charge a small flat premium - estimated at roughly one per cent of the mortgage balance - irrespective of where people live, thus largely ensuring equal access to high ratio mortgages;

- universal Option A insurance would ensure that the lenders continue to charge the same interest rate and impose the same borrowing terms and conditions in all geographical areas;

- continuation of public mortgage insurance would ensure that CMHC remains the price leader. This means that by offering mortgage insurance at a set price, the government would ensure that people in all parts of the country have access to mortgage insurance at a price that would not exceed the price set by the government;

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1 Actually, this figure varies by line of business and may also vary by loan-to-value ratio. Such variations suggest that pricing would have to be relatively complex.

- by continuing to compete with private insurance for the profitable low risk sub-markets, cross- subsidization could be used by the government as a means to meet the equal access objective at the least possible cost to tax payers or at zero cost if CMHC could maintain a sufficiently large share of the profitable low risk sub-markets.

While this model would have distinct advantages, it would also have significant disadvantages. These would be:

- compulsory stacked insurance would mean more government intervention in the mortgage insurance market than we have now. Currently, MICC insures roughly 15 per cent of high ratio mortgages without government involvement. Under this model, the government would be involved in the insurance of all loans;

- to the extent that the government would be accountable for part of the risk on insurance underwriting by MICC, this model would be conceptually the same as if the government were operating two crown corporations;

- in contrast with the three models examined in the previous section, the equal access objective could not be fully attained under this model in that unless prices were regulated - nothing would prevent a private insurer from charging lower insurance premiums in low risk markets and lower application fees in large metropolitan areas;

- under this model the government would face adverse selection problems in that CMHC would be left serving all borrowers in unprofitable remote areas and high risk resource towns. This implies that from a long term perspective, unless CMHC maintained a significant share of the low risk loan market, the program could not be operated on a strict zero cost basis - although cross- subsidization from profitable sub-markets could keep this cost relatively low;

- because the government would be responsible for part of the risk on each policy sold by a private insurer, the total risk exposure of the government would be increased markedly. Presently, MICC's total insurance in force amounts to roughly $17 billion. Under compulsory stacked insurance, it is estimated that if the program had been in place during the past 15 years, the lenders would have claimed against the government in more than 80 per cent of foreclosure cases and that overall, the government would have paid roughly 50 per cent of the amount of gross claims faced by private insurers. This means that roughly one half of the insurance in force of MICC would effectively be borne by the government.

Correspondingly, this also means that an amount of roughly $8.5 billion would be added to the current insurance in force of $40 billion under the program.

- under this model, problems of unfair competition would exist due to the fact that only NHA insurance would remain fully backed by the Government of Canada and due to the fact that as in the past, social/political constraints would continue to occasionally force CMHC to adopt a behaviour that is destructive of competition.

In summary, the introduction of compulsory stacked insurance would represent a move in the direction of strengthening the present system in that by having only Option A insurance available for all borrowers, access to high ratio loans would be equal since all borrowers, whether they live in high risk or low risk markets, would have to pay for Option B and for stacked insurance. However, compulsory stacked insurance would have significant disadvantages stemming largely from the fact that (i) this model would involve more government intervention than we have now in the mortgage insurance market and (ii) the long-term potential cost to the government would be larger than under the present model.

6.8.2 Status Quo

In contrast with the four previous models which were all based on the universal use of Option A coverage, the Status Quo involves CMHC offering Option A insurance while private insurance is restricted by the Department of Insurance to providing Option B coverage for high ratio loans. Given the objective of equal access on the one hand and the constraint of self-sufficiency on the other, CMHC under this model must both compete with and complement private insurance. The reason why CMHC must compete stems from the need to obtain a sufficient share of the profitable low risk loan sub-market to cross-subsidize loans in high risk markets and achieve over-all long-term self sufficiency.

Continuation of public mortgage insurance in its present form would have the following advantages:

- being the price leader and thereby setting the maximum price for mortgage insurance, the government ensures that borrowers in all parts of Canada, including those living in high risk markets and in remote areas, have access to high ratio loans at a price judged to be reasonable by the government;

- to the extent that CMHC is successful in competing with the private sector for a share of loans in low risk markets, the program can be operated at little cost to taxpayers;

- to the extent that CMHC sets the price of Option A insurance sufficiently high, effective competition could exist in low risk markets. The beneficiaries of efficiency gains through competition would be low risk borrowers in the markets served by private insurance;

- continuation of the present model means that the government can use NHA insurance to pursue other public policy objectives - although its effectiveness in pursuing some of these objectives becomes limited by the size of its share of the market (e.g., influencing the quality of housing).

On the other hand, the main disadvantages of the Status Quo are as follows:

- the difficulty in determining the price that CMHC should charge for mortgage insurance. If the price were set too low, the private sector would be driven out of the market. On the other hand, if the price were set to high, the objective of equal access could be partly defeated in that it is conceivable that competition between private insurers could lead to lower prices in the lowest risk markets (say Toronto) and higher prices - although below the ceiling established by CMHC - in higher risk markets (say Sudbury);

- the difficulty for the government in choosing between taking a substantial share of the market to achieve effective coss-subsidization and zero cost on the one hand and allowing the private sector to play more than a token role on the other;

- the fact that because of the Government of Canada guarantee and because of political and social constraints imposed on CMHC, NHA insurance cannot provide fair competition to private insurance with the implication that particularly during periods of economic difficulties, private insurance will always have problems competing with public mortgage insurance.

In summary, the status Quo allows the government to meet to a large extent the social objective of equal access to high ratio loans. However, because flat premiums across low and high risk markets will entice private insurance to perform cream-skimming, CMHC ends up serving all high risk markets, non-profitable remote areas and new rental housing across Canada. Based on the experience during the past 30 years, the cost of operating the program in regard to regular[1] homeownership and rental loans has amounted to $300 million on an actuarial basis. Since all of the cost has been incurred on loans insured after 1970, the cost of the program during the past 15 years has amounted to roughly $20 million per year.

