DISCRIMINATION IN MORTGAGE LENDING

A Review of the U.S. Experience and Implications for Canada

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DISCRIMINATION IN MORTGAGE LENDING:

A REVIEW OF THE U.S. EXPERIENCE AND IMPLICATIONS FOR CANADA

BY

DEREK DAVID BOUTANG

A Thesis/Practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

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ABSTRACT

Evidence from the United States suggests that discrimination may sometimes enter into the mortgage lending process. When it does, minority applicants are denied equal access to affordable housing. Because of the similarities between Canada and the United States, it is reasonable to ask whether mortgage discrimination also occurs in this country. When researchers look at the mortgage discrimination problem in Canada, they will inevitably turn to the U.S. experience for guidance.

This thesis is meant as the groundwork to this eventual occurrence. I review the U.S. experience with mortgage discrimination, and examines the features of that experience applicable to the Canadian context. Based on the research and regulatory regimes established in the United States, I argue that many features of the American experience render it inadvisable as a model for Canada. It particular, the search for discriminatory treatment of individual applicants is difficult and expensive.

As an alternative, I suggest that Canadian researchers look to the adverse impact of industry-accepted lending practices on minority groups. I introduce the concept of the effects test, and shows how it presents many advantages over the search for discriminatory treatment in Canada.

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Thanks also to my family who persevered while I finished the job at hand. I owe my deepest gratitude to my wife. Paula, without your patience (and the occasional prod), I would not have been able to complete this work.

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1.0 INTRODUCTION AND BACKGROUND

1.1 The Importance of a Mortgage in the Home Purchase

A home is the largest investment most people will ever make. Since few are able to save the entire purchase price, most finance some or all of their newly acquired property. Because of the central role that mortgage financing plays in providing access to housing, home buyers have a right to expect that they will be treated equitably by banks and other lending institutions. For buyers, equitable treatment in mortgage lending means having their mortgage applications approved or denied based on the same factors that apply to other applicants with similar credit backgrounds, incomes, and choice of home. With equitable treatment, equally creditworthy applicants are granted loans in similar numbers and with similar terms (interest, amortization, loan-to-value ratios, etc.) to those offered as their counterparts.

Because lenders are in the business of making money, one might argue that the profit motive makes them "colour-blind" to all factors except those related to the probable default loss of applicants. In this perspective, factors unrelated to the ability to repay a loan (such as race or gender) simply have no place in the mortgage decision, with the result that it is difficult to imagine lenders systematically denying mortgage credit to members of selected racial, ethnic, or gender groups. In fact, since discriminating lenders would be passing over profits that could be had by others, we expect that they would be out-competed in a profit-maximizing world.

Evidence from the United States however, suggests that discrimination probably enters into the mortgage transaction more frequently than either lenders or economists are willing to admit. For example, empirical evidence from the administrative database supporting the U.S. *Home Mortgage Disclosure Act* shows that minority families typically receive fewer mortgage loans when compared to white families in similar income brackets (Canner, Passmore, and Smith 1994). Furthermore, these differences are constant across cities and have persisted over a number of years (Canner and Smith 1991, Canner and Smith 1992). This evidence has led some to conclude that discrimination is pervasive in the U.S. mortgage market (Guy, Pol, and Ryker 1982; Dane 1993).

A complicating feature, however, is that differences in the frequency of loans made to minority groups can sometimes be explained by objective (non-discriminatory) factors. For example, socioeconomic differences between population groups can account for differences in loan numbers—those with low incomes tend to receive fewer loans. To the extent that racial characteristics are correlated with poverty, we expect to see differential lending patterns across racial groups even if the market is discrimination-free. Because ethnic and racial minorities tend to have lower incomes and wealth *on average* when compared with non-minority groups, a valid assessment of differences in lending patterns must account for the socioeconomic disparities among population groups.

Adequately accounting for socioeconomic differences between individuals (or population groups) seriously complicates the search for discrimination in mortgage markets. And yet, regardless of the difficulty inherent in its study, U.S. researchers believe that discrimination in mortgage lending is a serious-enough issue to warrant the effort. The result is a rather intensive effort in that country to detect and eliminate discrimination in mortgage lending. Spanning more than 20 years, this effort has led to a well-developed research literature as well as a series of regulatory initiatives designed to address the problem.

The urgency in the U.S. effort is clear. Because of the strong relationship between mortgage financing and home ownership, differential access to mortgage credit implies that minority groups (and possibly women) may have unequal access to housing. Since housing plays a central role in determining quality of life and socioeconomic status, discrimination in mortgage lending presents a potential problem for home owners, financial regulators, housing authorities, civil rights groups, and the mortgage lending industry.

1.2 Mortgage Discrimination in Canada

Canada stands in contrast to the United States on this issue in that the problem of mortgage discrimination has been undiagnosed and unreported in this country. First, Canada has no significant research in mortgage discrimination, whether by universities, regulators, or community groups. Although some authors mention it in passing as a distorting factor in the housing market (Smith 1981, Henry 1989), they do not test for the practice and instead rely on limited anecdotal evidence to support their claims.[1]

Second, Canada is not as conspicuously divided along racial or ethnic lines as is the United States. This denies Canadian researchers and regulators the sharp focus that has driven much of the mortgage discrimination research in that country. Since the impact of discrimination in Canada may be spread among more ethnic or social groups, there does not seem to have been the "critical mass" of interest at the community level to push this issue to the front of the research agenda.

Finally, because of differences in the regulatory and political climate in this country, Canadian governments have treated the presence of credit disparities much differently than their U.S. counterparts. Canada, for example, has typically addressed credit

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1 Some Canadian researchers have studied lending discrimination in other contexts (e.g., loans to small business and women entrepreneurs), but such studies seem to be focused primarily on discrimination in an industrial/commercial context. For example, Evans and Quigley (1990) studied discrimination in bank policies against manufacturing firms of different sizes, while Riding and Swift (1990) and Marleau (1995) studied discrimination against women entrepreneurs.

shortages through homeowner loans and mortgage payment relief. The U.S. government, on the other hand, has established a thorough tracking and reporting system through the *Home Mortgage Disclosure Act* and the *Community Reinvestment Act*. Further, the *Fair Housing Act* and *Equal Credit Opportunities Act* expressly prohibit discrimination in housing and mortgage lending respectively. Thus while Canada has responded by helping potential homeowners, the U.S. has regulated the lending industry.

1.3 Evolving Trends?

Recent evidence suggests that mortgage discrimination could soon rise to the top of the Canadian agenda. First, lending activity in Canada is coming under increased scrutiny, especially as lending institutions report record profits in successive years. Although the most of the attention so far has been focused on commercial lending to small businesses, the step needed to also question the banks' consumer and mortgage lending practices is small.

Second, allegations of mortgage and insurance redlining have surfaced in Winnipeg's inner city (CBC Radio 1995; Redekop 1996). According to these allegations, insurance redlining in particular is a significant problem, and is contributing to ongoing urban decline in Winnipeg's inner city.

Historically, Canadian governments have been quick to intervene in housing markets where actual or perceived discontinuities have arisen. Mortgage discrimination is such a market imperfection, and government intervention to address the problem is consistent with Canada's housing policy. Canada has a long history of intervening in the housing market. For example, the National Housing Act seeks to increase the supply of mortgage credit by reducing the risk to lenders through mortgage insurance. In a time of shrinking public resources, investigating the actions of mortgage lenders can be a low cost way for government to rectify mortgage flows while appearing proactive to community groups and minorities.

1.4 Purpose of the Thesis and Thesis Statement

Despite our lack of experience with mortgage discrimination, the convergence of these trends places the subject at least within the scope of the regulatory mind in this country. Recent allegations of mortgage redlining[2] in Winnipeg's inner city (CBC Radio 1995) also suggest that the issue may be gaining prominence in the minds of community groups. Further, since evidence exists in Canada that discrimination occurs in other credit markets (Riding and Swift 1990; Marleau 1995), it is reasonable for these groups and government to question whether it exists in mortgage lending as well. Finally, the U.S. experience suggests that discrimination in mortgage lending is a serious issue with important ramifications for access to housing by minority and low-income groups. In combination, these factors suggest that while mortgage discrimination may not be a pressing research issue in Canada at this time, it is probably on the horizon.

When the mortgage discrimination issue breaks in Canada, researchers and regulators are going to look for examples of how the problem was addressed in other countries. The natural place for them to look is to the United States, which has been dealing with this issue in the context of housing discrimination since the late 1960s. When researchers look at the U.S. experience, they will find a host of empirical models and regulatory

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2 Mortgage redlining is the practice of denying loans to individuals based on the geographic location of the mortgaged property. In the United States, mortgage redlining is closely tied to mortgage discrimination because of the segregated nature of urban housing in that country. In the recent case in Winnipeg, Investors Group was accused of denying a mortgage to a family choosing a home in Winnipeg's inner city region. Accusations of redlining are top of mind in this case because the family allegedly had received pre-approval for their loan, indicating that the loan was rejected solely on the grounds of the property itself.

interventions that could conceivably be applied in the Canadian context. At least early on, the tendency will be for Canada to reproduce U.S. efforts.

This thesis is meant as the groundwork to this eventual occurrence. In particular, I review the U.S. experience with mortgage discrimination, and examine the features of that experience that are applicable to the Canadian context. On the whole, my findings are not encouraging to Canadian researchers hoping to springboard over very basic and exploratory research on the problem in this country. Based on the research and regulatory regimes established in the United States, I argue that many of the features of the American experience render it inadvisable as a model for other countries, especially Canada.

The U.S. experience with mortgage discrimination demonstrates a number of basic points about the practice that are salient for Canada:

- First, the complexity of the mortgage lending process makes it difficult to prove or disprove that discriminatory treatment takes place in mortgage markets.

- Second, because of this complexity, mortgage discrimination studies are prone to methodological weaknesses that render them inaccurate and potentially biased.

- Third, in the U.S., more and more sophisticated empirical models have been developed without consensus on basic and fundamental questions of method, definitions, or goals. The result is that while the models become increasingly more arcane, researchers are still unable to provide a motive for discriminatory treatment by lenders, or even establish which markets are prone to discrimination. The thesis will serve as a cautionary note that this experience is possible and likely to be repeated in Canada.

- Fourth, because fundamental questions about the process remain unanswered, the U.S. regulatory effort to find discriminatory treatment is failing and will continue to do so. Any Canadian effort modelled on the U.S. program will probably also fail.

- Finally, because many basic questions will remain unresolved (at least in the near future), Canada should consider focusing its search for mortgage discrimination on the *adverse effect* of mortgage policies and not the *discriminatory application* of those policies.[3] As shall be shown, testing for the effects of discrimination provides three advantages for Canada:

  - The test relies on data that are easier to collect and analyse.

  - The approach is consistent with existing Canadian housing policy.

  - Because it focuses on lending policies and not on the actions of individuals, testing for effects is more likely to engender a cooperative approach to addressing mortgage discrimination, especially from lenders who must ultimately supply the data that will be required.

1.5 Outline of the Thesis

Since drawing lessons from the U.S. experience is a critical element of the thesis, it is important to outline that experience in some detail. I begin this task in Chapter 2, which sets down the context of mortgage discrimination in the United States. The major theme of Chapter 2 is that the context of the mortgage lending decision makes it extremely

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3 Adverse effect is a judicial principle first developed in the context of employment discrimination. At its most basic, it argues that certain practices may be discriminatory in effect, even though they may be applied even-handedly. In mortgage lending, a requirement that all applicants have an established credit rating may discriminate against newly divorced women or the young who may be able to repay their loans but unable to demonstrate an established credit history. Thus while the *application* of the policy is non-discriminatory, the *effect* is to deny some applicants credit because of factors unrelated to their repayment ability.

difficult to properly model and reproduce in a study setting. In particular, four features of the lending process work against efforts to study it:

- Mortgage lenders often have legitimate reasons to deny applicants mortgage credit. Researchers must separate treatment based on *disadvantages* of the mortgage applicant from treatment based on *discrimination* against him/her.

- Despite 20 years of U.S. research, it is not clear how or where discrimination enters into the mortgage lending process. The actions of real estate agents, home appraisers, and even home buyers themselves (through their misconceptions of the mortgage market) can create the appearance of discrimination.

- As a related but separate point, when discrimination does enter into the mortgage transaction, it is not clear how it is most often manifested. For example, does discrimination most often result in mortgage denials? In higher interest rates? In more arduous repayment terms?

- Finally, much of the work on mortgage discrimination has proceeded without the theoretical underpinning common in most other forms of social and economic research. As a result, mortgage discrimination researchers have a hard time addressing the profit-motive argument which states that discrimination is unviable on economic grounds. Why would profit-maximizing lenders forego making a loan to a client who could pay?

Chapter 3 reviews findings from U.S. studies and also describes the regulatory framework that has been established in that country. The central theme in this chapter is that few (if any) firm conclusions can be drawn about the presence or absence of mortgage discrimination in that country. Although a preponderance of evidence suggests that discrimination probably exists in at least some markets, many findings are contradictory and subject to severe methodological criticisms. As well, a significant regulatory effort has generally failed to identify lenders who discriminate. Despite these significant shortcomings in existing efforts, uncertain and biased approaches to investigating the problem continue to exist (Yezer, Phillips, and Trost 1994).

Chapter 4 brings the discussion back to the Canadian context by discussing the implications that the U.S. experience has for this country and for Canadian housing policy. In the chapter, I elaborate two central themes:

- First, Canada can learn a series of important lessons about mortgage discrimination from the U.S. experience. I collect these lessons into three groups:

  - lessons about the scope and context of mortgage discrimination.

  - lessons about identifying and researching mortgage discrimination.

  - lessons about the political and regulatory issues that are raised by the mortgage discrimination problem.

  In general, I argue that the U.S. experience presents challenges and opportunities for Canada.

