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The Economic Rationale for Public Mortgage Loan Insurance

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THE ECONOMIC RATIONALE FOR PUBLIC MORTGAGE LOAN INSURANCE

Discussion Paper Prepared for the Program Evaluation Division of the Canada Mortgage and Housing Corporation

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1. INTRODUCTION

There are two broad microeconomic rationales invoked to justify public policy initiatives. They are (1) the existence of a market failure which is presumed to explain the absence of an appropriate response by market forces and (2) the desire to redistribute income or wealth. Both have been invoked at various times, and with greater or lesser degrees of precision, to justify the provision of public mortgage insurance. So, too, has the macroeconomic objective of reducing the cyclical variability of residential construction, although this ojective is generally acknowledged to be of lesser importance,.

The purpose of this discussion paper is to review critically the arguments for or against government intervention in mortgage insurance. To anticipate, I find unpersuasive most arguments premised on the existence of market failure. The one exception is the argument that the private sector cannot underwrite "catastrophic" risk, with the implication that the private sector cannot provide risk-free insurance. Both considerations suggest that "self-financing", even if appropriately defined, is <u>not</u> a valid criterion with which to evaluate the success or failure of public mortgage insurance. This is obviously the case if the insurance program is designed to deliver subsidies and thus to have redistributive effects. I am also sympathetic to economists' general predisposition to favour cash rather than in-kind subsidies. <u>Given</u> the decision to provide an in-kind subsidy, it seems more appropriate to set up an independent program of mortgage insurance designed to deliver <u>explicit</u> subsidies, rather than to attempt to co-mingle <u>implicitly</u> subsidized

as well as "unsubsidized" insurance. Direct lending by the CMHC appears to be at least as attractive a policy instrument, again conditional upon the decision to deliver an in-kind subsidy.

In order to be of maximum assistance to the Program Evaluation Division, I highlight in this discussion paper those areas of economic analysis which appear to have been relatively neglected in prior discussions of public mortgage insurance. These include:

(i) the notion of catastrophic risk, and the role of private mortgage loan insurance;

(ii) the economics of a self-financing program of public mortgage loan insurance;

(iii) the possibility of excessive risk-taking as a consequence of mortgage insurance, and its implications for the allocation of financial capital and real resources;

(iv) the interaction among the mandatory insuring of "high-ratio loans", deposit insurance and the bearing of catastrophic risk;

(v) the proposition, from the received theory of finance, that the least risk-averse agents ought to bear the relevant risks if the mortgage market is efficient; and

(vi) the distinction between the reduction in as opposed to the repackaging of risk.

2. MARKET FAILURE AS A RATIONALE

2.1 Efficiency of the Mortgage Market, Past and Present

In an efficient mortgage market, the mortgage rate and other negotiable terms of the mortgage loan will adjust to ensure that mortgage funds are appropriately allocated among competing borrowers. Borrowers who constitute equal risks obtain loans on the same terms. Borrowers who represent greater risks obtain loans at commensurately higher rates and/or more restrictive terms. Increasingly, the mortgage market in Canada has become integrated with the capital market at large. The capital market at large is viewed as efficient by most observers. I number myself among them.

I am thus of the view that the onus now falls on those who cite market failure as the rationale for public mortgage insurance to prove their case. Simply stated, the case for the existence of a market failure is far weaker today than it was in 1954, when the National Housing Act was legislated into existence.

The argument that a market failure exists would appear to have, as a central tenet, the claim that there exists a demand by borrowers for "high-ratio loans" that would not otherwise be met. More precisely, there is a demand that would not otherwise be met through a commensurate premium in the mortgage rate or through the opportunity for the borrower to purchase default insurance in the private sector.

I find the above possibility unpersuasive. First, it starts with the presumption that risk, at least above some threshold level, cannot be internalized into the mortgage rate. This is a particularly strong assumption in light of the existence of 2nd and 3rd mortgages, which

appear to be an efficient means both to segment this risk and to target it toward (and thus have it priced by) less risk averse investors. Secondly, one should not assume that the apparent absence today of a competitive (or potentially competitive) market for private mortgage insurance implies that such a market would not exist if public mortgage insurance were unavailable. Thirdly, to the extent that default risk is diversifiable, this diversification can be accomplished either by lenders or by the providers of private mortgage insurance. Mortgage loan insurance, if priced competitively, is a vehicle for repackaging risk, not for reducing it. Even if no private market for mortgage insurance were to develop, there need be no presumption that demand for "high-ratio loans" is not being met at a comensurate price.