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1 Excluding AHOP and ARP Loans.

6.8.3 Optional Limited Liability Model

As a means to enable CMHC to offer mortgage insurance at zero cost to taxpayers, CMHC would offer both Option A and Option B insurance. The rationale for this approach would be that of improving CMHC's ability to compete with private insurance in low risk markets so that cross- subsidization could be used more effectively. Another feature of this model would be that given that it is the price leader in the market for mortgage insurance, CMHC could largely dictate the price for both Option A and Option B coverage. Since the market would largely target Option A coverage towards the high risk markets and Option B coverage towards the low risk markets, and equipped with information on the respective total risk exposure in each market, CMHC could price Option A and Option B coverage so as to break-even in delivering the program. Given the fact that historical NHA data show that Option B coverage reduces losses to the insurer by about half, the premium charged for Option B would likely be about half of the premium charged for Option A (i.e., 1.25% versus 2.5%).

The demand for Option B coverage would vary with the general economic environment. In the late 1960's and early 1970's, the demand for Option B would have been high. Similarly, all loans in Alberta during the 1970's would likely have been insured under Option B. Currently, it is estimated that the market would be split almost half and half between Option A and Option B coverage. In terms of sub-markets, historical data and the views expressed during the Housing Consultation process suggest that the following profile could exist now:

Sub-market	Insurance Coverage	Per cent of Insurance Market
Homeownership Loans in Resource Towns	Option A	5%
Homeownership Loans in Alberta	Option A	10%
Homeownership Loans in Remote Areas	Option A	5%
Homeownership Loans in Rest of Canada	Option B	55%
Private New Rental	Option A	10%
Private Existing Rentals	Option A	15%

The main advantage of this approach would be that of ensuring that in as much as possible, the program entails no cost to taxpayers. This would result from two factors. First, offering Option B would allow CMHC to obtain a high share of the profitable low-risk sub-market and thereby improve the efficiency of cross-subsidization. Second, the risk exposure of the government would be reduced substantially. This is due to the fact that under Option B coverage, losses absorbed by the insurer are reduced by about half compared with Option A. Assuming that Option B represented 50 per cent of the market, the total risk exposure to the government would thus be reduced by about 25 per cent.

However, this approach would have significant disadvantages. Some of these would be:

- the objective of equal access would largely be defeated in that people living in high risk markets would pay more for Option A coverage than people living in low risk markets paying for Option B insurance;

- the difficulty for private insurance to compete with CMHC would be increased if CMHC were to market two products as opposed to private insurance offering only Option B coverage.

In summary, under this approach, the objective of equal access to high ratio loans would be largely sacrificed in favour of meeting the constraint of self sufficiency.

6.8.4 Assessment of Alternatives

There are three major criteria that one can use to assess the efficiency and effectiveness of the three alternatives outlined in this section. These criteria relate to the major objectives/constraints of the program. These are as follows:

(i) the extent to which the objective of equal access to high ratio loans would be attained;

(ii) the cost of the program to the government;

(iii) the extent to which "fair" competition would exist between public and private insurance.

Table 6.3 summarizes the main strengths and weaknesses of the three alternatives examined in this section. The main conclusions that flow from this table are as follows:

. In terms of attainment of the objective of equal access, compulsory stacked insurance would be the best model in that while it is conceivable that competition between private insurers could lead to lower prices in low risk markets, the

TABLE 6.3
ASSESSMENT OF ALTERNATIVES

CRITERIA	ALTERNATIVES		
	Compulsory Stacked Insurance	Status Quo	Optional Limited Liability
Equal Access to High Ratio Mortgages	Nearly full attainment of objective. All borrowers pay same price for stacked insurance.	Generally, most borrowers pay same price. Some borrowers in low risk markets may pay less for private insurance.	Least satisfactory among three alternatives. Those paying for Option B pay less than those paying for Option A.
Self Sufficiency/ Cost to the Government	Potentially higher cost than under Status Quo due to higher risk exposure (increased by roughly 20 per cent).	Cost over the past 30 years has amounted to $300 million for regular homeownership and rental loans.	Least cost solution due to lesser risk exposure (reduced by roughly 25 per cent compared with Status Quo).
Competition/ Private Sector Presence	Allowing MICC to sell same product (Option A) as CMHC increases scope of private insurance.	Limitation to Option B coverage makes it difficult for private insurance to develop.	Of three alternatives, this one leaves least scope for private sector presence.
Overall Assessment	Most costly approach; also effectively means more government intervention than now. Must be rejected largely for these reasons.	Objective of equal access largely met but potentially more costly than Optional Limited Liability approach.	Sacrifices equal access objective and private sector presence for attainment of program self sufficiency.

scope for variations in the price of mortgage insurance across markets would be much reduced given that all borrowers would have to pay for Option A coverage. By contrast, the optional limited liability model would lead to the largest variations in prices across markets in that people in high risk markets would pay for Option A coverage while those living in low risk markets would pay less for Option B. This would largely defeat the objective of equal access to high ratio loans.

- In regard to the cost to the government, the optional limited liability model would be the most effective way of enabling CMHC to provide mortgage insurance on a self-sufficient basis. However, this would be done largely by sacrificing the attainment of the equal access objective. By contrast, complusory stacked insurance would be the most costly model given the larger risk exposure that it entails for the government.

- Turning to the question of public/private competition, none of the three models would provide fair competition to private insurance and thereby, promote private risk taking in mortgage insurance. However, among the three models, the optional limited liability model would be the one that would make it most difficult for private insurance to survive.