- To respond to these lessons, I argue that Canadian governments should strongly consider applying the effects test to mortgage discrimination in this country. From a research and regulatory standpoint, the search for disparate impact is a much more congenial basis on which to investigate mortgage discrimination. In a time of less interventionist and contractionary government, the search for adverse impacts also dovetails neatly with existing Canadian housing policy. Finally, approaching mortgage discrimination from this perspective gives the effort a less antagonistic and accusatory nature. This may allow the Canadian experience to develop differently from that in the United States.

A final Chapter 5 summarizes my arguments and concludes the thesis.

2.0 THE CONTEXT OF MORTGAGE DISCRIMINATION

Identifying and eliminating mortgage discrimination has been a priority topic for U.S. researchers and regulators since the late 1960s. Under the combined influence of the community reinvestment and civil rights movements, Congress established a comprehensive regulatory program through the fair lending laws[4] to monitor the lending activity of banks and other financial institutions to minority groups. At the same time, community activists and university researchers generated a thick literature on methods to "prove" the presence or absence of discriminatory treatment in mortgage lending.[5]

Despite this very significant effort (detailed more closely in the next chapter), the U.S. experience with mortgage discrimination is marked by controversy and conflicting findings. Little progress has been made in answering basic questions about how discrimination enters into the lending decision. In fact, there is only limited agreement that mortgage discrimination is even a problem that needs to be addressed. The gaps in U.S. knowledge about mortgage discrimination are so great that one leading researcher has commented that "(G)iven its social importance and media attention, it is staggering that researchers in fact have little definitive knowledge about the existence and severity of discrimination in mortgage markets" (Galster, 1992a, 652).

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4 As used in this thesis, the term "fair lending laws" refers to a set of laws enacted in the early 1970s to ensure equitable access to credit for minority groups. *The Equal Credit Opportunity Act, 1974* establishes a series of personal attributes that can not be considered in an assessment of creditworthiness. *The Home Mortgage Disclosure Act, 1975* requires selected mortgage lenders to disclose the geographic location of their loan applications and denials. *The Community Reinvestment Act, 1977* encourages financial institutions to meet the credit needs of their delineated communities. Insofar as mortgage discrimination is concerned, *The Fair Housing Act, 1968* can also be considered as one of the fair lending laws. The FHA prohibits discrimination in the sale or rental of housing units.

5 A recent review of discrimination in mortgage and housing markets includes a bibliography with over 150 separate titles (Galster 1992a).

In this chapter, I argue that the context of the mortgage lending process presents important challenges to identifying discrimination in mortgage markets. These challenges partly explain why U.S. efforts have generated inconclusive results. Because the contextual issues are similar in Canada, there is reason to believe that Canadian efforts to examine mortgage market discrimination will encounter the same difficulties. This chapter draws out these issues and provides some background for my discussion of the U.S. results and their implications for Canada in subsequent chapters.

2.1 Discrimination or Disadvantage?

Under ideal circumstances, equally creditworthy applicants should be eligible for identical mortgage loans.[6] In practice, however, no applicant presents *exactly* the same credit profile as another. Job histories, income levels, and other credit factors all combine to produce unique circumstances for each applicant. The task for lenders and other agents is to assess these circumstances and determine whether an applicant is creditworthy *enough* to counterbalance the risk of lending him money.[7] In risky cases, lenders may doubt the applicants' ability to repay their loans, and hence deny them credit. For many (probably most) of these applicants, however, the reasons for their denial have nothing to do with their race, gender, or membership in another protected class. Instead, they are denied credit because they are economically *disadvantaged* relative to other (less risky) applicants.

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6 Provided, of course, that downpayment amounts, purchase price, and property characteristics of the home are similar and reflect the true market value of the home.

7 Essentially, the lender must synthesize the attributes of the applicant to develop a subjective measure of the risk associated with the loan.

The distinction between discrimination and disadvantage is fundamental to understanding the mortgage discrimination issue. At its heart, it implies that while everyone should have equal *access* to credit, the actual *distribution* of that credit will reflect the distribution of economic status. Since economic status is unequal, so too will be the number of mortgages received by different population groups. In other words, if single mothers have poorer credit ratings on average than the rest of the population, we expect that they will receive fewer mortgage loans than the population at large.[8] Economic disadvantage, however, not necessarily discrimination, is responsible for the observed difference in lending rates to single mothers. The central question for discrimination researchers is whether the mortgage market reinforces this maldistribution.[9]

The implications of the discrimination/disadvantage distinction are clearly controversial. Since lenders claim that profitability is the key factor driving their decisions, factors unrelated to repayment performance (such as race or gender) should not enter into the lending decision. And yet these factors are very strongly correlated with low lending rates (Canner and Smith 1991; Canner and Smith 1992; Canner, Passmore, and Smith 1994). Researchers are thus left in the uncomfortable position of trying to account for all of the socioeconomic differences that might affect lending rates. The controversy arises over the gap that is left when researchers can't "explain away" the differences through socioeconomic factors. Social activists suggest the gap is caused by discrimination (see Cloud and Galster 1993 for several of these); lenders reply that economic forces simply will not allow discrimination to persist (Becker 1993; Brimelow 1993).

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8 Note that on a case-by-case basis, we cannot make this assertion without accounting for individual economic factors of the single-mother applicants. The discrimination/disadvantage distinction provides a rationale for credit differences between population *groups*, not between individuals.

9 The public policy question of whether the mortgage market can (or should) be used to address economic inequality is not addressed in this thesis.

Although fundamental to the issue, the distinction between differential treatment and economic disadvantage makes discrimination research very complicated. For one, discrimination is subtle. The landmark Boston Fed study (Munnell, *et. al.* 1992) concluded that discrimination was present in the Boston area because the disadvantages of minority applicants (specifically greater debt burdens, higher loan-to-value ratios, and weaker credit histories) accounted for only some of the difference in lending rates to black and Hispanic applicants. The study also found, however, that minority applicants who are *clearly eligible* for loans get them at the same rate as non-minority applicants. The study thus concludes that discrimination only occurs in marginal cases where lenders may have defensible business reasons for denying a loan.

In many respects, the conclusion that lenders have sound business reasons to reject such loans appears to support the lenders' position that discrimination never occurs. In fact, if *all* marginal applicants were rejected, discrimination would probably never occur. The problem is that the lending decision is not mechanic—lending officers often use their subjective judgement to determine if they are willing to risk lending to a marginal applicant. In cases where marginal applicants differ on the basis of personal characteristics (race, gender, age, etc.), it is possible for discrimination to creep into the lending process.

Note that the subjective elements of the lending process cause the notion of a "marginal" applicant to fluctuate, complicating this picture even further. Lenders manage their entire loan portfolio so as to balance the risk they face. Lenders who are concerned about being overextended in the mortgage market may reduce their activity in this area by enforcing higher credit standards. By definition, this process will marginalize some applicants who, in times of freer credit, would not be marginal. Thus a description of the marginal applicant must always be considered in light of the overall credit environment and the lenders' risk management strategy in place at the time.

Even assuming that we can control for the credit environment in our definition of a marginal applicant, systematic bias in mortgage lending remains difficult to prove at the individual level. Lenders will always be able to provide business reasons for rejecting marginal applicants. This explains the experience of U.S. financial regulators (discussed in greater detail in section 3.4) who have had almost no success in identifying discrimination by individual loan officers or even individual institutions. The nature of discrimination is such that many applications need to be examined together (pooled) before statistically valid patterns emerge.

Pooling applications presents its own problems, the most clearly apparent of which are demonstrated by the Boston Fed study already discussed. The study collected data on *all* black and Hispanic applicants in the Boston area in 1990, amounting to just over 1200 applications. The breakdown of this sample is provided in Table 1.

TABLE 1

Results from Munnell, *et. al.* 1992	
Steps in the Data Collection	**Cases**
Total # of black/Hispanic Applicants	1,210
# with Complete Data	722
# of Applicants Denied Mortgage Credit	203
# of Lenders Participating in the Study	131
Possible Discriminatory Cases/Lender	**1.5**

As the table demonstrates, even if discrimination entered into *every case* where a black or Hispanic applicant was denied a mortgage, this still implies a rate of discriminatory treatment below two cases per institution *per year*. Since discrimination probably did not occur in every case, the frequency of discriminatory treatment is likely much lower.

Based on real life data, this simple example does much to explain why the distinction between discrimination and disadvantage complicates mortgage discrimination research. As we have seen, economic disadvantage accounts for many mortgage denials—as a result, discrimination is probably rare. But as the frequency of discriminatory treatment falls, it becomes much more difficult to identify. From a statistical perspective, this implies that tests for discrimination are not very powerful—random factors that increase the denial rate for minority applicants can be interpreted (incorrectly) as discrimination. For example, a bank catering predominately to minority applicants would reject such applicants far more frequently than a bank catering only to non-minority ones. In a pooled sample (which is needed to detect statistically significant differences in treatment), this fundamental difference in clientele might not be captured unless the sample was very large with each case identified by lending institution.

Unfortunately, the need to pool applications because of economic disadvantage also means that it is difficult to identify lenders who systematically discriminate against minority applicants. In an aggregated study, the presence of one lender who intentionally discriminates can lead to the false conclusion that discrimination is practised by all. More significantly, aggregating data leads to bias in parameter estimates, seriously affecting the validity of such approaches (Galster and Hoopes 1993).

2.2 Discrimination in the Mortgage Lending Process

Up to this point, I have focused on the denial of a mortgage application as the point at which discrimination is manifested. By the time applicants are denied, however, they have already met with real estate agents, shopped around for loan terms, met with loan officers in one or more lending institutions, completed a loan application, and had their prospective home appraised. If applicants are approved, they must then pay back the loan.

Mathematically, the mortgage lending process can be modelled by at least four separate equations, each representing a decision-point in the chain:[10]

$$A_i^* = K_A + X_{Ai}\beta_A + \epsilon_{Ai} \tag{1}$$

$$T_i^* = K_T + X_{Ti}\beta_T + \epsilon_{Ti} \tag{2}$$

$$E_i^* = K_E + X_{Ei}\beta_E + \epsilon_{Ei} \tag{3}$$

$$F_i^* = K_F + X_{Fi}\beta_F + \epsilon_{Fi} \tag{4}$$

where A_i*, T_i*, E_i*, and F_i* are latent dependent variables indicating the likelihood of application, of selecting particular mortgage terms, or endorsement, and of foreclosure, respectively. The K_Js ($J=A, T, E, F$) are constant terms. The X_{Ji}s are matrices of observed values of independent variables (e.g., attributes of the borrower, of the property, or of the socioeconomic environment). The β_Js are vectors of parameters to be estimated, and the ϵ_{Ji}s are identically and independently distributed random error terms.

The set of equations shows how the applicant must first choose a lender (equation **(1)**), then apply for a mortgage with a given set of terms (equation **(2)**), then be endorsed/approved for the loan (equation **(3)**), and finally pay back or forfeit the loan (equation **(4)**). As the equations show, the lender only has a chance to accept or reject a loan application at or near the end of the process (equation **(3)**). With so many other decisions affecting the lending process, why does it make sense to focus only on the lender as the source of discrimination in mortgage markets?

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10 This approach to modelling the lending process was first proposed by Maddala and Trost (1982) and reviewed in detail by Rachlis and Yezer (1993).

In fact, evidence from the U.S. National Housing Study (Turner, Struyk, and Yinger 1991) demonstrates that discrimination can occur at each step in the house purchase. Since it is virtually impossible to separate buying a home from getting a mortgage, this implies that discrimination also enters into each step of the lending process. As a result, we must broaden our search for discrimination from lenders to the other agents involved in the housing market.[11]

The variety of points at which discrimination can enter the lending process further complicates mortgage discrimination research. Wienk (1992), for example, points out that discrimination in housing credit markets is frequently (but incorrectly) thought of as a process that can be understood by analysing only the behaviour of lenders—where they market, to whom, and how. But as we have seen, this does not represent the full process. Other agents (buyers, sellers, insurers, appraisers, and others) may also contribute to discrimination and its effects in mortgage markets. Interestingly, Wienk notes that *mortgage applicants themselves* can contribute to the appearance of discrimination if they avoid certain lending institutions because they expect to be treated unfairly.[12]
The obvious complication for researchers is the loss of a focal point for their research. Examining denial rates means that we can focus on lenders as the source of

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11 Rachlis and Yezer (1993) point out that the sequential nature of the lending decision presents important statistical problems to identifying mortgage discrimination in addition to the contextual ones discussed here. I review their comments in more detail in section 3.3.

12 While it is clear how the misperceptions of applicants can lend the appearance of discrimination to an institution, it is more difficult to see how real estate agents or others can affect the mortgage market. Most of these other agents affect the mortgage market through a process known as "steering". Real estate agents, for example, may steer clients away from homes or lenders that agents feel are unsuited to their clients. Appraisers may undervalue homes in certain parts of a city, steering clients out of those areas. When personal characteristics enter into the criteria for steering clients to particular homes, lenders, or areas, discrimination is apparent.

discrimination. As soon as other sources become possible, we don't know where to look. Mathematically, the problems become even more serious as we move from standard single equation models to very complicated multiple equation ones.

In part, not knowing where to look for discrimination stems out of the relative invisibility of the mortgage lending transaction to researchers and to government. Even where government is involved (e.g., through the provision of mortgage insurance), the chief elements of the transaction occur between private entities and individuals. The confidentiality of the process makes it difficult to apply standard research methods such as direct and participant observation. As a result, researchers do not have access to many of the important data elements needed to determine if and where discrimination enters the mortgage lending process.

A second complicating factor is the need to distinguish between discrimination and nondiscriminatory differential treatment (Warner and Ingram 1982; Canner, Gabriel, and Woolley 1991). At each stage in the home-buying process, some applicants will become discouraged. Some may not find a home they like, others may not be able to afford one they do like, and yet others may disagree with appraisers over the value assigned to the home they have selected. Some of these applicants will eventually drop out of the mortgage lending process entirely, either by their own action, or by the actions of others (e.g., real estate agents may discourage buyers from applying at institutions known to have high credit standards).