The presumption of most commentators is that, if a problem exists, it is that there is an insufficient flow of funds to borrowers seeking "high-ratio loans". Yet it is not obvious to me that this is the case. Assume, for the sake of argument, that public mortgage insurance is introduced such that all purchasers of new homes can obtain insurance equal to 100% of the value of their properties. Assume, also for simplicity, that the insurance is provided free. The end result would be that financial capital - and ultimately real resources - would be overcomitted to the housing sector. The interest rate on the insured mortgage loans would not reflect the true risk of the associated economic activity, and an important malallocation of real resources would result. The pricing of premiums for a more realistic program of mortgage insurance is a difficult problem, as is widely acknowledged.[1] Yet the possibility that there is a (perhaps unintended) subsidy in the premiums

charged under the existing program, with like implications, merits note. (The present discussion focuses on a market failure per se as a potential rationale, and thus abstracts from a possible desire to subsidize insurance premiums. Certainly ex post and - more importantly - probably ex ante, the latter is a fair characterization of the AHOP and ARP experience.)

2.2 Is Mortgage Default an "Insurable" Risk?

2.2.1 Why the Private Sector Cannot Provide Risk-free Mortgage Insurance

If default risk is systematic and hence cannot be diversified away, then the private sector can neither supply nor price risk-free insurance. If risk-free insurance is to be provided, then it must be supplied (perhaps through re-insurance) by the government. Clearly, a private insurer (or lender) can diversify away the risks arising from the property, loan and borrower characteristics that are specific to individual loans. However, to the extent that house price movements are highly correlated in the aggregate, and to the extent that there are other economy-wide catalysts to defaults (such as recessions), then a private insurer is not likely to be able to shed all of his underwriting risk.

I find persuasive the argument that private insurers cannot underwrite "catastrophic" risk, and hence cannot provide risk-free insurance to mortgage loans. If it is deemed necessary to provide risk-free insurance, then it must be provided by the government. In turn, this implies that no public mortgage insurance program can truly be "self-financing", since the full taxing and borrowing powers of the

government might ultimately be required to honour the insurance claims. The fact that the insurance premiums may have, over an arbitrary period of time, provided a reserve sufficient to honour all claims is not sufficient to conclude that the program is self-financing. If the underwriting risks cannot be shed ex ante, then one cannot draw inferences from the performance of the fund ex post as to its sustainability.

There is some empirical evidence which bears on this issue. First, the private mortgage insurance industry in the United States failed during the Great Depression,[2] and - primarily because of its underwriting losses in a single province - MICC is currently experiencing grave financial difficulties. Secondly, and perhaps more revealing, there is no evidence (to my knowledge) of private insurers structuring their asset portfolios and/or their liabilities in a manner consistent with their being able to honour all of their claims in the event of a catastrophe. Insurers do not, for example, engage in the short selling of the common shares of firms in the housing industry, thus to provide abnormal profits on their investment porftolio in the event of the collapse of the housing market. Insurers do not (again, to the best of my knowledge) diversify their liabilities by selling other types of insurance. In theory, mortgage loan insurance could be provided by conglomerate firms whose revenues from other sources might enable it to honour all of its insurance claims in even the most adverse states of the world. It is my understanding that this is not the experience in Canada nor the United States.

In short, private insurance does not appear to be risk free. This may well be the perception of those who purchase the insurance.[3]

Is risk-free insurance so important that it must be provided, either directly by the government or through reinsurance? This is an important issue. It invites, among other lines of enquiry, a detailed examination of the economic rationale for a parallel government initiative, the provision of deposit insurance.

2.2.2 The Rationale for Deposit Insurance: A Digression

As in the case of mortgage default insurance, it is unlikely that the private sector can underwrite the "catastrophic" risk associated with deposit insurance. If risk-free deposit insurance is to be provided, it must be provided by the government. There are three rationales typically invoked to justify the case for public deposit insurance:

(1) information costs imposed on small depositors to assess the riskiness of individual banks are too large, and these costs need not be incurred if deposit insurance exists;

(2) bank "runs", whether rational or not, could force the calling of demand loans and thus cause a costly interruption in real production; and

(3) the importance of public confidence in the financial system requires that deposits of major financial institutions be free of default risk.