In conclusion, among the alternatives examined in this section, compulsory stacked insurance would be the best approach in terms of meeting most effectively the objective of equal access to high ratio loans. However, this approach would involve more government involvement in the mortgage insurance market than is now the case under the Status Quo model and it would be the most costly of the three approaches. It would also necessitate a legislative change in the provision that requires high ratio mortgages to be insured so that the whole loan would have to be insured rather than only the excess above 75 per cent as is presently the case. This is not likely to be acceptable to the present government. If this were the case, the Status Quo represents the second best solution in that it is more effective than the optional limited liability model in meeting the objective of equal access to high ratio mortgages.

6.9 PROGRAM DESIGN AND TARGETTING

Irrespective of which of the three alternatives discussed in the previous section is selected by the government, there are a number of other major issues that need to be addressed in determining what role the government should play in the mortgage insurance market in the years to come. These issues are as follows:

(i) Whether NHA insurance should be targetted or whether it should continue to be offered on a universal basis;

(ii) whether subsidized mortgage insurance is needed as a means to support the production of rental housing; and

(iii) if the government continued to supply mortgage insurance, whether there are some design changes that could be made to improve the efficiency and effectiveness of the program.

6.9.1 Program Targetting: Homeownership Market

In Chapter 3 on program rationale, the point was made that the ultimate objective of NHA Insurance is to ease access to homeownership. Given this objective, an important question in regard to the long-term role of the government in mortgage insurance regards whether NHA insurance should continue to be available on a universal basis to all homeowners or whether the program should be targetted to first-time home buyers. The implication of targetting the program to first time buyers is that the social role of the government would be limited to that of assisting renters to become homeowners and once they have, the government would solely rely on private insurance to support the filtering process.

In essence, program targetting has been done in the past under NHA insurance in that from 1954 until 1980, loan limits were imposed under the program. Effectively, what these loan limits were doing was to target benefits under the program primarily to those buying a first home with a small downpayment.

Targetting NHA insurance to first-time home buyers would have several advantages, the main ones being:

- a reduction in the risk exposure of the government. In 1984, approximately 2 billion dollar of mortgages taken by repeat buyers were insured under the NHA. This represented more than 25 per cent of all the loans insured under the program;

- this approach would expand the scope for private insurance and thereby encourage private risk taking.

On the negative side, targetting the program to first time home buyers would have the following implications:

- the one-time eligibility for benefits under the program would create situations of inequities. This would be the case for example if a first time buyer who had just obtained NHA financing, obtained a job transfer to another city and could not qualify again under the program;

- this approach would also create severe problems in high risk markets. For example, it is estimated that a risk premium of roughly 8-10 per cent should be charged in resource towns. If this were the price that private insurance were charging to repeat buyers, one can expect that mobility in those areas would be sharply reduced if people were not eligible a second time for NHA insurance;

- a related problem would be that repeat buyers in high risk markets would pressure the government to either extend NHA insurance or provide direct subsidies. In 1984, NHA insurance served roughly 15 000 - 20 000 repeat buyers in rural areas, remote communities and resource towns.

As an alternative to targetting the program directly to first-time buyers, other means could be used so that benefits under the program would accrue mainly to first-time buyers, but without the problems noted above. For example, this could be done by restricting eligibility under the program to borrowers having an income below a certain threshold amount or by introducing house price limits or mortgage loan limits.

While it may sound appealing from a social perspective to consider introducing a means test for eligibility under NHA insurance, the introduction of income or loan limits would create problems. First, house prices vary significantly across market areas and accordingly, to be equitable, a means test would have to reflect such variations in establishing the income and/or mortgage loan limits. Second, changes in house prices from year to year can vary significantly across markets and therefore, frequent changes in the income or loan limits would be necessary to ensure that the program is equitable for all Canadians. Finally, to the extent that the risk of default varies with borrowers' income, cross-subsidization would be weakened and thus program self-sufficiency would be more difficult to achieve. These were among the major factors that lead CMHC in 1980 to move away from the application of loan limits.

In summary, while it may appear sensible from a social perspective to target the program to first time home buyers, there are considerable limitations which make program targetting either impractical or unfair and inequitable.

6.9.2 Program Targetting: Rental Housing

Turning to rental markets, it has been argued that the ultimate objective of NHA insurance is to support the production of rental housing. Given this objective, there are three possible roles that the government could play in rental housing. These are:

(i) to target NHA insurance to support the production of affordable rental housing;

(ii) to target the program to support the production of rental housing at large;

(iii) to offer the program on a universal basis with a view to supporting rental investment at large, regardless of whether this is new or existing housing.

6.9.2.1 Supporting the Production of Affordable Rental Housing

Under this approach, the government would limit its role to that of supporting the production of modest cost housing, including the production of Social Housing. This would essentially be a return to the conditions that existed prior to 1979 when NHA insurance was targetted to new rental housing and loan limits were used to ensure that units insured under the program were modest-cost.

The main advantages of this approach would be as follows:

- the program would be more effective in encouraging the production of modest cost rental housing;

- it would result in a considerable reduction in the risk exposure to the government. For example, the financing of existing rentals alone in 1984 amounted to close to $1 billion under the NHA. Total NHA Insurance in that year amounted to $7.3 billion.

- this approach would increase the scope of private insurance.

However, this approach would have substantial disadvantages. These would be:

- This approach would essentially mean trading-off private risk taking in mortgage insurance against private risk taking in rental housing. Given that the insurance of rental housing is not currently a profitable activity, this approach would mean higher premiums and more stringent underwriting rules for new rental projects not eligible under NHA insurance with the end result being a reduction in the production of that type of rental housing;

- private insurance premiums would be higher and underwriting rules would be more stringent in high risk markets (e.g., Sudbury, Calgary...) than in low risk markets such as Toronto. In the long-term, this would mean less private

rental housing in such markets and correspondingly more pressure on the government to produce social housing projects;

- as noted in the case of homeownership housing, targetting the program by imposing loan limits creates serious administrative problems in that the loan limits must be constantly adjusted for inflation so that targetting is done in an effective and equitable manner.

