ANALYSIS OF ACTUAL AND INTENDED DESTINATION CHOICE PATTERNS OF CANADIAN IMMIGRANTS

ANALYSIS OF ACTUAL AND INTENDED DESTINATION CHOICE PATTERNS
OF CANADIAN IMMIGRANTS

BY

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"By land, sea and air they have come--the
oppressed and the opportunists, the refugees
and the fortune-seekers, the relatives of
earlier immigrants and the young adventurers.
Canada is, by world standards, a nation of
immigrants"

D.M. Ray

ABSTRACT

The overall theme of this study is an analysis of the actual and intended destination choice patterns of Canadian immigrants who landed during the 1970s. Actual destination choice patterns are described using data from the 2% Public Use Sample of the 1981 Census. Intended destination choice patterns are described using annual tallies of the Department of Employment and Immigration (1971 - 1981). Four main issues are considered.

First, the pattern of actual destination choice for the 1970s is described. The Atlantic was the least favoured destination, although it received higher than average proportions of young, well-educated and professional immigrants. Quebec increased in popularity toward the end of the decade, particularly for immigrants from countries other than Britain and the United States. Ontario remained the most popular destination, although its attractiveness declined during the oil boom, when that of Alberta and the Prairies rose commensurately. British Columbia continued to attract a disproportionately large share of immigrants, particularly British, Asian and elderly.

Second, the intended destination choice pattern is described and compared with the actual pattern. Ontario displays the best correspondence. The Atlantic shows the poorest correspondence, however, as the intended choice proportion exceeds the actual proportion by a wide margin.

This excess, though smaller, also appears in Quebec and the Prairies. In contrast, the actual share exceeds the intended share in Alberta and British Columbia.

Third, the gap between intended and actual destination choice proportions is examined for systematic divergence. The gap appears to be narrow in the years just prior to the census, and appears to diverge somewhat in earlier years. Very popular and very unpopular destinations, such as Alberta and the Atlantic, demonstrate comparatively larger gaps than destinations of average popularity.

Fourth, logit analysis concludes that ecological variables and interaction terms involving ecological and personal variables were significant in explaining the actual destination choices. Coldness had a negative effect on destination choice, whereas relative population size, ethnic concentration, wage rate and employment growth had positive effects. The statistically significant interaction terms indicate, among other things, that Asians and Southern Europeans had a stronger preference for destinations with high concentrations of ethnically similar populations. The application of the logit model to the intended destination choice data yields a similar result: all ecological variables and the interactions between ethnic concentration and Asian and Southern European immigrants remain highly significant.

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CHAPTER 1

INTRODUCTION

Migration, whether internal or international, alters the distribution of characteristics of the Canadian population, and influences regional economies and societies. Research on migration patterns and processes, therefore, is meaningful for academics, public policy-makers and private planners alike. Academics in geography appear to be most interested in "the way in which populations are distributed through space and over time, together with the various factors which generate changes in these spatio-temporal patterns" (Woods, 1979, 1). Policy-makers and planners, on the other hand, are most interested in practical implications of such research.

This study focuses on Canadian immigration through space and over time, together with the personal and ecological factors contributing to these patterns. Further, it identifies some areas of policy development that could benefit from the findings. In short, this paper attempts to unify the academic and the practical within the context of population geography.

1.1 THE CONTEXT

Population geography, relative to many other subdisciplines in geography, is very recent in origin. It was not until 1953 that Trewartha, in his address to the American Association of Geographers, enunciated a need for this distinct field. Since then, great strides in its structuring and development have taken place, and bodies of literature on each of fertility, mortality and migration have become well established. Most recently, migration has come to the forefront of population geography.

Migration is intriguing because it depends largely on human motivation and choice within a framework of political, social and economic pressures. A certain degree of human irrationality that is neither understandable nor predictable is implicit in the migration decision. Consequently, migration studies are imperfect; they often over-simplify spatial movement and fail to correctly explain associated processes. Nevertheless, these studies have contributed greatly to existing knowledge of the nature, causes and consequences of population movement. Ogden (1984, iv) comments that:

> "The great diversity of the movements
> from place to place which have come to
> characterize human society has had great
> effects on the geography of the
> contemporary world....The geographer is
> well placed to evaluate the causes and
> consequences of migration as well as to

> describe the patterns of volume,
> direction and distance which migration
> flows exhibit."