Adding the possibility that the action of non-lenders influences the mortgage market makes the process of separating discrimination from non-discriminatory differential treatment almost intractable. Wienk (1992) points out that there are three major conceptual and measurement problems associated with this task:

- First, it is not clear which types of screening behaviour are illegal. If lenders require applicants to present established credit ratings, does this discriminate against minority applicants from cultures or religions that regard money lending and banking practices as wrong? Is the requirement discriminatory for those who may not have an independent credit history, such as a recently separated woman or young people?

- Second, the research must distinguish self-screening from screening by others, especially at the pre-application stage. If applicants fail to complete all steps in the application process, have they experienced discrimination or simply changed their minds about buying a home? Information consisting only of completed applications cannot support research on this point. Unfortunately, this information is the most readily available, and so it is widely used.

- Finally, existing U.S. data cannot distinguish the relative importance of the various parties to the home-buying process (including the buyer) who deals with purchase transactions. A real estate agent can discourage an applicant prior to making an application. Is this a failure of the mortgage market, or of the broader housing market? More importantly, can this be determined from existing studies?

U.S. researchers still have much to learn about how and where mortgage discrimination enters the lending decision. This presents important challenges to discrimination studies that focus on a single point (e.g., the approval process) because it is difficult to separate the impact of discrimination from effects that may enter the process before the lender even sees the applicant. In particular, there is a danger in assigning responsibility for discriminatory treatment at the wrong point. If this is the case, then regulation may be applied inappropriately and the problem will persist.

2.3 Denial and Differential Terms: Black, White and Shades of Grey

Up to this point, I have discussed mortgage discrimination as if its main effect is to reduce the chance of a minority applicant receiving a loan. In truth, however, discrimination need not result in the denial of an application. An applicant perceived as presenting a higher than average risk might be offered less favourable terms to compensate for this risk instead of being denied outright. Adjusting interest rates to account for risk is a common and widely accepted practice in financial markets. Government bonds have less risk (and lower interest rates) than corporate bonds, and short term interest rates are usually lower than long term rates where the longer duration of a loan imposes a greater risk on the lender.

Interest rates are only one component of the terms usually offered to applicants. Duration of the loan, the ability to pre-pay, the kind of collateral accepted, and the size of the downpayment are also important factors in the lending decision. Applicants and lenders must agree on these terms before a loan is made, and it is not unusual for many to barter back and forth before coming to an agreement.

Discrimination is indicated if two applicants with equal applications are offered different "deals" by lenders. Testing for such differences is much more complicated than testing for differing approval patterns because the number of factors to account for in the research rises dramatically. More importantly, however, is that mortgage terms are negotiated between the lender and the applicant. As a result, applicants and lenders can "trade-off" one set of terms versus another. Because preferences will differ, it becomes difficult to determine when one set of terms is better than another. Without being able to rank mortgage packages, identifying discrimination on this basis is challenging.

The difficulties associated with comparing terms for approved mortgages combined with the easy availability of information on completed applications from the HMDA database probably explains why U.S. research has concentrated on lenders and their acceptance/rejection rates. Nevertheless, it is important to remember that discrimination may be more prevalent among those loans that are approved than among those that are denied.

2.4 Theories of Discrimination

A final complicating factor in the context of mortgage discrimination is that much of the work has proceeded without the theoretical underpinning common in most other forms of social and economic research. In general, few studies have been able to provide a sound theoretical justification for why the practice continues. Most studies rely on the argument that discrimination stems from individual loan officers exerting their personal biases. While this argument may apply in individual cases, it does not explain why discrimination would become systematic or wide-spread.

This is a particular shortcoming in light of a range of theoretical justifications for why mortgage discrimination *cannot* exist. Neoclassical economic theory states that if mortgage lenders are in business to maximize profit, they will not forego revenue by denying loans to creditworthy applicants, whatever their race, gender, or age.[13] As a result, lenders and researchers have argued that what *appears* to be discriminatory behaviour can in fact be explained by objective factors other than discrimination (Avery, Beeson, and Sniderman 1993).

This position is consistent with theoretical work completed by Stiglitz and Weiss (1981) in the early 1980s. These authors argued that lenders must rely on imperfect information about the creditworthiness of loan applicants. In particular, lenders only know that

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13 This is argued by U.S. regulators as well. See Syron (1993) for an example.

applicants will repay their loans *after* the loans are repaid. Meanwhile, lenders risk default loss if their assessment of borrowers was incorrect. To moderate this risk, Stiglitz and Weiss argued that lenders may alter the credit terms to risky loan applicants if they doubt the applicants' ability to repay their loans as scheduled. In mortgage markets, this suggests that if lenders correctly believe that a protected category (e.g., race) reflects repayment risk not fully measured by other characteristics (such as employment history, credit history, etc.), it makes economic sense for them to use this category to adjust the terms of the mortgage. This point has been recently argued by Canner, Gabriel, and Woolley (1991) and demonstrated by Galster (1992a).

Stiglitz and Weiss's arguments are based on the traditional economic assumptions of rationality and profit maximization. When we step out of the neoclassical economic framework, however, these theories are no longer successful at predicting lender behaviour. In particular, if we assume that discrimination is not a rational act, institutional economic models can be applied to establish non-profit-maximizing justifications for lender behaviour. A lender may be satisfied to make a certain minimum level of profit and discriminate against certain groups for a range of personal reasons.

Discrimination may also result from a mistaken attempt to reduce the overall risk in a loan portfolio. The loans officer may deny loans to certain groups or adjust the terms to maintain the overall risk profile of the loans outstanding. Since no application can ever contain all possible information, and since one never really knows if profits are at a maximum, stereotyping is used to complete the information on potential default. Since variations in profit are not easily linked to discriminatory decisions, the practice can persist. The claims by academic economists that discrimination is irrational may not be relevant because they ignore the fact that discrimination has occurred in many markets.

The problem with such institutional theories is that they are very dependent on the behaviour of individual loan officers. Because individual behaviour varies so much, a consistent theory is needed to develop a data collection and analysis strategy to test for any phenomenon. If there is a sociological or psychological explanation for discrimination by mortgage lenders, a theory is needed to explain why, how, when, and against whom. Then a data collection strategy can be developed to support analysis of the extent of the practice.

Without a better theoretical basis to explain how discrimination occurs, a serious gap exists in current mortgage discrimination research:

- First, it implies that the theoretical justifications supplied by neo-classical economists are correct. In particular, mortgage discrimination researchers cannot discount the profit-motive argument that states discrimination is unviable in the long run on economic grounds.

- Second, the lack of theoretical justification significantly undermines the empirical work being conducted in the area. Even rigorous studies (such as the Boston Fed study by Munnell, *et. al.* 1992) are open to criticism from those who counter that the practice simply cannot exist (see Becker 1993). As a result, attention must be diverted from the search for discrimination to respond to economists who ask why rational, selfish lenders would discriminate.

2.5 Summary

This section described the context of the mortgage lending process. The key theme in this chapter is that the context of the mortgage lending decision makes it extremely difficult to properly model and reproduce in a study setting. In particular, four features of the process work against efforts to study it:

- Researchers must distinguish between treatment based on the *disadvantages* of the mortgage applicant from treatment based on *discrimination* against him or her.

- It is not clear how or where discrimination enters into the mortgage lending process. In particular, the actions of a range of actors (including mortgage applicants themselves) can contribute to the appearance of mortgage discrimination.

- If it exists, discrimination can be manifested by granting differential terms to mortgage applicants. However, because the preferences of the applicants also determine the selection of terms, it is difficult to separate discrimination from preferences for different terms.

- Finally, those who claim that discrimination is present in mortgage markets proceed on the basis of weak theoretical grounds, especially in face of those who claim that the practice simply cannot exist.

3.0 U.S. APPROACHES TO IDENTIFYING MORTGAGE MARKET DISCRIMINATION

The United States has had extensive experience with mortgage market discrimination. Identifying and eliminating the practice has been a priority for U.S. researchers and regulators since the late 1960s. This has led to both a comprehensive literature on the subject, and a vast regulatory program designed to detect if individual lending institutions (and groups of institutions) discriminate on the basis of personal characteristics of the applicant. Although a preponderance of evidence suggests that mortgage discrimination occurs at least in some markets, the U.S. experience is nevertheless marked by controversy and conflicting research findings. In particular, U.S. researchers and regulators have been unable to conclusively explain how discrimination enters the lending process, how its effects are manifested, or even how best to detect and prevent its influence.

This chapter reviews the U.S. experience with mortgage market discrimination by looking at the research that has been conducted in the area (sections 3.2–3.3) and by describing the regulatory structures that have been established to investigate and prevent the practice (section 3.4). In the course of reviewing this experience, I point out that despite the effort, few firm conclusions can be drawn about the presence of mortgage discrimination in the United States. While many studies have suggested that the practice exists (or existed) in some markets, evidence is generally weak and subject to methodological criticisms. Furthermore, despite an intensive regulatory effort, U.S. financial regulators have not been successful in identifying lenders who discriminate.

3.1 A History of Mortgage Discrimination Research in the United States

Mortgage discrimination research developed out of two social trends in the United States in the late 1960s and early 1970s. First, mortgage discrimination was strongly linked to the broader issue of access to housing for black and Hispanic minorities in the U.S. (Cloud and Galster 1993). In this context, concerns about mortgage discrimination rose to prominence as part of the civil rights movement of the late 1960s (Dane 1993).

As a separate but related movement, mortgage discrimination was suggested as a factor in the economic decline of racially segregated inner city areas. (See Guy, Pol, and Ryker 1982 for a discussion.) Because of the possible impact on credit flows needed to sustain residential reconstruction and repair, the community reinvestment movement pointed to mortgage discrimination as an important social problem. It encouraged local communities to organize against banks that "redlined" their neighbourhoods by accepting local deposits but refusing local loans. Community organizers painted an evocative picture of savings being extracted from poor areas with high ethnic populations, and then lent elsewhere. Research was needed to support these allegations, and a number of community groups studied the degree to which lending institutions discriminated against individual neighbourhoods. Shlay (1989) provides an overview of many such community studies, and also presents an abridged "research manual" on how groups can undertake these studies on their own.

By the early 1970s, pressure on Congress from civil rights leaders and the community reinvestment movement resulted in a series of legislative interventions in housing and mortgage markets designed to address discrimination and make it easier to study the practice.[14] The key legislative action for researchers was the passage of the Home

[14] *The Fair Housing Act* (FHA) of 1968 banned discrimination in the sale or rental of housing units. In 1974, the *Equal Credit Opportunity Act* (ECOA) established a series of protected attributes (including race, sex, and age) which could not be

Mortgage Disclosure Act (HMDA) which created a database that outlines the geographic distribution of mortgage loans for the entire country. Since the database is organized according to Census tracts, mortgage flow data can be combined with socioeconomic variables (such as the percentage of black residents in a given Census tract) to develop basic models of mortgage lending to specific areas.

Early studies based on HMDA data showed different patterns of mortgage lending to white and minority neighbourhoods. (Many of these earlier studies are reviewed in Benston 1981). In the academic literature, however, the studies were heavily criticised for methodological and theoretical flaws. Differential mortgage flow patterns into a given area occur for many legitimate reasons, not the least of which is a lack of demand for mortgage loans in a given area. (See Benston (1981) or Holmes and Horvitz (1994) for a complete discussion.)

Since discrimination is only one of many explanations for differential mortgage lending patterns, redlining studies fell into disrepute, and interest in the subject waned during the early to mid part of the 1980s (Canner, Gabriel, and Woolley 1991; Credit Union Executive 1994). The issue did not disappear, however, and regained national attention in the U.S. after a series of newspaper articles again reported disparities in credit flows to minority groups (Dedman 1988; Blossom, Everritt, and Gallagher 1988).

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considered in an assessment of creditworthiness. *The Home Mortgage Disclosure Act 1975* (HMDA) (amended in 1988 and 1991) requires mortgage lenders to disclose the geographic location of their loan applications and denials. *The Community Reinvestment Act 1977* (CRA) encourages financial institutions to help meet the credit needs of their delineated communities. Enforcement of this legislation is shared by the U.S. Department of Housing and Urban Development (HUD) (FHA and ECOA) and the federal financial regulators (ECOA, HMDA, and CRA). Dane (1993) provides a detailed discussion of the events that led up to the enactment of these measures.

These articles coincided with legislative revisions to the HMDA and Community Reinvestment Acts. These revisions substantially improved the data being collected, and for the first time allowed researchers to compare the outcomes of *individual mortgage applications* instead of the number of mortgages to individual census tracts. Combined with a commitment from the Clinton Administration to use fair lending laws to address racial and social inequities in housing markets (Tepper 1994), these developments have returned mortgage discrimination to the forefront of the housing research agenda.

3.2 Identifying Mortgage Discrimination

Several authors have tried to organize the mortgage discrimination research literature. The classic approach was developed by Benston (1981) who grouped the literature into six branches of study:

- analyses of the supply of mortgages in terms of numbers and dollars (classic redlining studies).
- measurement of the relative risk of lending in areas or to borrowers in terms of defaults and foreclosures (default loss studies).
- estimates of the terms charged to mortgagors.
- comparison of the appraisal value to purchase price ratios for a range of properties.
- evaluation of the extent and determinants of denials of applications for mortgages (application denial studies).
- estimates of the demand for mortgages by actual and potential home buyers.

Because Benston's approach focuses on the data sources and statistical methods used to study mortgage discrimination, it works well to classify studies that use an indirect, empirical approach to studying mortgage discrimination. Traditionally, mortgage discrimination studies have attempted to infer discrimination from observable differences in loan approvals, amounts, types, and terms. Studies developed and evaluated a mathematical model that "explained" factors influencing a lending decision. (Equations **(1)** to **(4)** represent a reduced form specification of such a model.) Discrimination was deemed to play a part in decisions not fully explained by legitimate or lawful business reasons, or in which protected variables (such as race or gender) were found to be statistically significant.