Rationale (1) does not withstand close scrutiny, since banks could - for example - respond to a demand for risk-free deposits by creating a class of deposits that is fully collateralized by Treasury bills. In any event, this rationale is not relevant to mortgage insurance. Even small investors who provide mortgage funds can be presumed to be aware

of the risks associated with this investment, and less risky investment opportunities are available. Rationale (2) or a variant thereof is legitimate, but there is no direct parallel with mortgage insurance. Rationale (3), if persuasive, is relevant to the extent that a "catastrophic" collapse of the housing market could bankrupt financial institutions with heavy, uninsured mortgage exposure.

There is much concern at present that the existence of deposit insurance has prompted excessive risk-taking on behalf of at least some financial institutions. As I noted previously, a parallel concern exists with regard to mortgage insurance. Especially if the public perceives that all deposits are free of default risk, as recent actions by governments in Canada and the United States might suggest, depositors have no incentive to monitor - and thus discipline - the risk exposure of insured institutions.

Even if public confidence in the financial system is a binding constraint on public policy, it does not follow that mortgage insurance is a required policy response. In the absence of deposit insurance, the public would monitor the risk exposure of financial institutions more closely, thereby ensuring that the yields on the claims that these institutions issue would reflect their degree of risk. Given the existence of deposit insurance, such institutions have an extant incentive to bear more than the socially optimal amount of risk. This may provide a "backdoor" rationale for requiring the insurance of "high-ratio loans".

Yet there are other policy responses which could serve a similar role, such as higher capital to loan ratios, portfolio diversification requirements and the like. In short, it seems unlikely that the goal of public confidence in the financial system leads inescapably to the provision of public mortgage insurance.

2.2.3 The Impact of the Mortgage Rate Protection Plan

Will the newly-announced Mortgage Rate Protection Plan (MRPP) alter the conclusion that the private sector cannot provide risk-free insurance? I think not. Even if all mortgage borrowers participated in MRPP, the probability of a "catastrophic" default experience would be reduced, but not eliminated. In general, defaults are likely to occur (in the case of owner-occupied housing) when the homeowner's equity is sufficiently negative to justify his incurring moving and related costs. Under the MRPP, the homeowner can insure himself against increases in the mortgage that occur during the initial term of the mortgage. This should directly reduce the incidence of defaults. If the borrower can extend the terms of a mortgage insured under the MRPP at a beneath-market interest rate, the market value of the borrower's mortgage will decline if interest rates rise sharply. A rational borrower will view the equity in his home as the difference between the market value of his house and the market value of his mortgage.[4] The MRPP should also reduce the incidence of defaults indirectly, by lessening the downward pressure on house prices that would accompany lenders attempting to sell properties acquired through foreclosure proceedings.

In fact, as discussed by Professor Turnbull and myself, the fixed premiums set under the MRPP make it unlikely that borrowers will have

an equally strong incentive to purchase insurance under all market conditions.[5] The apparent cross-subsidy to borrowers taking out 5-year mortgages suggests, in addition, that participation in the program is likely to fall at those times that borrowers find 5-year mortgages relatively unattractive. In short, participation in the MRPP is likely to be far from universal, and the fraction of borrowers opting to participate is likely to vary with market conditions. This will further limit the extent to which this program reduces the "catastrophic" risk associated with mortgage default insurance.

2.3 Mortgage Insurance and the Development of a Secondary Mortgate Market

Mortgage insurance is sometimes cited as a means of improving the liquidity of mortgages, and thus facilitating the development of a secondary market. This is a valid point. Even if the default risk of "high-ratio loans" is internalized into the mortgage rate, they would be more difficult to sell in a secondary market. First, the vendor would need to locate a buyer who is willing to bear the default risk at the same (or lower) price. Secondly, the development of the secondary market would be further hindered by an adverse selection problem, as vendors sought to sell those mortgages for which the likelihood of default had risen relative to its initial assessment.

The secondary market for mortgages in Canada is far less developed than its counterpart in the United States, and private (as well as public) mortgage insurance is central to the operation of this secondary market. If there were no public mortgage insurance in Canada, there might be an increase in the demand for private mortgage insurance on this account.

However, to the extent that the existence of a secondary market is simply less important to the major mortgage lenders in Canada, such pressure would not materialize.

In short, I find unpersuasive the argument that the lack of an active secondary mortgage market in Canada represents a type of market failure, and that public mortgage insurance can be justified on this account.