6.9.2.2 Supporting Rental Production at Large

Under this approach, all new rental housing would be eligible for NHA insurance while existing rental housing would become the exclusive domain of private insurance. Compared with the present model under which NHA insurance is offered on a universal basis for rental housing, the main disadvantage of this approach would be that of preventing CMHC from using low risk existing rentals to cross-subsidize higher risk new rental housing. However, two points need to be made in this regard. First, given the way the program is operated now, there is no cross-subsidization taking place between new and existing rentals given that the premiums are set to break-even within each "line of business". The second point is that since 1979 when NHA insurance was extended to existing rentals, the insurance of such loans has resulted in losses to the MIF rather than excess revenues that could be used to cross-subsidize new rental production. Although this is easy to argue with hindsight, this has been the case especially for existing rental loans insured between 1979 and 1982 when insurance premiums were set at roughly one per cent of the loan amount.

In the absence of cross-subsidization there is no rationale for the government insuring existing rental housing. In this regard, one cannot put a solid argument that the insurance of existing rentals supports any of the primary or secondary objectives of the government in mortgage insurance. For example, one cannot put a solid argument that insuring existing rentals is necessary to support the production of rental housing, or to impact on the quality of housing, or if needed, to help the government achieve economic stabilization objectives.

In summary, the only argument that can justify NHA insurance of existing rentals is that of using crosssubsidization to ensure that the government can support rental production at zero cost to taxpayers. The use of cross-subsidization in that fashion would be consistent with the thrust of the proposal made by the Manitoba government during the Housing Consultation process to create separate funds and whereby excess revenues from one fund would cover losses resulting from the operation of other fund(s) aimed at subsidizing selected sub-markets. However, this is not

done under current program operation given that premiums for existing rentals are set to reflect the risks involved within that particular sub-market as opposed to being fixed at a level sufficiently high to generate excess revenues.

6.9.3 Insurance of New Rental Housing: Issues and Alternatives

The last major issue that needs to be examined in this chapter regards the fact that if one makes exception of the AHOP and ARP programs, the insurance of new rental housing has been the most significant source of MIF losses over the years and in fact, in spite of the premium increases that took place in 1982 and 1984, it is estimated that premiums for new rentals are still deficient by 100 per cent. This raises the question as to what the government should do to ensure that NHA insurance meets its objective of supporting the production of rental housing on the one hand and achieves this objective at zero cost on the other.

There are three broad alternatives open to the government. These are as follows:

(i) To increase premiums for existing rentals so as to cross-subsidize new rentals;

(ii) to supplement cross-subsidization with various design changes aimed at reducing program costs;

(iii) to do nothing which implies accepting that supporting rental production through public mortgage insurance may involve costs.

6.9.3.1 Cross-subsidization Between New and Existing Rentals

Currently, the premium charged for new rental averages to about 3 per cent of the loan amount while the premium for existing rental amounts to roughly two per cent of the mortgage loan. In the case of existing rentals, the premium covers the risk involved without leaving CMHC with any excess profit that could be used for crosssubsidization while as indicated, the premium in regard to new rental is estimated to be deficient by 100 per cent.

Under this new approach, the following changes would be made:

- the same premium would be charged for new and for existing rentals. Excess revenues from the insurance of existing would be used to subsidize new rental;

- to attain self sufficiency, premium for existing rentals would be increased substantially from two per cent to roughly 3½ per

cent. In the case of new rental, this would mean a more modest increase from 3 per cent to 3½ per cent. This premium structure would yield self sufficiency if the volume of activity consisted of a two-to-one relationship between existing and new rental approvals as existed in 1984;

- given that under this approach, the government would play no social role in the market for existing rental, no cross subsidization would take place within that market. This means that the government would charge premiums of 8-10 per cent in resource towns and application fees of $500-$1000 per unit in remote areas.

The main advantage of this approach would be that of enabling the government to meet its objective of supporting rental production at little or no cost to tax payers. However, this approach would have some limitations. These would be:

- because of political constraints, it is unlikely that CMHC could charge higher premiums and fees in high risk markets and in remote communities;

- if the insurance of existing rentals became highly profitable, private insurance would likely develop and compete for a large share of that sub-market. This would obviously limit the ability of CMHC to cross-subsidize and operate the program at zero cost;

- if premiums for existing rentals were increased substantially, the best risk borrowers may find that there are alternatives cheaper than high-ratio mortgages to finance existing rental housing projects. This of course would also limit the ability of CMHC to use cross-subsidization to achieve self sufficiency.

In summary, cross-subsidization between existing and new rentals could be done as a means to reduce program losses resulting from new rental insurance. However, one should note that the efficiency of cross-subsidization is relatively limited owing to potential cream-skimming by private insurance and by substitutes to mortgage insurance. This implies that cross-subsidization must be supplemented by other measures or program charges if the government were to offer new rental insurance on a self sufficient basis.

6.9.3.2 Cross-subsidization Supplemented with Selected Program Design Changes

As indicated in the Chapter on MIF losses, much of the losses experienced in new rental insurance resulted from the effect of macro factors - viz. the impact of the energy glut on the

Alberta economy and the political situation in Quebec after 1976 - which were beyond the control of a mortgage insurer. If new rental insurance were to be operated at no cost to taxpayers, cross subsidization from existing rentals must be supplemented by various program design changes aimed at reducing the effect of adverse macro factors on the MIF. In this regard, the following program design changes could be made:

- the current model of charging an upfront premium could be replaced by the FHA approach of charging a high fixed annual premium and if the experience turned out to be more favourable than anticipated, partial premium refunds would be sent to borrowers. Under this model, NHA insurance would be transformed into a mutual insurance arrangement similar to the FHA model for homeownership housing;

- as an alternative to the mutual insurance approach, term insurance could be introduced as a replacement for the current up front premium model. Under this approach, the term of insurance would be for say, a one year period and at the end of each year, the insurer would be allowed to charge premiums in relation with current experience. The main advantage of this approach would be to give the insurer a means of better matching revenues and expenditures and thereby reducing potential cash flow problems in periods of high claims.