Recently, however, a new set of studies have moved away from the "residual" approach to identifying mortgage discrimination.[15] In these studies, researchers have attempted to observe discrimination directly by testing lender practices and by using case study methods to record lender treatment of individual borrowers. Such "direct" approaches represent a significant departure from traditional mortgage discrimination studies because they focus on the lending *process* as well as the lending *outcome*. Unlike empirical studies (which usually focus only on lending outcomes) studies using direct methods allow researchers to study discrimination at the application and pre-application stages of the process, long before enough data is collected for traditional methods to be feasible.

Because these studies represent such a departure from traditional methods, recent literature reviews (Galster 1992a; Cloud and Galster 1993) have considered them separately from other studies. I follow this general approach in discussing the literature in the following subsections. In subsection 3.2.1, I review the more traditional research

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15 This term was used by Wienk (1992) and refers to an econometric practice that describes the part of a regression model that cannot be explained as the "residual" of the regression equation.

approaches to studying mortgage discrimination. I discuss the newer approaches in subsection 3.2.2.

3.2.1 Empirical Approaches

The most common approach to investigating discrimination and redlining in mortgage lending has been to regress the number and amount of loans provided in a given Census tract on a series of financial and neighbourhood variables collected through the U.S. Census and the Home Mortgage Disclosure Act. (For a detailed review of these studies, see Benston 1981; Shlay 1989; Canner and Gabriel 1992.) With the exception of Hula (1991) who was sharply criticized for using aggregate data for the entire U.S. (Shlay, Goldstein, and Bartelt 1992; Galster 1992b), these studies have consistently shown racial differentials in the allocation of mortgage credit, even when other features of the census tract are accounted for in the construction of the regression equation. However, as numerous authors (Benston 1981; Rachlis and Yezer 1993; Canner, Gabriel, and Woolley 1991) have pointed out, data at such an aggregate level can never distinguish discriminatory behaviour from legitimate differences in lending rates based on area characteristics (such as the demand for mortgage loans in a given area) that are not captured by the data.[16]

A second approach in the early 1980s used survey or private regulatory data on actual mortgage applications to overcome the problems associated with the aggregated HMDA data (Black, Schweitzer, and Mandell 1978; Schafer and Ladd 1980; King 1981; Warner and Ingram 1982). These studies attempted to estimate acceptance/denial equations based on the characteristics of individual borrowers. Results were mixed, and generally showed that race, gender, and other protected characteristics had only modest statistical

[16] I discuss the flaws in mortgage flow models in section 3.3 below.

significance once other financial factors were considered. Furthermore, using similar methods, Black and Schweitzer (1985) found that minority applicants were granted lower interest rates and longer loan terms than similarly situated white applicants. Black and Schweitzer's findings suggest that minority applicants may actually have received *preferential* treatment when compared with white applicants.

Theory from the work on the economics of discrimination in labour markets (Arrow 1973; Becker 1971) has also been applied to the study of discrimination in mortgage markets. Arrow's basic model suggests that minorities attempt to minimize the cost of discriminatory treatment against them. When faced with close substitutes (such as conventional or government-insured mortgages), minorities will migrate towards the non-discriminatory option. Applied to the mortgage market, the model predicts that if lending institutions discriminate, minorities will be "crowded-out" of conventional mortgages into those insured by the government. By implication, then, differential usage of government-insured mortgages by black and minority applicants might indicate the presence of discrimination in the conventional mortgage market.

In early work testing this hypothesis, Shear and Yezer (1983) found that risky applicants are indeed shifted from the conventional to the government-insured mortgage market. However, Shear and Yezer suggest that this has more to do with legal limitations on the supply behaviour of private mortgage lenders than differential treatment based on race or sex. Using a different specification in 1985, these same authors again found evidence of significant differential treatment of black households by the conventional mortgage sector, although the effect varied across cities (Shear and Yezer 1985). Gabriel and Rosenthal (1991) found that minority households are significantly less likely to obtain conventional financing than whites, even after controlling for various proxies of default risk. Finally, Canner, Gabriel, and Woolley (1991) found that the average minority household in a minority residential area is only about one-third as likely to obtain a conventional loan as a comparable white household in the same neighbourhood, even after controlling for several objective measures of default risk. Although this is suggestive of discrimination, the authors admit that their findings are also consistent with other conclusions, including differences in preferences among minority groups for government-insured financing, the effect of steering by real estate agents, and market specialization by mortgage lenders in the conventional mortgage sector.

Recent changes to the Home Mortgage Disclosure Act (1990) have significantly improved the quality of data institutions are required to collect and report. For the first time, the HMDA data allow researchers to examine mortgage application acceptance/denial rates *while holding income constant* over all applicants. The new data confirms that black applicants are denied at least twice as frequently as white applicants of the same income and gender (Canner and Smith 1991; Canner and Smith 1992). Again, however, the new HMDA data cannot attribute such disparities necessarily to discrimination in the mortgage market. In particular, the data do not collect important variables (such as the credit history of applicants) that figure prominently in the mortgage lending decision (Credit Union Executive 1994). Furthermore, in a recent study comparing old and new HMDA data, Holmes and Horvitz (1994) failed to find any evidence of discriminatory lending. Results from Schill and Wachter (1993) using the new data also support the conclusion that lender behaviour is non-discriminatory.

The most convincing evidence to date of discrimination in mortgage lending is provided by a landmark 1992 study from the Federal Reserve Bank of Boston (Munnell, *et. al.* 1992). In an earlier study, the Fed confirmed differential lending patterns to minority areas in Boston (Bradbury, Case, and Dunham 1989). However, the Fed was unable to attribute the difference to discrimination because it did not control for factors related to the demand for mortgages. Without demand-side variables, one can attribute differences in mortgage flows to possible differences in home purchase patterns between black and white neighbourhoods.

In 1992, the Boston Fed set out to address the shortcoming in its previous study by examining all aspects of the lending decision (Munnell, *et. al.* 1992). Individual loan applications for black and Hispanic applicants in Boston were tracked for a large number of financial institutions and then paired with a large sample of white applicants. Additional data on each applicant were requested from lenders' loan files to supplement data available from the HMDA and the Census. In total, 38 additional variables where collected. The additional variables were specified through a series of interviews with mortgage lenders before the study from factors that the lenders claimed to consider when making a loan. By supplementing the HMDA and Census data in this manner, the Fed effectively by-passed previous criticisms of studies which alleged that researchers were not taking all aspects of the mortgage lending decision into consideration (cf., Canner, Gabriel, and Woolley 1991).

The results of the Boston Fed study indicate that minority applicants, on average, have greater debt burdens, higher loan-to-value ratios, and weaker credit histories than white applicants. These disadvantages account for a large portion of the difference in denial rates. However, these factors do not wholly eliminate the disparity in mortgage acceptance rates. Even after controlling for economic and property characteristics, minority applicants experience a denial rate of 17%, compared to a denial rate for white applicants of 11%. The study concludes that discrimination is responsible for the 6% difference in approval rates.

3.2.2 Testing Studies

All of the studies I have discussed thus far look only at the outcome of the mortgage lending decision. As I pointed out in Chapter 2, however, only looking at lending outcomes may not capture all relevant factors in the lending process. Although this point is acknowledged by other authors (e.g., Wienk 1992; Galster 1991b; Rachlis and

Yezer 1993), no studies have attempted to model the entire lending process. Recently, however, two studies have looked at discrimination at the pre-application stage of the process using testers who attempt to directly observe discrimination.

Direct testing involves using paired teams to approach selected mortgage lenders posing as potential applicants. Individual testers are trained to discuss a possible loan scenario with lending officers, and are closely matched in all applicant-profile characteristics except for the one under study (usually race). Testers document their interaction with lending staff according to pre-determined rules. These interview logs are then coded and summarized for statistical testing. Discrimination is suspected if the "experimental" group of testers (e.g., blacks) return significantly different interview logs than the "control" group (e.g., whites).[17]

While direct testing of home sellers/landlords and real estate agents has been used for many years (Turner, Struyk, and Yinger 1991), this approach has only recently been applied to the mortgage market. As a result, few studies have been undertaken in mortgage markets using direct methods. In their wide-ranging review of mortgage discrimination research, Cloud and Galster (1993) review three in detail:

- *Louisville Study.* In the summer of 1988, testers from the Kentucky Human Rights Commission phoned and visited selected lending institutions in Louisville to inquire about obtaining home financing. At least seven individual tester visits were completed at each institution; 85 total visits were completed in all (but only 76 were paired). The study found a comparative lack of interest on the part of lenders to obtain or provide meaningful information to black testers. Special tips on how to qualify for loans (such as how to improve the quality of a potential application) were regularly withheld from black testers, and several black testers were told that they didn't qualify for loans when comparatively matched white applicants were told they did.

17 A detailed description of the testing methodology is provided in Staff of the Board of Governors 1991.

- *Chicago Study.* In spring and summer 1992, the Chicago Area Fair Housing Alliance tested a series of financial institutions. All testers posed as first-time home buyers who were marginally qualified for loans, although black testers were slightly more qualified than white testers. Testers completed 40 visits, and found evidence of discriminatory behaviour at seven of the ten institutions tested. As in the Louisville study, lenders provided less information to black applicants and were less interested in providing loans to them.

- *New York Study.* In 1992, an anonymous New York City lending institution contracted with Barry Leeds and Associates (1992) to have its offices tested during 1991. Although the press release describing the study does not elaborate in any detail, it makes clear that it uncovered similar infractions as were witnessed in Chicago and Louisville.

Although this represents very limited evidence, Cloud and Galster nevertheless conclude that "testing studies have consistently revealed patterns of racial discrimination at the pre-application stage of the lending process. The sorts of differential treatment involved have appeared consistent, regardless of whether a fair housing group or a private contractor was conducting the tests."

As Cloud and Galster point out, testing studies are limited to testing interactions at the pre-application level. As a result, they generally test for discrimination in bank lending policies or for loan officer attitudes that attempt to screen minority applicants before they complete mortgage applications. For obvious reasons, such studies cannot be used to examine discrimination in the disposition of actual mortgage applications.[18] Note however, that direct testing is the only methodology that can examine pre-screening issues, since by definition, this practice does not leave a paper trail for subsequent

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18 It would be prohibitively costly to create a credit and employment history for each tester that could withstand the background checking typical in the mortgage application process. Furthermore, in the U.S., federal law requires applicants to certify that all of the information on their application is correct. Similar provisions exist in the Canadian context.

statistical analysis (Galster 1991b). Furthermore, the application process triggers a range of credit checks that would make the case of paired testing very difficult to maintain. The testing procedure would require an elaborate set-up and the cooperation of many groups including the applicant's employers.

3.3 Methodological Criticisms of the Research

Although the review of mortgage discrimination research leaves us with the impression that the practice is common and relatively easy to identify, must studies are subject to severe methodological criticisms. In particular, many researchers have questioned the validity of discrimination studies based on issues such as:

- inappropriate research design.[19]
- incorrect application of statistical methods.[20]
- sloppy data handling and poor/improper analytical techniques.[21]

In many respects, these methodological criticisms cast more doubt on the presence of mortgage discrimination in the U.S. than do studies that fail to uncover the practice. Contradictory findings may be explained by differences in markets, the subject group, or

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19 The exchange between Hula (1991), Shlay, Goldstein, and Bartelt (1992), Hula (1992), Shlay and Bartelt (1992), Galster (1992b), Galster and Hoopes (1993), and Hula (1993) on the perils of aggregation bias and appropriate research design is insightful in this respect.

20 See Galster's (1991b) review of statistical techniques for a good account of these criticisms.

21 See, for example, Carr and Megbolugbe's (1993) discussion regarding criticisms of the Boston Fed Study.

the activity under study without having to deny the presence of discrimination in other areas. Methodological criticisms, however, imply that findings are heavily influenced by choices made by the researcher or the availability of relevant data, and *not* by the underlying presence of discriminatory action.

Although many authors have pointed out the problems associated with individual research studies or statistical models (Benston 1981; Maddala and Trost 1982; Barth, Cordes, and Yezer 1983; Galster 1991b), the presentation by Rachlis and Yezer (1993) ranks among the best. Unlike other authors, Rachlis and Yezer integrate the many individual criticisms into a larger framework to show that many mortgage discrimination studies are invalidated by their methodological weaknesses. Using the model described by equations **(1)** to **(4)**, the authors trace out the statistical implications associated with various approaches to studying mortgage discrimination. In the process, they enumerate a number of critical difficulties associated with each approach and then demonstrate how these difficulties lead either to bias, inefficiency, or both in estimates of the parameters. They also point out why specific approaches have failed to generate meaningful evidence.

I adopt Rachlis and Yezer's presentation in discussing the shortcomings of existing mortgage discrimination studies.

3.3.1 Flaws in Mortgage Flow (Redlining) Models

As I have mentioned, the earliest and most common approach to testing for discrimination in mortgage lending has been to model the number or dollar value of mortgage loans flowing into a particular neighbourhood as a function of neighbourhood characteristics. Although these studies have remained popular even recently (e.g., Shlay 1989; Bradbury, Case, and Dunham 1989; Hula 1991), they suffer from serious methodological problems that have already been well documented (Benston 1981; Canner, Gabriel, and Woolley 1991; Canner and Gabriel 1992; Schill and Wachter 1993).

Like any other commodity, the volume of mortgages flowing into a particular area is determined by the interrelationship between supply (lender behaviour) and demand (borrower behaviour) for mortgages in a given area. But because mortgage flow studies have typically used single equations to model this process, both demand and supply factors are included in a single equation. When this happens, however, individual parameter estimates cannot separate supply (lender) from demand (borrower) influences on the flow of mortgages. The result is that what *appears* to be lender-induced discrimination cannot be distinguished from differences in the demand for home purchases across neighbourhoods. Although adding demand-side factors to the reduced form equation improves the estimates (Wienk 1992), Galster (1992b) points out that this results in racial and ethnic concentration measures that reflect demand-side influences, even though the measures are included to test for lender discrimination (supply-side influences).