2.4 Mortgage Insurance and Innovations in Mortgage Design

If there are large fixed costs associated with a financial innovation, and if the market is sufficiently competitive so that the innovating firm cannot long reap "abnormal" profits, then the innovation may not occur. In effect, this line of argument has been used in both Canada and the United States to justify mortgage insurance as a means of promoting innovation in the mortgage contract. In recent times, attention has focused on facilitating the introduction of "deferred interest" mortgages designed to alleviate the tilting problem.

I find this rationale for public mortgage insurance unconvincing at the present time for two reasons. First, there have been a myriad of financial innovations in recent years. This creates a strong a priori view that if the demand for a particular product exists at a commensurate price, then the market will supply it. My impression is that economists and policy-makers alike may have, for example, substantially overestimated the potential demand by borrowers for deferred interest mortgages. Their relatively slow - and still very sparse - introduction is perhaps best viewed as reflecting this lack of demand rather than a market failure

emanating from the supply side. Secondly, the argument that public mortgage insurance will ease lenders' mistaken concern that these innovative mortgage designs have undue default risk merits critical scrutiny. At the very least, it must be recognized that these mortgage loans may have substantially greater default risk. If so, the public insurance program may well end up deliverying a large and unintended subsidy and/or experience large underwriting losses. The CMHC does impose a modest premium surcharge for VRM's and GPM's. The FHA in the United States imposes no premium on GPM's (and is increasingly subject to criticism on this account).[6] In general, it would appear to be impossible to rationalize the existence of public mortgage insurance as a means of promoting financial innovation and to maintain a "self-financing" objective for the insurance program.

2.5 The Co-Existence of Public and Private Mortgage Insurance

2.5.1 The CMHC as a Price Leader and the Adverse Selection Problems

One possible rationale for public mortgage insurance is to pave the way for the introduction of private mortgate insurance. If (1) there are large innovation costs but no barriers to entry, and (2) default risk is indeed a diversifiable and hence insurable risk, then this rationale may have some merit. In my view, this may have been an important rationale historically, but has far less relevance today.

First, as evidenced by the private insurance industry in the United States and the existence of a single private insurer in Canada, the product is one with which the private sector is familiar. If there are no barriers to entry and/or if there are indirect forms of competition

(such as second or third mortgage loans at rates that embody a commensurate risk premium), the fact that there is but a single private insurer in Canada at the present time does not pose a major problem. (Eliminating the requirement that approved lenders must insure "high ratio loans" would obviously promote this indirect competition.)

Secondly, if private insurance is viewed as risk-free and hence as a perfect substitute for public insurance, the co-existence of public and private insurance is nonetheless complicated. The insurance premiums set by the government become, in effect, the ceiling on competitive prices. If they are too low, then private insurers will not be able to compete. If they are too high, all of the insurance will ultimately be written by private insurers. If the insurance premiums set by the government are approximately "correct", then an important adverse selection problem might occur. Private insurers will seek to attract, perhaps through lower premiums or outright rationing, the "below average" risks. Private firms, for example, may eschew the insuring of GPM's or VRM's if the premium surcharge imposed by the government is too low. At least some commentators in the United States have argued that private insurers have engaged in "cream-skimming" of low-risk borrowers at the expense of the FHA.[7]

In short, it is likely to prove difficult for the CMHC to serve as a price leader in a market where public and private mortgage insurance co-exist. The CMHC, even if it had no intention of subsidizing its insurance, will find it difficult to avoid underwriting losses.

2.5.2 "Self-Financing" as a Criterion for Evaluating Public Mortgage Insurance

Assume that the government makes a lump sum contribution to establish the "reserves" for a public insurance program. If the program is to be self-financing in an economic sense, then the government must impute to these reserves a rate of return equivalent to that required by the debt and equity holders of a private insurer. This imputed rate must then be extracted from the public insurance fund, at least on paper, if one is to determine whether or not the program is indeed self-financing.

Implementing this principle is made difficult by the need to estimate the required rates of return on the debt and equity capital that comprise the capital structure of a representative private firm. More importantly, as discussed earlier, it is likely that the government must bear "catastrophic" risk when it provides public mortgage. For this reason, no public mortgage insurance program can truly be self-financing. I thus find this criterion to be of little use, even it if is applied correctly.