The geographer, therefore, is well placed to determine suitable working definitions of migration. Zelinsky distinguished among four types of human movement based on geographical distance and time:

> Circulation - a short-term repetitive or cyclical movement not involving a change of residence.
>
> Movement or mobility - a semi-permanent change of residence within a municipality (eg. intraurban mobility).
>
> Migration - a semi-permanent change of residence across a municipal boundary (eg. rural-to-urban, urban-to-rural or interurban migration).
>
> Immigration - a semi-permanent change of residence across an international boundary.
>
> (Zelinsky, 1966, 226).

Of these, immigration is central in the following study.

1.2 THE STUDY

The overall theme in this study is a comparison of intended and actual destination choice patterns of Canadian immigrants who landed during the 1970s. More specifically, the study seeks to answer five main questions:

> 1. What is the pattern of actual destination choice at the regional scale and how does it change throughout the decade? What are the resulting patterns of immigrant quality characteristics?

2. What is the pattern of intended destination choice at the regional scale and how does it change throughout the decade?

3. Does the pattern of actual destination choice closely approximate that of intended destination choice for immigrants
     a) shortly after landing in Canada, and
     b) after an adjustment period within Canada?
Are there systematic differences between intended and actual destination choice over time?

4. How can these patterns be explained with reference to the personal attributes of the immigrants and the ecological variables of the destinations?

5. What are the policy implications of the patterns and processes discovered?

The study is outlined as follows. Chapter 2 reviews the literature on migration. The development of migration theory is outlined, as are some of the causes and consequences of migration and immigration. Immigrant adaptation and relocation are briefly discussed, and some empirical findings on actual and intended destination choice are highlighted.

Chapter 3 outlines the two main data sources used in the study--the Statistics Canada Public Use Sample Tapes of 1981, and the Department Employment and Immigration statistics for 1971 - 1981. Further the procedures of cross-tabulation, and the logit analysis are discussed.

Chapter 4 describes the actual destination choice patterns of the immigrants, both in terms of the volume of people, and their quality characteristics. In Chapter 5, the intended destination choice patterns are described and compared with the actual patterns, and some conceptual expectations for this comparison are put forth.

An explanation of both the intended and actual destination choice patterns based on multinomial logit analysis is presented in Chapter 6. Personal attributes of the immigrants, ecological attributes of the destinations and interaction terms combining the two comprise the independent variables.

In Chapter 7, some policy and planning implications of the research are suggested. Finally, Chapter 8 concludes the paper, stating the need for both academic researcher and government policy-maker to work together for mutual understanding.

CHAPTER 2

A REVIEW OF THE LITERATURE ON MIGRATION

A review of the literature on migration is needed to pin down the theoretical framework of this study of intended and actual destination choice, and to select the variables most worth exploring for their influence on choice patterns. In addition, a review helps to identify areas of migration research that have not been fully developed.

Early work in migration tended to be theoretical, aimed at finding regularities in how and why people migrate. More recently, however, migration research has been primarily empirical, focusing on describing, explaining and modelling the patterns and directions of flows, and on discussing the interaction between migration and the economy. In the academic sphere, this recent shift from theory to empiricism is itself interesting. It symbolizes the demand for rigorous method which ensures both the reliability and validity of migration studies. This chapter summarizes some of the important theories and empirical findings.

2.1 DEVELOPMENT OF MIGRATION THEORY

The first and perhaps most insightful theory of migration was that of Ravenstein (1885). Starting with the premise that individuals desire to better themselves in

material respects, Ravenstein developed a set of laws on the relationship between origin and destination in internal migration (Petersen, 1978). (See Table 2.1). While not intended to be as rigid as physical laws, Ravenstein's laws skilfully combined spatial, population and economic elements. The prominence of the destination is interesting, as it predicated, at an early date, the element of individual choice in migration.