As a separate criticism of these studies, Canner, Gabriel, and Woolley (1991) and Galster (1992a) also point out that neighbourhood data aggregates individual loan applications. As a result, models that use such data cannot discern whether differentials in lending rates are due to discrimination or legal supply factors that would affect the quantity or make-up of loans in a given area. Lender specialization and marketing, for example, are both legal practices that can dramatically affect the make-up of loans in a given area. A community-based bank that lends only to blacks, for example, would exhibit a higher rate of refusals to blacks than to whites. But when this bank's loans are aggregated at the level of a Census track, its legal practice (specialization) can look like discrimination.

3.3.2 Contextual Issues and Partial Observability

As noted in Chapter 2, mortgage lending involves a series of steps that can be modelled using at least four equations. (See page 16 for the mathematical construction of the model.) First, the potential applicant must choose a lending institution. Second, the applicant must select preferred loan terms (interest rates, years to maturity, loan/value ratios, etc.) and complete an application. Third, the application must be considered and accepted by the institution. Finally, the mortgage may be repaid or foreclosed.

Modelling mortgage lending in this way shows how the process is sequential. Before applicants can choose terms, they must first have chosen to apply at a specific lending institution. To be considered for acceptance or rejection, applicants must have chosen both a lender and a set of terms. Before the loan can be paid or foreclosed, applicants must have applied, chosen a set of terms, and been approved. The action of those who are screened out of the model at each step (because they select different institutions, terms, or are rejected), are not observable to the researcher.

Mathematically, the mortgage model (equations **(1)** through **(4)**) presents a recursive system in which each equation is dependent on the outcome of the previous one. As one proceeds through the system, the observability problem becomes worse as the dependence among the equations cumulates. For example, foreclosure only occurs on a particular mortgage after there has been an application, terms have been selected, and the application has been endorsed. Statistically, this is known as a system in which outcomes are only *partially observable* because data is missing for those who are screened out of the model.

Partial observability introduces sample selection bias into the parameter estimates of the system because researchers only have access to data on applicants who proceed all the way through the system. Rachlis and Yezer (1993) point out that although the direction of the bias is undetermined, single equation estimates for differential treatment of mortgage applicants are not statistically reliable, regardless of the particular point in the mortgage lending process that they attempt to model. At a minimum, therefore, single equation tests for differential treatment must address the selection bias introduced by the partial observability problem.

The presence of partial observability within the mortgage lending model has two important implications for existing research on mortgage discrimination:

- First, it implies that studies with single-equation models present biased results (although the direction of bias is unclear). Since virtually all mortgage discrimination studies have used single equation models, this calls into question most of the evidence presented in the previous section.

- Second, the partial observability issue also shows that pre-screening can have an important impact on mortgage markets. Participation in the mortgage market is conditioned by a person's expectations of their treatment in that market. If applicants expect they will face discrimination from lenders, they will stay away from the mortgage market. Thus differential patterns of application or mortgage holdings may reflect decisions made by applicants prior to lenders even becoming part of the process. A completely fair lending process after application will show evidence of discrimination if minority applicants are screened out prior to their application.

Bloom, Preiss, and Trussell (1983) have developed a test and correction for selection bias based on the definition of a conditional likelihood function. This estimator theoretically allows a researcher to correct for self-selection bias even if no information is available on non-applicants. The degree to which the correction is effective, however, is untested in the literature. This is probably because parameter estimation using the technique is computationally difficult. Epley, Cronan, and Perry (1985) also discuss a technique to address sample selection bias, but this too has been untested. In this case, the limiting factor is probably that application of this technique is limited to studies using multiple discriminant functions.

3.3.3 Arrow/Stiglitz and Weiss Models

As I discussed in Chapter 2, the economic theory laid down by Arrow (1973) and Stiglitz and Weiss (1981) suggests that when different mortgage sub-markets supply close substitutes (e.g., government-insured versus conventional mortgages), borrowers will participate in the sector that offers them the best chance of obtaining a loan at given mortgage terms. Since U.S. federal regulations prohibit the use of demographic characteristics in determining eligibility for a government-insured mortgage, this suggests that borrowers who anticipate/experience discrimination in conventional mortgage markets will be "crowded" into government-insured mortgages. That is, if discrimination in conventional mortgage markets is a reality, government insured mortgages will over-represent minorities.

Although the appropriate test for such behaviour is whether minorities apply more frequently for government-insured as compared to conventional mortgages, such data are not typically observable given existing U.S. databases. Empirical work in this area (Shear and Yezer 1983, 1985; Gabriel and Rosenthal 1991) has been limited to studies based on existing mortgages. Given the high rate of application approval, however, this should have a minor impact on the effectiveness of such studies.

A more important consideration, however, goes back to the fundamental assumption of the economic theory—that a pure "crowding" effect occurs only when the two sectors are close substitutes for each other. As Rachlis and Yezer (1993) and Shear and Yezer (1983, 1985) point out, the provisions of FHA-insured mortgages in the U.S. differ significantly from those of conventional mortgages. These differences were further magnified by changes in U.S. government policy in the 1980s that allowed the loan to value ratio to rise and down-payment requirements to fall on FHA-insured mortgages. As a result, the two mortgage types cannot be considered to be close substitutes. In particular, FHA insurance is very attractive to households who cannot or who wish not to make a significant down-payment. These will tend to be minority applicants who comprise a higher than average proportion of lower income households. Given recent HMDA evidence that minority applicants on average have high loan to value ratios (Canner, Passmore, and Smith 1994), one would expect them to more frequently rely on FHA mortgages.

3.3.4 Accept/Reject Models—Simultaneity Problems

A common criticism of mortgage discrimination studies (e.g., Wienk 1992) is that they fail to account for all of the factors that lenders use to determine creditworthiness, especially where individual applicants are concerned. For the most part, this limitation arises because researchers do not have access to lender files and are therefore unable to completely reproduce (model) the lending decision.

This has not always been the case, however, and a number of studies have been relatively successful in this regard (Munnell, *et. al.* 1992; Schafer and Ladd 1981). These studies have typically modelled lenders' endorsement decisions (equation **(3)** in the model above) as a function of demographic characteristics of the applicant and other variables reflecting property collateral values, neighbourhood characteristics, applicant creditworthiness, etc. In these specifications, data are typically aggregated across several lender classes and loan types to generate large enough sample sizes for statistical testing. To account for differential mortgage terms across lender classes or mortgage instruments, such models incorporate the lending terms into endorsement equations as independent variables, effectively blending equation **(2)** into equation **(3)**.

Following Maddala and Trost (1982) and Barth, Cordes, and Yezer (1980), Rachlis and Yezer (1993) point out that combining the 2 equations blurs the feedback that the selection of mortgage terms has on the probability of acceptance (and vice versa) for the individual applicant. In particular, applicants are expected to select mortgage terms so as to maximize their likelihood of obtaining a loan, and are expected to trade-off more expensive terms versus higher probability of denial until they reach their individual optimum levels. Thus the probability of acceptance and the selection of loan terms are simultaneous—modelling them as otherwise introduces simultaneous equation bias into the model. The result is that the estimated regression coefficients in such single equation studies are biased, inconsistent, and shed limited light on discrimination in mortgage lending. (This point was reinforced by Yezer, Phillips, and Trost 1994).

Rachlis and Yezer carry their criticism one step further, and demonstrate that the direction of bias in single equation studies of mortgage discrimination is unambiguous: the bias will tend to overestimate the presence of discriminatory treatment in the market studied. This leads the authors to a paradoxical conclusion: single-equation estimates of a rejection decision can establish the *absence* of differential treatment (if the relevant coefficients are statistically equivalent to zero), but the *presence* of significant coefficients cannot be taken as evidence that discrimination exists.

Although corrections for simultaneous equations bias are well documented (Pindyck and Rubinfeld 1991), in this case they involve developing and estimating a structural equation model in which the loan process is modelled in detail by a number of equations.[22] Including all aspects of the mortgage lending decision (required for unbiased estimation) extends the number of equations involved in the system well beyond the four suggested above, increasing the problems associated with identification, proper specification of the model, and most of all data. Furthermore, since many of the equations in such a system

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22 In econometric terms, loan terms must be made fully endogenous.

would have dichotomous dependent variables (requiring logit or probit estimation), maximum likelihood estimation would be required to generate unbiased parameter estimates. This is a formidable challenge, and one which has not yet been attempted in the literature.

This is a telling methodological criticism because it points out that single-equation specifications of the accept/reject decision (such as that used in the vaunted Boston Fed study) are likely to overestimate the presence of discrimination in a given market. Unless such studies account for the simultaneous equation bias they introduce, they cannot be considered valid.

3.3.5 Default Loss Models

An extension of Arrow's (1973) crowding model predicts that minority borrowers who are successful in a discriminatory market should be the best qualified of all minority applicants. Furthermore, if discrimination is occurring, lenders would pass over low-risk minority applicants in favour of high-risk white applicants. As a result, one would expect that in the presence of discrimination, minority default rates should be lower than those for non-minority borrowers (Becker 1993).

Although this implies a test based on an equation of foreclosure or default rates such as that modelled by equation **(4)** above, a number of authors have demonstrated why such a test would not reveal much about discrimination in mortgage lending. Rachlis and Yezer (1993) note that single-equation tests of default loss share many of the simultaneity problems inherent in single-equation rejection models discussed above. Galster (1993a) and Tootell (1993) demonstrate that the argument for examining defaults assumes that the distribution of loan profitability is identical for minorities and non-minorities. Both authors show cases where discrimination can occur even though minority default rates are higher, lower, or the same as than those of non-minority borrowers. As a result, they demonstrate that default rates are an unreliable indicator of the presence or absence of discrimination in mortgage lending.

3.3.6 Misspecification and Omitted Variables

To now, the criticisms discussed throughout this section all relate to the selection of the model used to study the discrimination problem. While these issues predominate the methodological discussions of mortgage discrimination, much of the research also suffers from more "mundane" statistical problems such as misspecification, omitted variable bias, and low statistical power.

As I have already noted, one of the most common criticisms of mortgage discrimination studies is that researchers are unable to capture all of the factors that enter into the mortgage lending decision, usually because researchers do not have access to all of the information lenders use to make their own decisions. From a statistical perspective, equations that attempt to demonstrate discrimination are misspecified because they do not include all of the variables relevant to the subject under study. As Pindyck and Rubinfeld (1991) point out, omitted relevant variables lead to parameter estimates that are biased and inconsistent.[23]

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[23] Omitting a variable that is not relevant to explaining discrimination merely decreases the efficiency of parameter estimates, but does not affect the bias of the other variables in the equation. Adding a variable will always raise the R^2 (and the adjusted R^2 if its t value is greater than 1) and this can mislead researchers, especially when using procedures such as stepwise regression. Omitting relevant variables causes biased and inefficient estimates. Most often these omissions result from lack of data more than researchers not having the imagination to include the variable.

The direction of the bias depends on the correlation between the omitted variable and all included variables, as well as the sign of the true parameter estimates. McCabe (1980, cited in Shear and Yezer 1985) illustrates that such specification error may result in error terms that are correlated with the demographic variables in discrimination studies, causing biased results that could be interpreted as discrimination when in fact none exists.

Holmes and Horvitz (1993) examine the degree to which misspecification bias can affect regression results in redlining studies. Criticizing previous redlining studies for not controlling for differences in demand and risk factors for mortgage credit in different neighbourhoods, the authors demonstrate how standard multiple regression methods generate biased findings for perceived differences in mortgage lending activity in Houston. Grouping their independent variables into five categories (property and loan characteristics, economic conditions of the neighbourhood, risk inherent in the neighbourhood, demand for mortgages, and demographic/racial characteristics of the neighbourhood), the authors run a series of regressions with and without the risk and demand variables. In the conventional loan market, redlining is indicated only in those equations that exclude the risk and demand variables. Once these variables are included in the regressions, however, redlining is no longer indicated.

Apart from omitted variables, few studies have explored the degree to which other specification issues (such as the proper functional form of the regression equation) apply to the study of discrimination in mortgage lending. (For a notable exception see Galster 1992b.) Except for studies which use logit/probit methods to estimate for dichotomous dependant variables, most research has relied on standard OLS regression methods using linear equations. There is much room for further study in this area.

3.3.7 Low Statistical Power

The purpose of statistical testing is to explain variation in observed results. In mortgage lending, objective factors account for many of the differences that one sees in lending rates for whites and for minorities. A common approach to discrimination testing, therefore, is to attribute variation that cannot be explained by objective factors to discriminatory treatment. This approach, for example, was used by Munnell, *et. al.* (1992) in the Boston Federal Reserve study. These authors found that differentials in lending rates in the Boston area could partially be explained by the greater debt burdens, higher loan-to-value ratios, and weaker credit histories of minority applicants. The authors attributed the remaining variation to a statistically significant gap associated with race.

Although this approach is common, it calls into question one's interpretation of "statistical significance", and in particular the weight that one attributes to one level of significance over another. The authors of the Boston Fed study themselves note that clearly eligible minority applicants do not encounter discrimination. If it occurs, discrimination happens in marginal cases where there may be sound business reasons for denying a loan but judgement is used to compensate for poor information. Since most denials thus appear legitimate by some objective standard, systematic bias in mortgage lending is very difficult to document at the institution level. (Hence the experience of the U.S. financial regulators—see section 3.4 below.) Thus, discrimination becomes apparent only when many applications are aggregated.