2.5.3 Reinsurance as the Role for Public Policy

If the private sector cannot provide risk-free insurance, then - if deemed necessary - it must be provided by the government. This could be accomplished by the government's direct provision of mortgage insurance, or by its entering into reinsurance arrangements with private firms. To keep the arguments separate, I continue to assume that the government does not want to deliver any other type of subsidy through its insurance or reinsurance activities.

In my view, there is a persuasive argument for preferring a reinsurance arrangement. If the private sector insures the diversifiable component of default risk, it is far more likely that insurance premiums will be set at competitive levels. This is the major attraction of the reinsurance alternative. By analogy, let me draw attention to a current theme in the on-going debate regarding the provision of deposit insurance. All commentators recognize that this is not a diversifiable risk. Many analysts, however, are concerned about the fixed insurance premiums and the inability of the public insurer to differentiate by risk and/or regulate in such a manner so as to ensure homogeneity of risk. One possibility is to encourage, through a reinsurance initiative, the entry of private insurers. The private insurers might (say) underwrite only the first $x of claims, with the government incuring the excess to some ceiling level. The private insurers would have an incentive both to monitor and - if warranted - to restrict the activities of the insured institutions, as well as to impose premium surcharges when conditions warrant. So long as no barriers to entry exist (and no such barriers are immediately apparent), competition among insurers will guarantee that financial institutions pay only the market price for their deposit insurance.

I have not thought through the design of a reinsurance arrangement for mortgage default insurance. Yet, because of the greater potential to use the market mechanism to price default risk, it seems to warrant detailed study.

3. REDISTRIBUTION AS A RATIONALE

3.1 Cash versus In-Kind Transfers: A Brief Overview

Received economic analysis favours cash to in-kind transfers if the sole objective of policy is to maximize the well-being of the recipient. If no market failures exist, then programs such as mortgage insurance must be viewed as having an implicit objective of transferring income to at least a subset of the program's participants. As an income redistributive program, however, mortgage insurance is dominated by direct cash transfers.

If the government wishes to subsidize a particular economic activity, such as the consumption of housing services, then in-kind transfers may be resurrected. The relevant policy problem is to identify which in-kind transfers are the most efficient in meeting the program's objectives.

For purposes of the present analysis, it is most useful to assume that the objective of the mortgage insurance program is, at least in part, to subsidize the consumption of housing services. (This is most evident in the AHOP and ARP programs.) The relevant question, then, is whether this type of in-kind transfer dominates alternatives. To focus the subsequent discussion, the single alternative to be considered will be direct lending by the CMHC.

If mortgage insurance is to redistribute income, then its premiums must be beneath market levels for at least a subset of its participants. If direct CMHC loans are to redistribute income, then such loans must be made at below-market rates, given the risk and other salient characteristics of the project and/or targeted borrowers.

If insurance premiums are set equal to zero and if direct CMHC loans are made at the risk-free rate, then the programs are conceptually identical. Both, in effect, transform risky into risk-free mortgage loans at no cost to the borrower. As such, both subsidize the taking of risk and presumably lead to a greater than socially optimal amount of risk bearing. In the process, additional financial capital and ultimately real resources are channeled to the housing sector.[8]

How should one choose between these programs, given the decision to provide an in-kind subsidy? One criterion is the potential degree of "slippage" that exists between the amount of the government subsidy and the amount that ultimately benefits the consumers of the housing services. (This leaves aside the important question of the impact of the initiatives on the non-recipients of the subsidy.) For direct CMHC loans to finance the purchase of owner-occupied homes, this "slippage" would appear to be negligible. For subsidized insurance premiums, this "slippage" would be negligible only if (1) borrowers who take out insurance are well-informed and (2) competition prevails among approved lending institutions.

To provide a rigorous analysis of this question, one must trace through the ultimate incidence of the subsidies delivered through mortgage insurance and direct CMHC lending. This is beyond the scope of the present discussion paper. Yet the arguments sketched previously are sufficient to draw attention to the likelihood that direct CMHC lending is not dominated by a mortgage insurance program. The conceptual similarity of these two initiatives merits emphasis.

3.2 Potential Conflict with Other Policy Objectives

If mortgage insurance is used as a program for delivering subsidies, then it obviously conflicts with the possible objective of making the program self-financing. Since mortgage default risk is not likely to be fully diversifiable, this objective - in my view - is not especially interesting in any event.