Lee (1966) also alluded to the notion of individual choice in his theory of spatial movement. Migrants' choices were seen to be a function of the pull of the destination, the forces of push and inertia at the origin, and personal characteristics, including human irrationality (Morrison, 1973). Lee (1966, 192) stated that "the factors that hold and attract or repel people are precisely understood neither by the social scientist nor the persons directly affected". For this reason, he offered a very general schema designed to fit a variety of spatial movements (Figure 2.1). In it he depicted the elements of pull (attraction), push (repulsion) and intervening obstacles. Lowry (1966) tested an empirical application of Lee's theory, and found that destination economic variables are highly important, and that those of the origin are not.

TABLE 2.1

RAVENSTEIN'S LAWS OF MIGRATION

1 The majority of migrants go only a short distance,
2 Migration proceeds step by step,
3 Migrants going long distances generally go by preference to one of the great centres of commerce or industry,
4 Each current of migration produces a compensating counter current,
5 The natives of towns are less migratory than those of rural areas,
6 Females are more migratory than males within the Kingdom of their birth, but males more frequently venture beyond,
7 Most migrants are adults; families rarely migrate out of their county of birth,
8 Large towns grow more by migration than by natural increase,
9 Migration increases in volume as industries and commerce develop and transport improves,
10 The major direction of migration is from the agricultural areas to the centres of industry and commerce,
11 The major causes of migration are economic.

Source: Woods (1979), 191.

FIGURE 2.1

Lee's Conceptualization of Migration
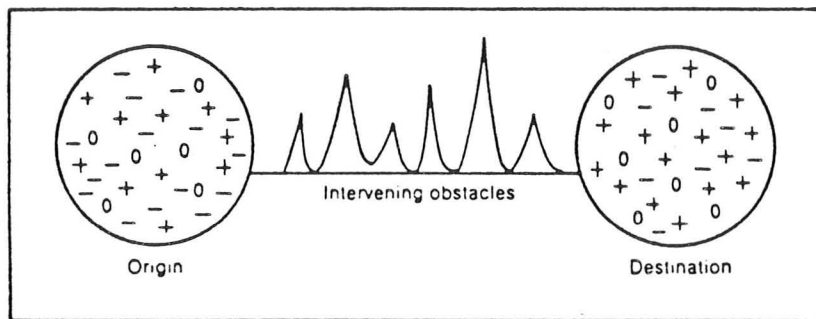
Source: Lee (1966), 192.

Sjaastad (1962), unlike Ravenstein and Lee, focused on the effects of migration--primarily for the migrant, but also for the origin and destination societies. Sjaastad, from an economist's perspective, identified private and social costs and returns. Private costs were outlined in terms of (1) the financial costs of migration, (2) the opportunity costs of foregone income, and (3) the psychic costs of leaving familiar surroundings, and private returns in terms of (1) the monetary and (2) the non-monetary benefits of changes in occupation and places of residence. Most important, Sjaastad recognized that the full benefit of migration came after a period of adjustment, so that benefits associated with the destination need not immediately exceed benefits associated with the origin plus psychic costs of leaving.

Zelinsky (1971), in his theory on the mobility transition, put migration in the context of modernization. He stated:

> "There are definite, patterned
> regularities in the growth of personal
> mobility through space in time during
> recent history, and these regularities
> comprise an essential component of the
> modernization process" (Zelinsky, 1971,
> 222).

Five stages of systematic mobility change and five concurrent stages of economic development comprised the mobility transition. Like the demographic transition, the

stages were both irreversible and inevitable. The role of the destination was indeed important, and the role of the migrant in choosing either rural or urban destinations was made explicit in Zelinsky's theory. The issue of specific destination choice, however, was not addressed.

Rossi (1955) developed a behavioural approach to migration, which was most often applied to studies of residential mobility. By factorizing migration behaviour into two components (Moore, 1972)--the decision to move and the choice of destination--the behavioural approach became suited to studies of longer-distance migration. The decision to move, was influenced by the migrant's life cycle stage, financial means and health, but "the choice of destination was conceptualized as the result of specific motivations [eg. economic or leisure] and of a limited search process" (Liaw and Kanaroglou, 1986, 207).