Aggregating applications, however, blurs the picture and seriously weakens statistical testing. This occurs because discrimination is likely to be infrequent: it is prohibited by law, denials (of all applicants) are infrequent,[24] minorities do not patronize all lending institutions, some loan officers may discriminate while others may not, etc. It is well-

24 Prospective homeowners often shop for a mortgage first. If they clearly do not have the resources, they wait.

known, however, that as the frequency of a phenomenon falls, statistical tests seeking to establish that phenomenon become less powerful. In this case, if discrimination is uncommon, it is difficult to distinguish rare intentional behaviours from the random factors that cause unintentional differences in treatment (Galster 1992a). Thus the power of statistical tests for discrimination can be very weak, especially when data is aggregated across institutions.

The Boston Fed Study demonstrates why this is the case. The study collected data on *all* black and Hispanic applicants in the Boston area in 1990, for a total of just over 1200 applications. The final sample used in statistical testing consisted of only 700 such applications. Of these, only 28% were denied, reducing the sample of interest to about 200 applications. Even assuming that all black or Hispanic applicants were denied because of discrimination, differential treatment would still only occur in about 200 cases in all of Boston for the entire year. Considering that 131 lenders took part in the Boston Fed study, this works out to just over one and a half discriminatory incidents for every bank in a given year. Since not all denied applicants were rejected as a result of discrimination, the frequency of discrimination is even lower. Based on this simple accounting, however, it is clear how random events that increase the denial rate for minority applicants could be interpreted (incorrectly) as discrimination. It is also clear under this framework how systematic and intentional discrimination by a single lender in an aggregated study would lead to the erroneous conclusion that discrimination was practised by all.

Avery, Beeson, and Sniderman (1993) point out a similar problem associated with aggregating data across various lender categories. Analysing HMDA data reported by over 9000 institutions in 1990, they note that 40% of the institutions reported receiving no minority applications in that year. Of those lenders who reported receiving minority applications, 8% didn't make any loans, and 3% made *only* minority loans. For the U.S. as a whole, the authors conclude that differences in credit origination rates to minority applicants is overwhelmingly accounted for by differences in the volume of minority applications received, *not* by lender actions taken on the applications once they are received. While this is similar to the borrower/lender behaviour arguments discussed previously, the point is more subtle. Avery, Beeson, and Sniderman argue that aggregating data across lender types blurs factors (such as lender specialization and marketing) that may explain differences in application and denial rates.

3.3.8 Considerations with Direct Studies

The most comprehensive evaluation of the testing methodology to date has been completed by the Staff of the Board of Governors of the U.S. Federal Reserve (1991).[25] While reviewing the feasibility of the practice for implementation as a regulatory measure, the Fed staff raised serious ethical and methodological concerns about direct testing.

On the ethical side, the Fed staff note that deception is the linchpin of the testing methodology. Since telling participants that their behaviour is under study would seriously affect the study results, testers must deceive loan officers and bank officials. Because of this deception, study participants do not have an opportunity to provide their informed consent before being included in the research.

On the methodological side, the success of the research depends on the research design accounting objectively for the numerous factors that may influence the treatment prospective home-buyers receive at the hands of lending staff. Typically, this means trying to control for as many factors as possible within the preparation of suitable testers

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25 Galster (1991a and 1993b) and Yinger (1986) have also written on the testing methodology.

and loan scenarios. While the Fed staff acknowledge that this is possible in principle, they nevertheless express several concerns about its possibility in practice:

- First, shopping for a mortgage may not be as structured as researchers would like to assert that it is. There are too many variables involved for the researcher to control for them all. Even something as simple as the kind of day the loan officer is having when he/she sees the tester can affect the treatment extended. Obviously, however, the research design cannot control for such possibilities even though they may have a large impact on the tester's perception of the treatment received. These kinds of unstructured occurrences may confound the investigation for discrimination.

- Second, it may not be possible to accurately measure (and quantify) the treatment received by each tester. Recognizing the cues used to identify discriminatory treatment is challenging. Some cues (such as the interest rate offered) should be easy to quantify and to measure. Others, such as the tone of voice and general attitude of the loan officer, represent a much more difficult measuring problem. When does simple lack of interest by the loan officer constitute discrimination?

- Finally, it is difficult to create a credible credit shopping scenario. For example, most homes are bought and sold through real estate agents. These agents play a large role in directing borrowers to potential lenders, and usually interact with lending personnel in some capacity before the loan transaction is completed. It would therefore seem odd to lending staff if the tester's scenario did not include a real estate agent in some capacity. Yet it might be very difficult to secure the participation of real estate agents, especially since their livelihood depends in part on their relationship with lenders.

In addition to these methodological criticisms, the Fed staff raised serious concerns about the effects of having a test detected by creditors before the study is completed. Depending on the stage at which it occurred, detection might completely invalidate study results because participants would change their behaviour. Yet detection seems highly possible (even probable) given the complexity of the mortgage loan process and the need for testers to pose as credible applicants.

3.4 Regulatory Approaches to Identifying Mortgage Discrimination

Because few researchers have access to mortgage data from private institutions, academic research has focused on discrimination at the market level, wherein the actions of individual lenders are cloaked by aggregation. As part of their responsibility for enforcing the fair lending laws, however, the U.S. federal financial regulators have developed several mechanisms for examining whether individual lenders are discriminating against protected groups. This section reviews the experience of the Board of Governors of the Federal Reserve (other regulators have similar programs) with a view to placing the regulatory effort within the broader context of mortgage discrimination already established.

The Federal Financial Institutions Examination Council (FFIEC) is a council formed by the supervisory agencies[26] for U.S. financial institutions. Jointly, the FFIEC members are responsible for enforcing the fair lending laws. The council serves to coordinate activities, share information, and cooperate with other government departments such as Housing and Urban Development (HUD) and Justice on the agencies' behalf. Recent FFIEC activities have included the coordination of new analysis systems for HMDA data, working with the agencies and financial institutions to improve the quality of the HMDA data, working with HUD, and reviewing the agencies' examination procedures. FFIEC also provides specialized training for examiners from member agencies responsible for enforcement of fair lending laws.

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26 In addition to the Federal Reserve, these agencies include the Office of the Comptroller of the Currency (OCC), the Office of Thrift Supervision (OTS), the National Credit Union Administration (NCUA), and the Federal Deposit Insurance Corporation (FDIC).

Although all of the FFIEC agencies have all developed procedures to investigate discrimination in mortgage lending, the Board of the U.S. Federal Reserve system has been the most active, primarily because of its responsibilities for the HMDA and ECOA, and also because it supervises state member banks for compliance with fair lending laws. The Board has undertaken a number of steps to enforce fair lending laws, including the completion of compliance examinations, the support of research efforts to supplement information from the HMDA data, investigation of consumer complaints, and the support of an extensive community affairs program. Each of these are discussed below, based on information drawn from LaWare (1989, 1992, and 1993), Rutledge (1993), and Lindsey (1994).

3.4.1 Compliance Examinations

Since 1977, the twelve Federal Reserve Banks have conducted examinations of their state member institutions to determine compliance with consumer protection legislation. Each member bank (approximately 10,000 in all) is examined at least every two years; most are examined annually. The scope of the examinations specifically include the ECOA and FHA, and make use of HMDA data to investigate potential discrimination in mortgage lending. The compliance examination program is also reviewed periodically to improve the quality of the investigations.

The examinations focus primarily on comparing the bank's treatment of members of a protected class with other loan applicants. Specially trained investigators review the bank's loan policies, procedures, and documentation in addition to interviewing loan personnel. During this phase, they seek to determine the bank's credit standards.

Once credit standards have been identified, investigators review actual loan applications to determine whether the standards were uniformly applied. The investigators use the same information that the bank used to make its credit decision, including credit history, income, and total debt burden. If the bank's standards appear not to have been used, or not to have been used consistently, the investigators can take corrective action under various consumer protection laws.

Once the investigators have completed their file review, they conduct an overall analysis of the bank's treatment of applications from minorities, women, and other protected classes to determine if there are overall patterns of lending that would indicate discriminatory practices.

Finally, investigators also contact persons outside the bank who are knowledgeable about local credit needs for information about public perceptions of the bank's lending activity. This information typically provides investigators with further insight into how the bank is serving the credit needs of its local community, particularly those protected by antidiscrimination laws.

3.4.2 On-going Research and Support

The Board sponsors a fairly extensive research program designed to improve current knowledge about discrimination in mortgage lending, and also to evaluate the procedures used in the compliance examinations. Recent research activities include:

- Developing the capability to electronically map the geographic location of a bank's lending products. This information is then supplemented by demographic and community information to help determine if redlining activity is suggested; and,

- Developing a system that reproduces a statistical model, similar to that used in the Boston Fed study, to analyse HMDA data and data drawn from the loan files of individual banks. Such a model is expected to enable examiners to more effectively identify questionable application files.

3.4.3 Consumer Complaint Program

The Federal Reserve accepts and investigates individual complaints regarding unfair lending practices, going so far as to conduct on-site investigations at state member banks. Serious complaints are referred to HUD and to the Department of Justice for further investigation. The complaint program has also taken a proactive approach by writing to groups that would come into contact with mortgage consumers. The Fed has asked these groups (civil rights groups, fair housing organizations, etc.) to re-direct consumer complaints to the Federal Reserve.

3.4.4 Community Affairs Program

Through its community affairs program, the Federal Reserve works with financial institutions, banking associations, government entities, business, and community groups to promote public education and awareness of discrimination issues. The Federal Reserve works specifically with financial institutions to provide outreach services, educational materials, and technical assistance in discovering and addressing problems of discrimination in mortgage lending.

3.4.5 The Regulatory Experience with Identifying Mortgage Discrimination

Given the intensive effort associated with the Federal Reserve's consumer compliance program, one might expect that the regulators find evidence of mortgage discrimination on a regular basis. In fact, this has proved not to be the case. In 1992, LaWare reported that (until then) "bank examinations have not revealed evidence that individual state member banks discriminate on the basis of race when making credit decisions." LaWare also noted that the Fed receives few complaints to its Consumer Complaint program alleging illegal credit discrimination against state member banks.

To address the apparent discrepancy between its experience and public opinion, the Fed took a proactive approach in May 1990 and sent letters asking for referrals from over 675 civil rights groups, fair housing organizations, and others who might have complaints about how individual applicants were treated by mortgage lenders. In October 1990, the Fed sent a follow-up letter. In 1992, LaWare reported that this effort "had no identifiable impact on the number or types of complaints that (the Fed) received."

The Fed's experience (which seems unreconcilable with the anecdotal and research evidence described above) suggests that mortgage discrimination is subtle and nearly impossible to identify on a case-by-case basis. This finding was echoed by the Boston Fed study. Munnell, *et. al.* (1992) found no evidence of discrimination against minority applicants who are clearly eligible for a mortgage loan. Similarly, they also found that white applicants who were clearly *not* eligible for a loan were denied as often as minority applicants in the same position. Many applicants, however, fall between these two poles, and lenders have considerable discretion over the extent to which they consider imperfections and compensating factors in individual cases. Thus, if discrimination exists, it appears to take place in marginal cases where lenders can justify their decisions on seemingly objective grounds. As a result, discrimination may be easier to detect and prove in large, aggregate studies than it is based on a case-by-case review such as that conducted by the Fed.

3.5 Summary of this Chapter

Although the preponderance of direct and statistical evidence seems to suggest that discrimination is a factor in mortgage markets, this evidence is hotly contested and balanced by a large regulatory effort that has been unable to prove that individual lenders discriminate against mortgage applicants. Furthermore, much of the extant research is subject to severe methodological criticisms. Addressing these criticisms will likely impose data and analysis requirements that are well beyond the grasp of most research studies.

Throughout this section, I have taken a fairly aggressive approach in discounting the evidence of mortgage discrimination. The purpose is not to suggest that discrimination never happens. In fact, biased or not, the sheer mass of evidence seems to suggest that discrimination is a regular feature of the mortgage transaction in some markets. As well, the existence of discrimination is widely accepted by research as a real phenomenon in other markets. There is little reason to believe the mortgage market should be any different.

Why then go to such lengths to point out the shortcomings in existing approaches? As I discuss in the next section, I believe that the U.S. experience with discrimination in mortgage lending has been expensive and counter-productive. Rather than working cooperatively to address the underlying causes of discrimination, researchers and industry officials have outdone each other in their attempts to prove/disprove that the practice exists. The U.S. government has responded with a regulatory system that has confounded rather than clarified the issue.

As concerns about the distribution of credit heat-up in Canada, our researchers and regulators will look to other jurisdictions for models that can be reproduced in this country. At all costs, I believe that we must avoid repeating the U.S. experience.

4.0 IMPLICATIONS FOR CANADA

My discussion to now has focused almost exclusively on U.S. data, approaches, and issues. In large part, this is because mortgage discrimination has been studied more frequently in that country than anywhere else. Probably, though, mortgage discrimination is not limited to the United States, and might be a common feature of housing and mortgage markets in Canada. The degree to which this is the case, however, is undetermined at this time.

This chapter focuses on two related themes.

- First, I draw out a series of implications for Canada from the U.S. experience. I organize these implications as three groups of lessons for Canada:

  - lessons about the scope and context of mortgage discrimination.

  - lessons about the difficulty of studying mortgage discrimination.

  - lessons about the political and regulatory issues pertaining to government intervention in mortgage markets to identify or limit discrimination in mortgage lending.

  For each set of lessons, I discuss how the U.S. experience is likely to translate to the Canadian context. I also suggest how U.S. pitfalls might be avoided in Canada. Generally, the U.S. experience with mortgage discrimination presents both challenges and opportunities for studying this issue in Canada.

- Second, I present an alternative approach to the mortgage discrimination problem that incorporates these lessons. Rather than focusing on the *treatment* accorded to potential applicants, I argue that Canadian governments contemplating action on the mortgage discrimination problem should look instead at the *impact* lending policies have on disadvantaged groups in society. By instituting effects-based testing for mortgage discrimination, Canadian governments can achieve three significant advantages:

- By shifting the investigation from the actions of individuals to the effect on large groups, many of the research problems are simplified and the political sensitivities associated with discrimination become less acute.