Other loss reduction measures could also be put in place to better adapt the program to the fact that losses largely result from macro risk factors. In regard to the way claims are settled, the following changes could be made:

- to reduce the claim amount caused by the accumulation of interest arrears during protracted foreclosure proceedings, the NHA could be amended to allow interim partial payments of a claim prior to the legal transfer of the title to CMHC. This would be advantageous to CMHC when the debiting rate on the mortgage contract is significantly higher than market interest rates;

- to avoid disposing foreclosed real estate in soft market conditions, another change that could be made to the NHA would be to allow CMHC to provide the lender, in lieu of settling the whole claim in cash, a cash settlement for eligible expenses and an income stream matching the flow of payments the lender would have received had the mortgage remained in good standing. The payments would continue until the property could be sold at a price that would be favourable to the MIF to settle the remaining mortgage outstanding. This would be particularly advantageous to CMHC when the debiting rate on the mortgage contract is lower than market interest rates prevailing at the time of foreclosure.

While these changes would help CMHC operate rental insurance on a self sufficient basis, this approach would also have a number of disadvantages. These would be:

- changing the claim settlement strategy by giving CMHC the flexibility to issue bonds or to make partial prepayments would make mortgage investment less attractive for the lenders since under this new arrangement, the lenders would receive less interest income than they receive now[1]. To the extent that mortgage investment was less attractive, the supply of funds would decrease and mortgage interest rates would rise. The net effect would mean some reduction in new rental investment;

- higher insurance premiums would also discourage some rental investors, thus compounding the reduction in new rental investment.

In summary, there are a number of program design changes that could be put in place to reduce or entirely eliminate the losses currently incurred in insuring new rental housing. However, except for the use of cross-subsidization between new and existing rentals, any program design changes will impact on the volume of new rental investment either directly through an increase in premium or indirectly by making mortgage lending less attractive and thereby contributing to an increase in mortgage interest rates.

6.9.3.3 Implicit Subsidization of Rental Insurance

During the past few years, several changes were put in place to make insurance of new rental housing self sufficient. These changes included:

- stopping to insure graduated payment mortgages;

- refusing to insure projects with a negative cash flow unless the proponent provides CMHC with an irrevocable letter of credit covering the present value of the expected negative cash flow;

- increasing premiums in 1982 and again in 1984. Premiums now are nearly three times higher than they were prior to 1982;

- increasing application fees from $35.00 per unit before 1982 to $250.00 per unit now.

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1 In the event that interest rates have increased since the time when the defaulted mortgage was issued, the lender under the present system can re-invest the proceeds from foreclosure at the higher going interest rate.

As a result of these changes, NHA insurance has become less and less supportive of rental housing production. As an alternative to the introduction of design charges which would further reduce the effectiveness of NHA insurance in supporting rental production, an approach open to the government would be to refuse to make any further changes to the program in regard to rental insurance so as to ensure that the program plays a useful role in the financing of private rental housing. The implications of this approach would be an acknowledgement on the part of the government that:

- any further changes would make NHA insurance largely irrelevant and would result in a long-term reduction in private risk taking in rental housing;

- that from a long-term perspective, i.e., based on the experience of the past 30 years, there is a reasonable probability that the current premiums of 3 per cent will be sufficient to attain break even in rental insurance; but if cost were involved, the government is prepared to bear them. In this regard, one should note that assuming a 3 per cent premium shortfall, the cost of insuring new rental housing is relatively modest. For example, based on the production of 7 700 private rentals in 1984, the annual cost to the government is estimated to amount to approximately $12 million if the high default rate of 15 per cent observed in the past few years were to persist in the years to come.

6.10 SUMMARY AND CONCLUSIONS

There are two broad policy choices open to the government in mortgage insurance. On the one hand, the government could play a relatively passive role by simply ensuring that the mortgage insurance market works well so that any borrower who is prepared to pay a price commensurate with the risks and costs involved, can obtain the service. Under this role, government intervention would be limited to supporting private sector initiatives with a view to ensuring that mortgage insurance and thereby, high ratio mortgages are available at a competitive price. On the other hand, the government could play a more active role in mortgage insurance so as to ensure that people in all parts of the country have equal access to high ratio mortgages. Under this role, government intervention would serve to ensure that people living in high-risk markets and in remote communities have access to high ratio mortgages under the same terms and conditions as people living in low-risk major urban centres like Toronto and Montreal.

Many housing commentators who have looked at mortgage insurance in recent years, have suggested that the role of government in the mortgage insurance market should be the first role described above, i.e., that of simply ensuring that any borrower who is

prepared to pay a price commensurate with the risk, can obtain the service. Given this economic efficiency role, it has been the contention of these commentators that the government should from mortgage insurance and offer reinsurance instead. The analysis presented in this Chapter agrees with this conclusion with the provision that targetted reinsurance in the form of optional "stacked insurance" would be superior as a policy prescription to the introduction of reinsurance at large in all sub-markets.

As indicated in this paper, public mortgage insurance has been used as a means to ensure equal access to high ratio mortgages in all parts of the country and accordingly, a shift towards an economic efficiency role for the government would represent a major departure from the way in which public mortgage insurance has been operated during the past 30 years. In spite of the recent changes to the premiums charged by CMHC, still today, mortgage insurance fees, mortgage interest rates and other borrowing terms are the same in all parts of Canada. By contrast, a shift to an economic efficiency role for the government would mean that access to high ratio mortgages would no longer be equal in all parts of Canada. As indicated, the end result would be that borrowers in Fort McMurray or Sept Iles for example, would have to pay higher insurance premiums than borrowers in Toronto. Similarly, borrowers in Frobisher Bay (NWT) for example, would be charged higher application fees than borrowers in Montreal, since the cost of initiating loans in remote northern communities exceed by far the cost of underwriting insurance in large urban centres.