This behavioural approach developed by Rossi and recently adapted by numerous population geographers (Moore; Liaw and Kanaroglou) is the most suitable theoretical framework for a study on destination choice. In fact,

> "An interesting methodological implication of the behavioural approach is that the destination choice probabilities are preferred to the in-migration rates as the basic measure for studying why one region gets more migrants than another" (Liaw and Kanaroglou, 1986, 207).

In this study, destination choice probabilities arrived at via a multinomial logit model, form the basis of an analysis and discussion of the destination choice patterns of immigrants arriving in Canada between 1976 and 1981 (Chapter 6).

Theories of migration are certainly useful in finding regularity in human movement. Yet migration remains the action of individual decision-makers, and as a result, many of the hows and whys of migration cannot be addressed by general theories. Instead, some empirical studies aim at identifying some of the specifics of migration patterns and processes.

2.2 DETERMINANTS OF MIGRATION

Studies addressing the determinants of migration are often empirical in approach. They are important in explaining the nature of migration flows, particularly in terms of the personal and ecological factors influencing migration behaviour. A brief review of some of these factors is helpful in understanding the variable selection and methodological design of this study on Canadian immigration.

2.2.1 PERSONAL DETERMINANTS

As Kuznets (1979) pointed out in his work Growth, Population and Income Distribution, migration is selective

with respect to individual characteristics--age, gender, occupation, education. This finding is not new in migration research. Many researchers, in fact, have identified trends in the personal attributes of migrants, and have treated those attributes as instrumental factors in migration behaviour.

Perhaps the most important determinant of migration is age. Age affects typical migration behaviour, making it possible to construct a coherent migration schedule (Liaw and Nagnur, 1985). Shown in Figure 2.2, the migration schedule summarizes the propensity to move at certain ages; young adults are the most migratory, but the propensity to move decreases with age because, according to Shaw (1985), the time remaining to capitalize on earnings differentials also decreases. In terms of specific works on age-related migration, Field (1988) studied age differences in the population exchange between various levels of the urban hierarchy, while Flynn (1980), and Liaw and Kanaroglou (1986) studied the destination choice preferences of the elderly.

Gender is a mildly important influence on migration. Little controversy surrounds the discovery that the shape of the migration schedule remains virtually the same for both males and females (Figure 2.2). There are some minor gender differences; for example, elderly females tend to be

FIGURE 2.2

FEMALE AND MALE AGE SCHEDULES OF MIGRATION

Female

Male

	Female	Male
5*GMR(OBS)	6.94003	6.59972
5*GMR(MDL)	6.94056	6.59901
% ERROR	2.68116	3.04591
A1	.09563	.10904
ALPHA1	.11820	.09066
A2	.31487	.28046
MU2	16.32211	17.64764
ALPHA2	.10943	.08451
LAMBDA2	.34321	.30116
A3	.00004	.00023
MU3	76.91052	75.55562
ALPHA3	.64915	.70759
LAMBDA3	.10108	.12456
C	.04043	.02665