- Next, in a time of less interventionist and contractionary government, the search for disparate impacts dovetails neatly with current and past initiatives in housing policy. Canadian housing policy has also traditionally been interventionist in areas where it could address known market discontinuities. (The *National Housing Act* is such an example). For mortgage discrimination, unintentional impacts of industry-accepted lending standards are clearly an example of a market failure.

- Finally, the cooperative approach that could be engendered by effects-based testing has a better chance of addressing potential cases of mortgage discrimination than the confrontational position that accompanies the search for discriminatory treatment.

Properly introduced, effects-based testing can be less complex, less expensive, and less confrontational than treatment-based approaches. Each of these characteristics represents an improvement over the U.S. experience.

4.1 Lessons for Canada

4.1.1 The Scope and Context of Mortgage Discrimination

The research on mortgage discrimination in Canada is sparse. Some work has been done on credit discrimination in other areas (e.g., business loans to women (Marleau 1995)), but these have relied heavily on U.S. literature. In general, Canadian treatment of this issue has been unsystematic, anecdotal, and somewhat sensational
(e.g., Redekop March 1996).

Our limited experience presents both challenges and opportunities to regulators and researchers. The challenges lie in the practical elements of identifying mortgage discrimination: to test for the problem, we must develop a study design, specify a model, and (most of all) collect appropriate data. Individually, these are difficult issues. Together, they represent a major barrier.

Opportunities arise, however, because of the serious negative consequences associated with mortgage discrimination. Discrimination in mortgage lending creates unequal access to mortgage credit. In turn, this has serious implications for the housing market and especially for the access to housing enjoyed by minority groups. From a public policy standpoint, identifying the presence and consequences of mortgage market discrimination is an important element to ensuring greater equality in society generally.

The U.S. experience is dominated by a research and regulatory program dedicated to investigating *racial* discrimination in mortgage lending. This has given the U.S. research a sharp focus, and has led (in some cases) to a comparative neglect of discrimination against other protected classes (e.g., women, young people, or those on government assistance). For the most part, researchers do not see this as a shortcoming—the focus on race creates a common understanding and sense of purpose about the priority issues for study (Galster 1992a).

Canada's culture, history, and racial composition suggest that we will need a considerably broader approach to discrimination than that experienced in the United States. For example, minority groups are more common in Canada but have fewer numbers, implying difficulties for the power of statistical tests. Further, although Canada's Aboriginal peoples constitute approximately 5% of the population, their constitutional status creates important differences in the way they access housing.[27] These differences make the analysis of mortgage discrimination against Aboriginal people quite unique (and probably of secondary importance to Native leaders compared to other discrimination problems they must face).

Again, this diversity presents challenges and opportunities for Canada. The most important challenge is to maintain focus and direction in any research effort. Meaningful debate on mortgage discrimination can only occur if there is a basic understanding about the issue. This is missing in the United States, which has generated 20 years of research while basic questions remain unanswered. U.S. researchers are only now starting to realize the need to go back and answer basic questions before moving forward to more complex issues. The result is a return almost to where researchers were in the early to mid-1970s. Avoiding this problem in Canada, which is bound to have many competing research interests, is fundamental to achieving quick progress.

Not having the black-white racial issue to focus the research presents practical challenges for Canada as well. As the staff of the Federal Reserve point out in their testing report (1991), studying discrimination against more than one group increases the sample size needed to successfully complete a study. In paired testing studies, large sample sizes greatly increase both the cost of the study and the likelihood of detection by the lender. The statistical power associated with testing for more than one kind of discrimination requires exponentially greater resources. From a very practical standpoint, this suggests a compromise in the kinds of discrimination that can be feasibly studied within the limitations of existing budgets.

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27 The most important of these differences pertains to the ownership of band housing. Currently, houses on-reserve are held by the Crown in trust for the band. Because there is no fee simple home ownership as we normally know it, individual Aboriginal families on reserve are not eligible for mortgages on their homes.

At this point in our history with mortgage discrimination, it is important to conduct exploratory research in Canada, with a focus on essential questions. Even basic questions cannot yet be adequately addressed in the United States. How does discrimination in mortgage lending occur? Does it generate more frequent denials, differential loan terms, or longer housing search time for minority groups? How do lending institutions develop and implement their credit standards? What characteristics do banks use to rate loan applications? Answers to these questions are essential to framing public policy in the area.

Equally important is the difficulty associated with separating discrimination in mortgage markets from discrimination in housing markets generally. Approaches to studying mortgage discrimination must consider all aspects of the house search and mortgage lending process. Current U.S. understanding suffers from a lack of knowledge about prescreening of minority applicants by lending institutions. Similarly, very little is known about minority housing search behaviour and the impact that this might have on perceptions of mortgage markets. These perceptions are important because borrower behaviour contributes to the overall outcomes of the mortgage lending process. (If minority applicants expect the housing and mortgage market to be discriminatory, they may self-select.) Canada should encourage research into all aspects of the mortgage lending decision, including both borrower and lender behaviour.

Finally, the U.S. experience suggests a need to distinguish clearly, in the public's mind, the difference between illegal discrimination and legal differential treatment. The purpose of the U.S. fair lending laws is to ensure that equally *creditworthy* applicants receive access to credit. The laws do *not* suggest that *all* applicants should receive equal access to credit. If they did, all applicants would be equally in debt, whether they could repay their loans or not. Lending institutions have a fiduciary responsibility to ensure that they lend only to creditworthy applicants. This responsibility extends beyond bank shareholders to individual loan applicants as well. Because of this responsibility, some applicants will be denied loans.

As long as demographic characteristics trend with (but do not determine) the factors that lenders use to extend credit, some groups will receive fewer loans. The shortfall can be explained, however, at least partly by the poorer share in the nation's economic pie held by some groups, and not necessarily by discrimination on the part of lenders. While this point is widely acknowledged in the U.S. academic literature, it is rarely mentioned in the popular press. (The Pulitzer Prize winning articles by Dedman (1988) are illustrative.) The result is a divergence of public perception from the empirical evidence, exacerbating the debate on discrimination generally in that country.

4.1.2 Studying Mortgage Discrimination--Methodological Lessons

A number of fairly clear lessons about the mechanics of studying mortgage discrimination emerge from the U.S. experience. The most important of these is that access to proper data is a deciding factor in the validity of a particular research study. In particular, the data must meet the following criteria if they are to be useful in the study of mortgage discrimination:

- The database from which the data are drawn must be complete. In the study of mortgage discrimination, this means that it must include all aspects that researchers deems theoretically appropriate to the study. For example, if the study attempts to model the endorsement/denial decision, all factors that are relevant to this decision (including measures of subjective risk) must be included. If actual variables are not present in the database, reasonable proxies for them should be included. Needless to say "reasonableness" is a matter of judgement.

  Of course, it will not always be possible to develop a database that includes *every* relevant variable. In some cases, variables are not observable (e.g., measures of risk). The U.S. experience with HMDA, however, demonstrates the kind of problems and controversies that can develop when studies are based on incomplete data. Avoiding this in Canada will clarify the research at the outset.

- The data must reflect an appropriate unit of analysis for the study of mortgage discrimination. In particular, since discrimination occurs against individual mortgage applicants, data must be collected at the level of the *applicant and the application.* In the U.S., the HMDA database was originally established to address redlining—discrimination based on the geographic area of the property under consideration for a loan. As a result, HMDA data are collected and presented by Census tract and cannot study discrimination against individuals. For similar reasons, data from the Census of Canada (unless at the micro-level) will be of limited value in a study of mortgage discrimination.

While ensuring that a study uses proper data is a fundamental consideration in any research program, this issue has been heightened in the U.S. because so many studies have used the HMDA database. This database provides only a limited perspective on the lending decision.[28]

The value of a sound research design is a second methodological lesson from the U.S. experience. Mortgage discrimination research presents many design challenges to researchers. On the one hand, data must be aggregated over many lenders to create large enough sample sizes. On the other hand, aggregation (especially over more than one geographic area) can lead to bias in parameter estimates (Galster and Hoopes 1993). The importance of determining the proper sample size and sampling method cannot be treated lightly in mortgage discrimination research.

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28 An example demonstrates the fundamentally flawed nature of the HMDA database. If a lending institution served only minority clients, its denial rate for whites would be 0%, while its denial rate for minority groups would obviously be higher. The institution would appear to be discriminating against minorities because its denial rate for minority groups was higher than it was for whites, even though the institution lent only to minority groups.

Here, discrimination researchers can take a page from their colleagues in program evaluation. Evaluation relies critically on multiple methods to triangulate program impacts. In this way, the deficiencies with one research method are balanced by other complementary methods. Provided that biases are not consistent from method-to-method, using more than one measure allows evaluators to reach sound conclusions about program effectiveness from data that otherwise would not support such conclusions.

Because multiple method studies are expensive and difficult to mount, few researchers have the capacity to consider them. As a result, no U.S. research study has applied a rigorous multiple method design to the problem. Although U.S. regulators rely on multiple methods, their investigations are typically based on non-random and dependent samples. A rigorously-conducted multiple-method study might therefore provide a significant contribution to the mortgage discrimination literature.

While the preponderance of U.S. studies have used various statistical modelling procedures, paired testing is a promising avenue and should be included in a multiple-method study. Paired testing provides one of the only ways to study prescreening and the influence that real estate agents might have on minorities' access to mortgage credit. While there are several ethical and practical considerations involved in using paired testers, these can be mitigated by thorough communication and organization at the front end of the study. Given its possible contribution to the study of mortgage discrimination, paired testing seems to be underutilised in the United States.

Finally, the U.S. experience also suggests that lender involvement is crucial to the study of mortgage discrimination. U.S. studies have been defined by their access (or not) to usable study data. In almost all cases, these data have come from lenders, either directly (through audits of lending records) or indirectly (through the HMDA database). The most successful studies have typically been those in which lenders have played an active role, either by providing access to loan files, by consulting on research design and implementation, or by actively taking part in the research.

Because mortgage discrimination is not commonly discussed in Canada, a discrimination study must be carefully presented to lenders to secure their participation. There is nothing from the U.S. experience, however, to suggest that lenders would be generally unwilling to take part in some kind of study. In fact, the U.S. experience demonstrates that lenders are often eager to participate to prove that their lending practices are fair and discrimination-free, and to forestall regulatory action. Minimizing research burden for lenders and screening their identity from regulators would increase their participation, as would soliciting their input in the research design through the national banking organizations.

4.1.3 Political and Regulatory Lessons

Given the state of Canadian knowledge, we do not have enough information about the causes and consequences of mortgage discrimination to contemplate regulatory action. While the U.S. experience shows that regulatory data can support discrimination studies, this is not a compelling reason to start regulation. Still, Canadian policy makers can draw some lessons from U.S. regulatory approaches. In particular, the U.S. experience can be instrumental in helping design a Canadian regulatory framework once we know enough about the problem in Canada.

As a first step once action is contemplated, Canada must establish a more coherent system than that present in the United States. In particular, Canada must avoid the fragmentation of jurisdiction and legislative attention inherent in the U.S. system. For example, U.S. regulatory jurisdiction for mortgage discrimination is shared by financial regulators and the Department of Housing and Urban Development, while the

Department of Justice assumes responsibility for investigation and prosecution of offenders. From a legislative standpoint, four separate pieces of legislation apply to mortgage discrimination, each espousing a different mandate and placing different responsibilities on lenders and regulators. The result is a piecemeal approach which is inconsistent across agencies, has substantial duplication, imposes regulatory burden on lenders, and appears to be very expensive to administer.[29]

The challenges to establishing a coherent system in Canada may be significant. Jurisdictional issues between the federal and provincial governments will work against the development of a united effort to identify and deter mortgage discrimination. In particular, while human rights are a provincial responsibility under the various Human Rights Acts,[30] much of the lending community is regulated by the federal government. While housing is a provincial responsibility, the federal government (through CMHC) is an important agent in housing markets.

While such jurisdictional issues will be important, they need not promote the duplication and competing approaches seen in the United States. In fact, because discrimination in mortgage lending is an important issue for both the financial and housing markets, there is a role for cooperative efforts by Canadian regulatory agencies in addressing the issue.

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29 According to LaWare (1992), collecting and processing the HMDA data alone is a massive task. For 1990, the data consisted of about 6.6 *million* loan and application records. FFIEC prepared disclosure statements for nearly 9,300 reporting institutions, resulting in the preparation of more than 1.2 million pages of data. Munnell, *et. al.* (1992) estimate that financial institutions spent approximately $135,000 complying with their request for information to complete the Boston Fed Study. The costs of completing the study (designing the research, collecting and analysing data, writing the report, etc.) are not included in this estimate.

30 The Charter of Rights and Freedoms is not likely to apply to mortgage lending. Mortgage transactions occur between private citizens, and therefore probably will not fall under the application of the Charter as laid out in section 32.

Clearly, the nature of the mortgage discrimination problem is broad enough for action by both the federal and provincial governments.

A second lesson for Canadian regulators can be derived from the U.S. experience in establishing and maintaining the HMDA database. In many respects, the HMDA database is more notable for what it *does not* collect than for what it does. While the database has provided an accessible and consistent set of data for study, the problems with these data have generated a significant amount of controversy and have limited its value as a research tool. Two lessons can be learned from the HMDA database:

- First, Canada should seriously consider the ways in which databases will be used *before* it creates them. In particular, any new database should provide usable data according to the criteria described above.

- Second, establishing and maintaining a mortgage discrimination database is likely to impose significant costs on regulators and on the mortgage lending industry. Canada should seriously consider whether the value to be had from retaining such data is worth the cost involved.

Finally, the U.S. experience demonstrates that it is very easy for public perception about discrimination in mortgage lending to diverge from reality. This has placed U.S. regulators in an uncomfortable position between the public and the lending industry. Again, this suggests that the issue should be broached carefully in Canada so that the basis for discussion between competing groups rests on more than anecdotal and testimonial evidence. Discrimination in mortgage lending is a potentially explosive issue, and it should be treated accordingly.