If the government were to maintain its present role of ensuring equal access to high ratio mortgages in all parts of Canada, the analysis presented in this Chapter indicates that continuation of public mortgage insurance in its present form is the best approach. This solution is also consistent with advice given during the Housing Consultation process to the effect that the government continue to provide public mortgage insurance "to ensure that people in all parts of the country have access to mortgage financing under similar terms and conditions".

However, while public mortgage insurance may be the best policy prescription to enable the government to achieve the objective of equal access, past experience has shown that conflicts exist between the objective of equal access and the constraints of self-sufficiency and that of providing fair competition. As a result, program changes would be necessary. For example, such changes could take the form of charging higher premiums to existing rentals to cross-subsidize new rentals, providing CMHC with more flexibility in settling claims or taking steps to improve the efficiency of cross-subsidization.

APPENDIX 1

FUTURE DEMAND FOR MORTGAGE INSURANCE

BACKGROUND

The ultimate parameter that will determine the number of firms comprising the mortgage insurance market is the future demand for insured mortgages. The following exercise involves the construction of a simple (single-equation linear) forecasting model, in order to obtain a quantitative estimate of the future unit demand for mortgage loan insurance. The predictions of the model can then be used to determine the likely future industrial structure of the mortgage insurance market.

METHODOLOGY

The hypothesized relationship between demand for mortgage insurance and its determinants is specified in the following functional form:

$$VMI = f(HSTOCK_{t-1}, HSTART, SOC)$$
where $HSTART^* = HSTOCK_t - HSTOCK_{t-1}$

VMI = Total (NHA + MICC) volume of mortgage insurance** (units)
HSTART = housing starts (units)
$HSTOCK_t$ = housing stock in initial period (units)
$HSTOCK_{t-1}$ = housing stock lagged one period (units)
SOC = a dummy variable accounting for AHOP and ARP. These programs were in place between 1975-1978 inclusive.

THE (stock-adjustment) MODEL:

$$\begin{aligned} VMI &= B_0 + B_1(HSTART_{t-1}) + B_2(HSTOCK_t) + B_3(SOC) \\ &= B_0 + B_1(HSTOCK_{t-1}) + B_2(HSTOCK_t - HSTOCK_{t-1}) + B_3(SOC) \\ &= B_0 + (B_1 + B_2)HSTOCK_{t-1} + B_2(HSTOCK_t) + B_3(SOC) \end{aligned}$$

let $B_1 - B_2 = B_4$

$$\boxed{VMI = B_0 + B_2(HSTOCK_t) - B_4(HSTOCK_{t-1}) + B_3(SOC)}$$

* Assuming that annual depletions of the housing stock approximate annual additions.

** As only data on MICC loans were available for the years 1970-1973, those observations were proxied by assuming that one homeownership loan equals one insured unit, and that one rental loan was equal to 15 units.

As the demand for mortgage insurance is a derived demand (from the demand for housing in general), total housing requirements is included as an explanatory variable. The lagged stock variable is included in the regression to capture the effect of annual housing starts on the demand for insured mortgages. The dummy variable (SOC) is included to explain the effect that AHOP and ARP exerted on the volume of mortgage insurance demanded between 1975 and 1978 (the inclusion of SOC was also to avoid the potential for omitted-variable error misspecification).

(LINEAR) REGRESSION RESULTS:
(t - statistics are in parentheses)

Estimation Period: 1954-1983 (annual time-series data)

$$VMI = \underset{(-5.16)^*}{-161636} + \underset{(-2.85)^*}{0.595(HSTOCK_t)} - \underset{(-3.02)^*}{0.57(HSTOCK_{t-1})} + \underset{(3.89)^*}{83098.2(SOC)^{**}}$$

F value = 47.86*
R^2 = .85

* significant at 99%
** SOC = 0 for all years except 1975-1978 inclusive

FORECASTS of VMI in force in the year 2000:

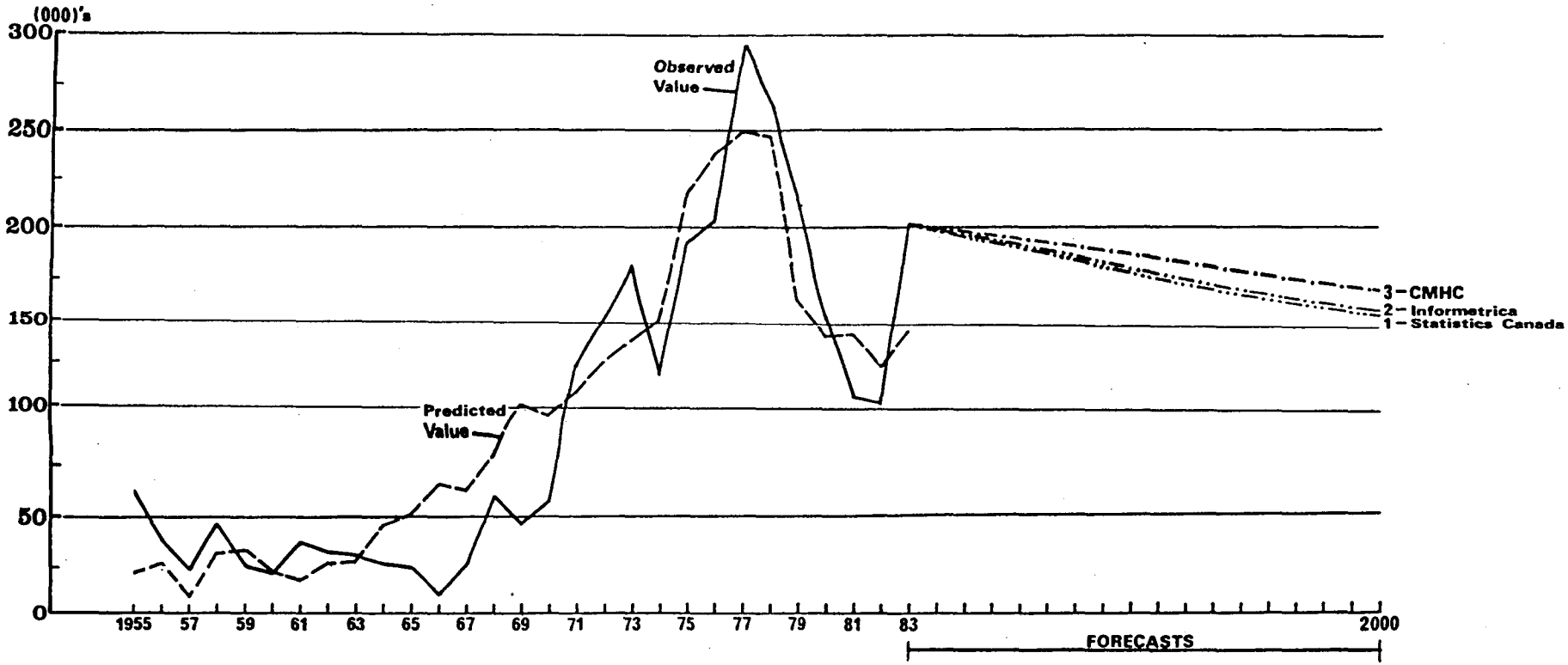
	FORECASTS OF VMI BASED ON SELECTED HOUSING REQUIREMENT PROJECTIONS		
	Informetrica (1984)	Statistics Canada (1978)	CMHC (1976)
HSTOCK 2000	10 968 000	10 939 420	11 289 320
VMI 2000	161 363	158 547	173 041
Decrease in VMI 2000 from: 1984	19 255	22 071	7 577
and from 1975-78 (average)	76 517	79 333	64 893

The results indicate that commensurate with forecasts of future declining housing requirements by the end of the century, future demand for insured mortgages will also diminish in volume. Although the forecasted declines in VMI are not exceedingly large as compared with 1984 (between 7,577 and 22,071), they are relatively substantial when compared with the peak years 1975-1978. This analysis implies that mortgage insurance will likely be supplied by few sellers in the years to come.

DATA SOURCES:

- Canadian Housing Statistics
- MICC activity data
- CMHC activity data
- Housing stock forecasts from Statistics Canada, CMHC, and Informetrica

Chart 1. OBSERVED VERSUS PREDICTED VALUES OF VOLUME OF MORTGAGE LOAN INSURANCE (In Dwelling Units)



APPENDIX 2
SURVEY OF OFFSHORE FUNDS

BACKGROUND

It has often been asserted that NHA insurance is instrumental in attracting funds from offshore investors through the secondary mortgage market. The purpose of this appendix is twofold: (i) to examine the extent to which offshore funds represent a significant contribution to the supply of mortgage funds and (ii) to determine where and why such funds were attracted to Canada. In order to answer these questions, a survey of those major institutions which administer mortgage portfolios on behalf of foreign investors was performed in the Spring of 1985, the results of which are presented in Chart 1 attached.

Two conclusions can be drawn from the survey data. First, offshore funds account for a very small fraction of the total supply of mortgage funds in Canada. In 1985, the value of the stock of mortgages held by foreign investors amounted to less than $600 million, representing less than one percent of the total stock of residential mortgages. Second, as illustrated in Chart 1, the bulk of offshore funds emanates from two sources: the United States and the Netherlands. The reasons as to why Dutch investors are attracted by the Canadian mortgage market are explained next.

CHART I
RESULTS OF THE OFFSHORE FUNDS SURVEY

	($)	(%)
TOTAL (Canadian $) Value	577 903 545	
NHA-Insured	547 804 880	94.8
Privately-Insured	172 595	0.03
Uninsured	28 521 219	4.9
Total	**577 903 545**	**100.0**
Belgium	617 027	0.1
Bermuda	5 746 117	1.2
Cayman Islands	11 185 630	2.4
France	28 197	0.01
Germany	838 282	0.2
Israel	85 667	0.02
Luxemburg	123 111	0.03
Monaco	573 873	0.1
Netherlands	228 752 046	48.8
Singapore	34 470	0.01
Switzerland	933 986	0.2
U.K.	62 472	0.01
U.S.A.	218 790 612	46.6
Venezuela	1 235 383	0.3
Total	**577 903 545***	**100.00**

* Total does not add up because two of the responding firms did not provide a detailed breakdown of the data.

Canada/Netherlands Tax Treaty

In 1957, Canada and the Netherlands entered into a tax treaty(1), whereby Dutch residents who invest in any Canadian mortgage would be exempt from paying tax (to the Dutch government) on their mortgage interest-income earned in Canada(2). The purpose of the treaty was to enable Dutch investors to avoid the incidence of double taxation on their foreign mortgage interest-income.

In 1966, the Canadian Income Tax Act was amended to exclude any non-resident-owned investment corporation from paying withholding tax (to the Canadian government) on interest income earned on those securities guaranteed by the Government of Canada (NHA-insured mortgages are 100 per cent guaranteed by the federal government)(3).