If no mortgage insurance previously existed, then the introduction of public mortgage insurance - even if subsidized - might at least familiarize the private sector with the concept. In this sense, the introduction of subsidized insurance might pave the way for the future introduction of private mortgage insurance. In view of the fact that private insurance does exist, this argument is no longer relevant. The co-mingling of subsidized and unsubsidized insurance in a public program is likely to conflict with the objective of promoting the development of a private market in mortgage insurance. The earlier caveats regarding adverse selection and the fact that only the public sector can provide risk-free insurance continue to apply.

3.3 Alternative Policy Instruments

Perhaps the most useful way to focus this discussion is to ask but a single question. Is there any way in which direct CMHC lending is obviously inferior to the provision of subsidized mortgage insurance? As noted, both initiatives can be viewed as transforming risky into risk-free mortgage loans at a below-market cost to the borrower.

A full analysis of the ultimate incidence of these alternative initiatives is beyond the scope of the present discussion paper (and

perhaps worthy of a more detailed enquiry). To some, direct CMHC lending has the distinguishing feature that both the borrowing and lending of mortgage funds take place in the public sector. Since each dollar of direct CMHC lending presumably replaces some fraction of a dollar of private mortgage lending, the corollary is that the volume of private mortgage loans must fall.

Under stylized conditions, the net impact on the capital market will nonetheless be the same. Presumably, the CMHC can raise funds at the risk-free rate. With explicit or implicit[9] deposit insurance, deposit-taking institutions can also raise funds at the risk-free rate. Absent complete deposit insurance, however, deposit-taking institutions may not be able to raise funds at the risk-free rate, and the CMHC may have "preferential access" to the capital market on this account. In effect, the CMHC borrows at the risk-free rate, yet makes risky investments. Private institutions, absent complete deposit insurance, cannot raise additional funds at the risk-free rate if they undertake risky investments. As such, they are disadvantaged relative to the CMHC, but <u>not</u> relative to other participants in the capital market.

In general, a careful economic analysis is likely to suggest that the concerns arising from the "preferential access" of the CMHC (or the Federal Government on its behalf) to the Canadian capital market are easily overstated. Indeed, if the CMHC were to provide mortgage insurance at zero cost sufficient to enable an approved lender to hold a risk-free mortgage portfolio, then the approved lender could raise funds at the risk-free rate even in the absence of deposit insurance. As such, at least in theory, approved lenders would not be disadvantaged relative to the CMHC in their efforts to raise funds in the capital market.

In both cases, the raising of funds at the risk-free rate when the ultimate investments are not in fact risk free serves to disadvantage other borrowers who must raise funds at a rate that embodies an appropriate risk premium. In short, both direct CMHC lending and the provision of fully subsidized mortgage insurance would disadvantage other borrowers, as a more detailed analysis of the ultimate incidence of both initiatives would highlight. It seems inappropriate to single out direct CMHC lending on this account if the provision of subsidized mortgage insurance is the alternative policy initiative.

4. STABILIZATION OF RESIDENTIAL CONSTRUCTION AS A RATIONALE

Is there any rationale for introducing public mortgage insurance so as to help stabilize the residential construction sector from the vicissitudes of the business cycle?

Such a concern is premised on the relative volatility of the residential construction sector. Yet if the capital market is efficient, any initiative designed to stabilize the housing sector must be viewed with suspicion. If the relative volatility of the housing sector reflects the greater interest elasticity of the demand for mortgage loand and/or the relatively large rise in the risk premium demanded by mortgage lenders, then so be it. To justify a policy initiative, the government would need to invoke a further rationale, such as the large fixed costs of retraining skilled tradesmen who might leave the industry during a pronounced contraction. Even if such a rationale were accepted, it would not necessarily follow that the provision of subsidized mortgage insurance would be the preferred policy response. Indeed, given its inherent flexibility, direct CMHC lending would appear (at least superficially)

to be a preferred initiative.

5. SUMMARY AND CONCLUSIONS

The major points raised or implied by the preceding discussion can be summarized as follows:

(1) The use of a market failure argument to justify the provision of public mortgage insurance is unpersuasive, now that the mortgage and capital markets in Canada are so well developed.

(2) The private sector cannot insure against "catastrophic" risk and thus only the government can provide risk-free mortgage insurance.

(3) If it is deemed necessary for the soundness of the financial system that risk-free mortgage insurance be available, then reinsurance of private contracts by the government would appear to be the preferred initiative. Reinsurance would appear to provide the greatest opportunity to harness market forces in the setting of insurance premiums.