4.1.4 Summary of Lessons for Canada

The U.S. experience offers a number of lessons for Canada about dealing with mortgage discrimination. These lessons present a series of challenges and opportunities for Canadian researchers. The challenges arise from the difficulties inherent in detecting and deterring an illegal practice which may rarely occur and which could be explained by other, legal, factors. The opportunities manifest themselves in avoiding the social and economic costs of discrimination.

4.2 Distinguishing between Treatment and Effect

Of all the lessons that we can learn from the U.S. experience with mortgage discrimination, two emerge the most strongly.

- First, despite the many problems associated with identifying mortgage discrimination, the sheer volume of evidence suggests that the practice exists and may be present in some (and possibly many) mortgage markets. Because of the similarities between the U.S. and Canada, there is reason to believe that the practice may exist here as well.

- Second, the U.S. experience shows clearly that discriminatory treatment by or against individuals is extremely difficult to prove in the context of mortgage lending. To establish the prima facie case for discriminatory treatment, the researcher or regulator must prove that individual applicants have been treated differently by lenders.

  Yet mortgage lending is discriminatory by nature. (Some people get loans, others don't.) For allegations of unlawful discrimination to hold, researchers and/or regulators must therefore prove that individuals were discriminated against for reasons unrelated (or only partially related) to their repayment risk. Determining repayment risk at the level of the individual applicant is difficult and subjective.

Combined, these two lessons leave Canadian governments with a dilemma. Because of the serious negative consequences of mortgage discrimination, they have a responsibility to minimize its potential impact on minority groups. In a time of fiscal restraint, however, it is clear that the Canada does not have the resources needed to mount the intensive effort seen in the United States. Furthermore, as I have argued, such an effort is expensive, unsatisfying, and unwarranted in this country. Thus the questions remains: how can Canadian governments address their policy role in the face of declining budgets and a failed model to the south?

4.2.1 Applying the Effects Test to Mortgage Discrimination

The most promising answer to this question seems to come from an approach associated with discrimination in the workforce. The *effects test* (also known as the adverse impact standard) is a civil rights enforcement concept developed in the United States in the early 1970s to address discrimination against job applicants.[31] The test is based on the principle that, regardless of their application, certain policies and procedures may discriminate unintentionally against some groups. Thus even though the *application* of the policies or procedures may be even-handed, their *effect* may have negative impacts. Within the context of mortgage lending, the effects test implies that discrimination may occur, not because lending staff are consciously (or even unconsciously) turning down applicants based on their race or sex, but rather because some lending policies and procedures themselves are unintentionally negative (Barefoot 1993; Mondor 1994).

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31 Specifically, the test derives from the 1971 U.S. Supreme Court decision in *Griggs v. Duke Power Co.* in which the Court ruled that if an employment practice operates in effect to have a disparate impact on a protected class, it is prohibited by Title VII of the *Civil Rights Act, 1964*.

The effects test is based on a different approach to the discrimination problem than that discussed throughout most of this thesis. The discriminatory treatment standard implies that the source of discrimination is human—because of personal biases, lending staff intentionally or unintentionally discriminate against certain loan applicants. The effects test, however, relies on an *adverse impact* standard. Under this standard, the source of discrimination is structural, embedded into lending policies that have long been applied even-handedly (Barefoot 1994).

How can a policy be applied even-handedly and still discriminate? Consider a policy that requires all mortgage applicants to provide an established credit history. This policy can be applied the same way to all applicants without causing discriminatory treatment. In *effect*, however, the policy discriminates against those who may be creditworthy but lack established credit ratings. Newly divorced women, for example, may have high incomes but lack an independent credit rating. The same holds for young people and those from cultures that do not accept money-lending.

Of course, lenders rely on the credit rating as a way of predicting whether a person will repay a loan. Without this standard, lenders' ability to judge the creditworthiness of applicants might be impaired. Enforcing the credit rating standard can be justified as a business necessity to protect lenders. Thus despite its adverse impact, one can argue that the credit rating standard should be retained.

Typically applied in a legal setting, the effects test provides a mechanism for deciding when a discriminatory practice is justified as a business necessity. It consists of three stages:

- First, the plaintiff tries to establish a prima facie case that the practice caused the given impact, that the impact is substantial, and that the impact falls disproportionately on members of a "protected class".[32]

  Typically, the prima facie case is established in part by statistical evidence of differences between population groups (Galster 1991b).

- If the prima facie case is established, onus falls on the defendant to show a "business necessity" for the practice. In general, U.S. courts have held that a practice meets the business necessity test if the defendant can show that it is indispensable to the continuing viability of the business.[33]

- If the business necessity cannot be established, the defendant is given an opportunity to develop an alternative practice that meets the same business need, but causes less of an effect. If an alternative is not provided, the practice is declared discriminatory and outlawed.

As mentioned, the effects test emerged in the United States from litigation over discrimination in hiring practices. To date, it has not been applied directly in that country to credit issues by either the courts or U.S. regulators. However, as recently as 1994, mortgage analysts speculated that the Clinton administration was considering a directive to financial regulators to incorporate effects-based testing into their compliance testing programs (Tepper 1994; Mondor 1994; Barefoot 1993; Barefoot 1992). Further, a footnote to Regulation B of the *Equal Credit Opportunities Act* indicates that the effects

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[32] Typically, protected classes are defined in the legislation under which the case is proceeding. The membership of the protected classes would change slightly from province-to-province owing to differences in the various provincial Human Rights Acts.

[33] Recently, however, this standard has come into controversy. In *Wards Cove Packing Co. v. Antonio* (1989), the U.S. Supreme Court ruled that a defendant need only establish a "business justification" for the practice. Congress overruled the applicability of the decision in employment law by amending Title VII of the *Civil Rights Act* in 1991. Notably, however, the 1991 act does not clarify the effect of *Wards Cove* on housing and mortgage lending (Mondor 1994).

test applies to the act, and analysts report that the thinking behind the test has long operated behind the scenes in U.S. regulatory agencies (Barefoot 1993).

Whether the effects test is adopted in the United States or not, Canadian governments should strongly consider it as one way to meet their policy responsibilities in this area. It presents at least three distinct advantages for Canada:

- Identifying broad-scale effects can be easier (and less expensive) than identifying individual treatment.

- In so far as mortgage discrimination restricts access to housing, applying the effects test to remove the barrier is consistent with Canadian housing policy.

- Because it scrutinizes lending *policies* instead of the action of lending *officers*, the effects test can form the basis for a cooperative approach to addressing mortgage discrimination.

I discuss each of these advantages in greater detail below.

4.2.2 Methodological Considerations with the Effects Test

A key advantage to the effects test is that it shifts much of the burden from researchers and regulators to lenders. Under a discriminatory treatment standard, researchers and regulators must prove that individual actors discriminated against specific applicants. Under an adverse impact standard, however, researchers and regulators must only show that lending practices affect some groups differently than they affect others. In practice, this is easier for two reasons:

- First, the data needed to make a case against adverse impact are easier to collect. Unlike the search for discriminatory treatment, the relevant unit of analysis for the effects test lies with the *population*, not with the individual *applicant*. The switch from individual to aggregate data has two important implications:

- Because we assume that all applicants are treated equally during the *process*, we can focus on whether the *outcomes* differ across population groups. Mortgage outcomes are easily observable, thereby avoiding the data collection problems associated with the confidentiality of the mortgage transaction.

- Aggregate data can be obtained from existing public data sources or from surveys without requiring the effort associated with creating a database on every mortgage applicant.

Combined, these implications means that the data collection associated with testing for adverse impact is easier and less expensive than that needed to support a test for discriminatory treatment.

- Second, because the nature of the analysis changes, so too do the appropriate statistical tests. In particular, a difference of means (or proportions) test can be applied to aggregate data to determine if effects are different (Galster 1991). This test is much easier to apply than the multiple-equation, maximum-likelihood models called for in Chapter 3.

Thus under the effects test, researchers and regulators have an easier time establishing the case that a particular lending practice has an adverse impact. Once the prima facie case is made, proving that the practice is necessary and justified is the lender's responsibility. At this juncture, the burden of proof shifts to the lender.

From a public policy standpoint, the evidentiary shift is important. Since the burden of proof shifts to lenders, it places considerable pressure on the lending community to review and justify existing credit standards *before* governments take action. Thus while the adverse impact standard may not make it easier to identify cases of mortgage discrimination against individuals, it strengthens the deterrent factor for lending institutions and forces a continuous review of the fairness associated with commonly accepted lending standards.

4.2.3 The Effects Test and Canadian Housing Policy

Although the call for Canadian governments to adopt the effects test as a way to address discrimination in mortgage lending may seem extreme, it is nevertheless consistent with traditional Canadian housing policy. Federal support of credit accessibility for house buyers through the National Housing Act has been the cornerstone of federal housing policy (Fallis 1991). Further, since the 1970s planners have focused on housing as a fundamental right to be enjoyed by all Canadians (Mason 1981). Finally, governments at all levels have regularly intervened in housing markets to correct actual or perceived imperfections in the market mechanism (Oberlander & Fallick 1992). Notable examples since 1970 include:[34]

- *The Innovative Housing Fund, 1970 & The Assisted Home Ownership Fund, 1971.* These funds provided $300 million in federal funds to maintain and extend home ownership to low-medium income families.

- *The Registered Home Ownership Savings Plan, 1974–84* was introduced in the May 1974 budget speech but terminated shortly after the 1984 election. The RHOSP was designed to "encourage savings" and "reduce current speculative pressures on housing prices." (Hansard, 1974, vol. 2, p. 2084, cited in Oberlander & Fallick 1992, 137)

- *Land Banking.* Through the early to late-1970s, several provincial governments attempted to moderate the price of building lots (and hence housing prices) by assembling tracts of urban land. By accumulating and developing large tracts of land, governments sought to create a

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34 See Mason 1981 and Oberlander and Fallick 1992 for a detailed discussion of these policies and the impacts that they had on housing markets.

competitive threat to private developers who were allegedly withholding land to drive up house prices.

- *RRSP-Supported Mortgages.* In 1994, the federal government allowed first-time home buyers to withdraw funds from a Registered Retirement Savings Plan to finance a house purchase. Funds could be withdrawn penalty-free provided that they were repaid within a fixed period.

Although governments have typically focused on affordability as the key barrier to home ownership, a program to address mortgage discrimination is consistent with their general approach. Furthermore, by raising the cost of credit or making it more difficult to get a mortgage, discrimination may in fact contribute to the affordability and access problem. The effects test thus provides government with another tool to improve access to housing for minority groups.

4.2.4 A Cooperative Approach to Addressing Mortgage Discrimination

The U.S. experience with mortgage discrimination is marked by confrontation and controversy. Studies sponsored by community groups have typically found discriminatory treatment. Studies sponsored by lenders and regulators have generally found otherwise. The result is an acrimonious debate over the causes, effects, and frequency of discrimination in mortgage lending.

Canada has an important opportunity to avoid such a debate. By promoting effects-based testing over the search for discriminatory treatment, we can focus on supposedly impartial lending standards instead of the actions of individual staff or agencies. This should impart some distance on the debate, and thereby avoid the "us versus them" positions that often accompany discrimination issues.

Under the most optimistic scenario, effects-based testing might even bring opposing groups together. In Canada, regulators, community groups, and the lending industry can each bring a unique perspective to the discrimination issue—community groups because they face discrimination and its effects daily, banks because they bear a fiduciary responsibility to borrowers and to their shareholders, and government because of its responsibilities in both of these areas. These perspectives can be woven together to improve any discussion of lending practices across the country.

4.3 Summary and Conclusions

The U.S. experience presents a number of lessons for Canada. The context of the mortgage lending decision challenges a research design to provide useful data within the context of available resources—even for basic and exploratory studies. The stakes are raised even further when the methodological difficulties associated with studying mortgage research are added to the mix. The feasibility of studying mortgage discrimination is cast into doubt when we finally consider the political and regulatory issues that emerge from the U.S. experience with mortgage lending.

By studying these lessons, we can avoid some of the pitfalls that emerge from the U.S. experience. In particular, Canada should consider focusing its search for mortgage discrimination on the adverse impact of mortgage policies and not on the discriminatory application of those policies. Effects-based testing is less complicated than testing for discriminatory treatment, is consistent with Canadian housing policy, and more likely to engender the cooperative spirit needed to make progress on this potentially important social issue.

5.0 CONCLUSION

Home buyers have a right to expect that factors unrelated to their ability to repay a loan won't affect their access to mortgage credit. Unfortunately, evidence from the United States suggests that discrimination may sometimes enter into the lending decision. When it does, members of minority groups are denied equal access to housing.

Lessons from the U.S. experience can help Canada develop a program to identify and eliminate discrimination in mortgage lending. A number of basic points emerge from the U.S. experience:

- The context of the mortgage lending process makes it difficult to prove that discriminatory treatment takes place in mortgage markets.
- Second, because of this context, mortgage discrimination studies are prone to methodological weaknesses. Addressing these weaknesses is expensive and time-consuming given the availability of existing data.
- Third, a climate of advocacy permeates the debate over mortgage discrimination. In the U.S., this climate is pushing the research ahead without resolving basic issues. This experience is possible and likely to be repeated in Canada.
- Fourth, because fundamental questions about mortgage discrimination remain unresolved in the United States, the U.S. regulatory effort is failing.

Canada has an opportunity to learn from the lessons that are presented by the U.S. experience with mortgage discrimination. In particular, Canada should consider focusing its search for mortgage discrimination on the adverse impact of mortgage policies and not on the discriminatory application of those policies. Switching the emphasis from treatment to impact is methodologically easier, consistent with existing housing policy, and more likely to promote cooperative efforts to deal with this potentially serious problem.

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