quinquennial migration rates

beginning-of-the-period age
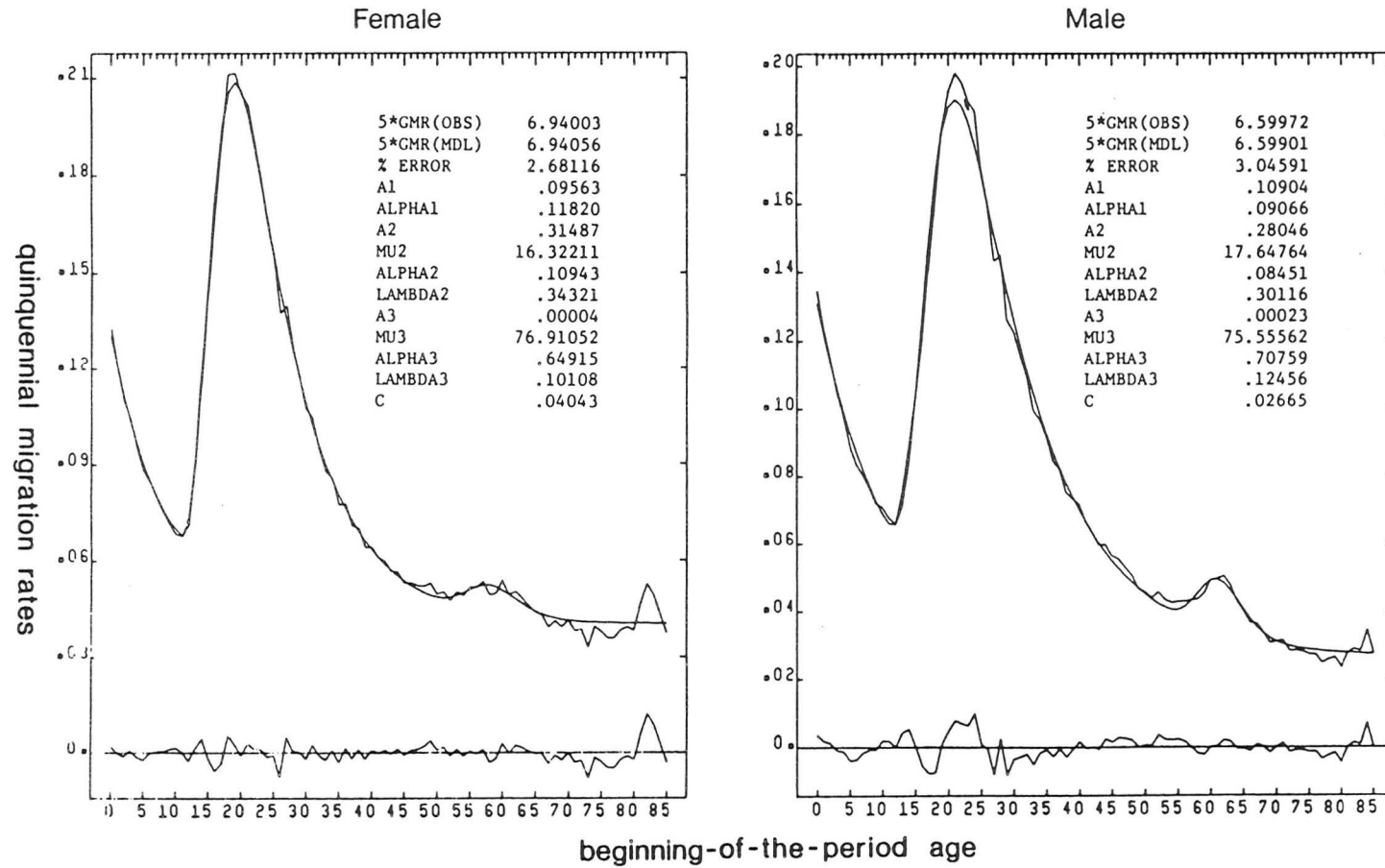
Source: Liaw and Nagnur (1985)

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slightly more migratory and slightly more metropolitan-bound than elderly males (Cheung and Liaw, 1987).

Education and occupation have a significant influence on migration. Shaw (1985), in his study of intermetropolitan migration in Canada, asserted that more highly educated migrants have greater accessibility to information and are thus more likely to move. According to Frey (1979), a disproportionately high share of younger, more highly educated migrants select metropolitan destinations. Occupation also affects the destination choices. Boyd (1976) found that "the occupational distribution of immigrants coming to Canada is responsive to economic conditions in Canada" and that comparable American trends are less pronounced. Connell et al. (1976) found that the nature of migrants' employment influences the selection of urban or rural destinations. Seasonal workers tend to occupy agricultural jobs in rural areas, whereas permanent workers are more likely to choose urban destinations. Occupation and education together with income provide a satisfactory measure of the socio-economic status of migrants (Gustavus and Brown, 1977).