(4) The question of whether risk-free mortgage insurance is necessary merits more attention. My suspicion is that the argument in favour of such insurance is easily overstated. Indeed, there exists a legitimate concern that an implicit subsidy to risk-bearing contained in the present program may have lead to an overallocation of financial capital and real resources to the housing sector.

(5) The notion of a "self-financing" program of public mortgage insurance is not a useful criterion to guide policy discussions. Default risk is not fully diversifiable and hence the government's full taxing and borrowing powers are what ultimately underwrite the provision of risk-free mortgage insurance.

(6) Private mortgage insurance serves to repackage, not to reduce, default risk. To the extent that default risk is diversifiable, this can be achieved directly by lenders. Second and third mortgages are an efficient means both to segment and to price risk. Both considerations suggest that the need for mortgage insurance is easily overstated.

(7) If the present requirement that "high ratio" loans be insured were dropped, it is likely that indirect competition from mortgage lenders would pre-empt the need for the CMHC to attempt to regulate the privage mortgage insurance industry. The absence of any apparent barriers to entering this industry reinforces this presumption.

(8) Because of the adverse selection problem and the fact that only the government can provide risk-free mortgage insurance, it would be very difficult for the CMHC to play the role of price leader in a market where private and public mortgage insurance co-exist, even if the CMHC seeks to "unbundle" subsidized and non-subsidized insurance.

(9) If the provision of public mortagage insurance cannot be justified in the context of a market failure, then it must be justified as a tool to achieve income redistributive objectives. Yet, even if one accepts the argument for an in-kind subsidy, there is no reason to conclude that public mortgage insurance is the preferred initiative.

(10) Conceptually, fully subsidized mortgage insurance and direct CMHC lending at the risk free rate of interest are similar in that both transform risky into risk-free mortgage loans at no cost to the borrower. Both promote risk taking. Although a detailed analysis of the ultimate incidence of both programs is beyond the scope of the present discussion paper, there is no obvious basis for concluding that direct CMHC lending is inferior to the provision of public mortgage insurance.

FOOTNOTES

1. The option of the borrower to default means, in effect, that he owns a put option written on the price of the house with a striking price equal to the book value of the mortgage. This insight has prompted a renewed interest in the pricing of mortgage loan insurance, particularly in the United States. If approved lenders in Canada were not required to insure loans to the extent that the loan to value ratio exceeds 75%, it would be possible in principle to infer the amortized value of this put option - and hence the competitive insurance premiums if expressed as annual payments - by monitoring the appropriate yield spreads.

2. Kevin Villani and John Simonson, "Real Estate Settlement Pricing: A Theoretical Framework", Journal of the American Real Estate and Urban Economics Association, Volume 10: No. 3 (Fall (1982): 249-275.

3. Private mortgage insurance may be likened, in a way, to earthquake insurance written in California. A recent state report concluded that the insurers would not be able to honour all of their claims in the event of a major earthquake. Yet the firms continue to sell, and the public continues to buy, earthquake insurance. See Time Magazine, 16 July 1984, page 59.

4. Consider, for example, an individual who buys a house and takes out a 5-year mortgage (with no prepayment privileges) at 20%. If the interest rate fell to 5%, the market value of his mortgage - the present value at 5% of the series of mortgage payments that is fixed for 5 years - would rise sharply. If the market value of the house

had not changed, the homeowner's equity could well be negative. Abstracting from moving and related costs, the homeowner in this example might rationally opt to default.

5. J. Pesando and S. Turnbull, "Mortgage Rate Insurance and the Canadian Mortgage Market: Some Further Reflection", Canadian Public Policy, forthcoming.

6. See, for example, D.F. Cunningham and P.H. Hendershott, "Pricing FHA Mortgage Default Insurance", NBER Working Paper No. 1382, June 1984.

7. See, for example, David L. Kaserman, "Evidence on Decline of FHA", Journal of Money, Credit and Banking X: No. 2 (May 1978): 194-205.

8. As always, one must recognize the fact that the net impact of such initiatives will undoubtedly be less - and perhaps significantly so - than that implied by the simple inspection of the gross flow of funds through the respective programs.

9. As noted earlier in the text, deposit insurance is regarded by many analysts as complete in spite of the present limits on the size of insurable deposits.