The combination of the Canada-Netherlands tax treaty and the Income Tax Act revision, enabled Dutch investors to circumvent any (foreign and domestic) tax liabilities associated with interest income accruing from NHA mortgage investment. As a result, the lion's share of offshore investments has been in NHA mortgages, and because of the treaty, Dutch investors account for a large share of this investment. These findings are demonstrated on Chart I. Over forty-eight per cent of the total value of offshore mortgages were serviced for Dutch investors. The fact that over ninety-four per cent of the total value were NHA-insured, clearly reflects the incentives that Section 212(1)b of the Income Tax Act provides foreign mortgage investors. Seemingly, the government guarantee of NHA mortgages has been essential to their sale offshore.

The Canada-Netherlands tax treaty, however, is scheduled to be modified in July, 1987(4). Among the major changes to the treaty will be the termination of the preferential tax treatment

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(1) Convention between Canada and the Kingdom of the Netherlands for the Avoidance of Double Taxation and the Prevention of Fiscal Avoidance with Respect to Taxes on Income.

(2) This provision is stipulated in Articles III and XVIII of the Treaty.

(3) Section 212(1)b of the Income Tax Act.

(4) This decision was formally made in July 1984. It has been the absence of any taxation on mortgage income that has caused the Dutch government to be totally opposed to continuing the treaty provisions in Canada.

bestowed upon Dutch mortgage investors. In addition, the 25 per cent withholding tax exemption provided for in the Income Tax Act is only for those Government of Canada guaranteed securities which are issued prior to 1986.

As such, since mortgage interest income earned in Canada will no longer be tax deductible in the near future, prospects of a reduction in the supply of offshore funds is likely to materialize irrespective of any alterations made to NHA mortgage loan insurance. As current data indicate, however, it is unlikely that a reduction in offshore mortgage funds would impinge noticeably on the Canadian mortgage market.

CHAPTER 7

SUMMARY AND CONCLUSIONS

SUMMARY AND CONCLUSIONS

NHA mortgage loan insurance is one of the oldest among federal programs, with its introduction dating back to 1954. Because NHA insurance has undergone many changes over the past 30 years, and because it has been used for a variety of reasons that were not included in the list of policy justifications when it was introduced, the objectives and mandate of the program have become increasingly unclear and ambiguous over the years.

Based on the way in which the program has been operated during the past 30 years, its objective today appears to be that of ensuring equal access to high-ratio mortgages in all parts of the country. This means that all borrowers within a given risk category pay the same premium and application fee irrespective of where they live. This also implies that NHA insurance today is a housing measure aimed at facilitating access to homeownership and supporting the production of rental housing in all parts of Canada.

Given the implicit objective pursued under the program, the most significant problem faced by CMHC today stems from the conflict between achieving the equal access objective and meeting the constraints of program self sufficiency and that of providing fair competition to private insurance. To achieve self sufficiency, CMHC must rely on cross-subsidization between low risk markets and high risk markets. However, this is difficult to do with potential cream-skimming by private insurance and because of the existence of substitutes to mortgage insurance. This implies that there are trade-offs between the achievement of the objective of equal access and the achievement of the two constraints of self-sufficiency and fair competition.

While in the future cream-skimming by private insurance may create problems to CMHC in achieving self sufficiency, this has not been a significant source of losses experienced by the MIF in the past. The main source of MIF losses has been due to the fact that after the mid-1970's, economic conditions became much less supportive of mortgage insurance with the end result being that the premium of one percent which had been charged since 1969 turned out to be inadequate. Other significant factors that have caused MIF losses in recent years have been the impact of the energy glut on residential real estate in Alberta and at times, the excess supply of rental housing in some markets caused by stop-and-go rental stimulus programs such as ARP, MURP and CRSP.

Because of the difficulties of achieving self-sufficiency, CMHC has modified the program in the past few years by making premiums more reflective of the risks involved. For example, premiums are now related to the loan-to-value ratio and surcharges are imposed for condominiums and for mortgage instruments such as variable rate mortgages and graduated payment mortgages. Because the program currently charges premiums that reflect risk and due to the ambiguous objectives attached to the program, many housing commentators have suggested that government intervention be restricted to ensuring the availability of high ratio mortgages without concern to variations in borrowing terms across the country. This would mean that the program would largely become a capital market measure aimed at correcting imperfections in the functioning of the mortgage market.

Given the views of these housing commentators, there are two broad policy choices open to the government in mortgage insurance. First, the government could play a relatively passive role by simply ensuring that the mortgage insurance market works well so that any borrower who is prepared to pay a price commensurate with the risks and costs involved, can obtain the service. Under this role, the government would only ensure that high ratio mortgages are available in all parts of the country. Alternatively, the government could continue to play an active role in mortgage insurance so as to ensure that people in all parts of the country have equal access to high ratio mortgages. Within this role, government intervention serves to ensure that borrowers residing in high risk markers and remote communites here access to high ratio mortgages under the same terms and conditions as individuals living in low-risk major urban centres such as Montreal or Toronto.

Under the first role, government intervention would be limited to supporting private sector initiative by ensuring that high ratio mortgages are available at a competitive price. Under this role, the best policy prescription would be staged privatization coupled with "optional stacked insurance" or targetted reinsurance. The implication of this approach would be that people living in low risk markets such as Toronto would pay less for mortgage insurance. However, people living in remote areas and in resource towns and most people living in Alberta would pay considerably more for mortgage insurance. An important concern with this approach regards whether in the long term, there would be a sufficient number of private insurers to ensure competitive market results.

Alternatively, if the government were to continue its present role of ensuring geographic equal access to high ratio mortgages and of supporting rental construction, the present approach based on cross-subsidization is the most appropriate way to achieve those objectives. However, past experience has shown that conflicts exist between the objective of equal access and the constraints of self sufficiency and that of providing fair competition. As a result, program changes such as charging high premiums to existing rentals in order to cross-subsidize new rentals, providing CMHC with more flexibility in settling claims or taking steps to improve the efficiency of cross-subsidization would be necessary.