Ethnicity, according to Kalbach (1970), affects mobility; the interregional migration of foreign-born individuals, for example, exceeds that of native Canadians. In the United States, the net out-migration of whites from

metropolitan areas is greater than that of other racial groups (Frey, 1979). Destination choice is influenced by ethnicity, as Canada now attracts a higher proportion of foreign-born individuals from non-traditional countries, and of these individuals, certain place of birth groups (eg. Asian, British) strongly prefer metropolitan areas (Richmond, 1984).

Individuality is extremely important in migration behaviour. Individual perceptions of place utility affect the relative attractiveness of the origin and potential destinations, and individual perceptions of cost (fixed and psychic) affect the decision to move (Gustavus and Brown, 1977). Personal contacts reduce the psychic cost of migration (Yap, 1977), and strongly influence the destination decision (Gustavus and Brown, 1977).

While only a few personal attributes have been mentioned here, many others (eg. marital status, life cycle stage, length of residence) have also been explored in empirical works. For the purposes of this study on Canadian immigration, several of the most influential (and easily obtainable) personal variables have been selected for further empirical testing--age, gender, education, occupation and country of origin.

2.2.2 ECOLOGICAL DETERMINANTS

Now consider ecological variables. Many researchers have contributed to our knowledge of the ecological determinants of migration, but Shaw has produced one of the most comprehensive works.

Distance is a very important ecological variable. It affects information diffusion, the cost of migration, and the choice of destination (Connell et al., 1976). Nevertheless, the decreasing effect of distance due to improvements in transportation and communication has been well documented (eg. Shaw's 1985 study of intermetropolitan migration).

Physical characteristics also influence choice of destination, particularly in Canada where "metropolitan areas differ widely in terms of proximity to geographical assets such as mountains or oceans....CMAs also differ widely in terms of length of seasons, warmth of summer and harshness of winter" (Shaw, 1985, 86). Studies by Shaw; Liaw and Kanaroglou (1986); and Cheung and Liaw (1987) each indicate the positive effect of a mild climate on choice of destination.

Cultural dissimilarity is yet another factor. Liaw and Kanaroglou (1986) found that metropolitan elderly out-migrants in Canada are significantly influenced by cultural dissimilarity in choosing destinations. This finding

supports the old adage that people prefer to live amongst people like themselves. Shaw (1985) also found that language differences between Census Metropolitan Areas have become more important in intermetropolitan migration flows since the passing of Bill 101 (the French Language Bill).

For labour force migrants, factors within the economy affect the decision to move and the choice of destination. Woods (1979) claimed that people "migrate with the intention of maximizing personal economic gains and do so as long as expected net gains are substantial enough" (Woods, 1979, 171). Economic push and pull factors are central to Woods' view that migration should be measured "in relation to such factors as wages, employment opportunities and...regional inequalities" (Ibid, 171).

Shaw (1985) studied traditional market variables and their effect on internal migration in Canada. He found that wages have a positive effect at the destination and a negative effect at the origin, while employment growth rates have a positive correlation with interregional migration rates, and business cycles have a positive correlation with internal migration rates. Unemployment is significant in migrants' destination choices, according to Shaw, yet many other researchers have found that it lacks significance. Unemployment, therefore, remains an ambiguous factor.

Now focusing specifically on ecological variables and international migration, historical flows of immigrants affect both the decision to immigrate and the choice of destination. Ethnic receiving communities have become established in metropolitan centres, thus encouraging chain migration; often immigrants of like backgrounds settle, at least initially, in such communities.

Also affecting international migration is the balance between political, social and economic push factors in the countries of origin, and perceived social and economic pull factors of the destination. Acting as an obstacle, then, is Canadian immigration policy. Labour needs affect the composition of immigrant flows. Demographic needs affect the volume. Humanitarian gestures affect the class of immigrant mix.

It is evident from this discussion that ecological variables greatly influence the migration decision and destination choice. Of the many variables documented in the literature, several have been selected for further exploration in the context of this study on Canadian immigration--climate, ethnic similarity, wages and employment growth.

2.3 CONSEQUENCES OF MIGRATION

A substantial body of literature touches on the consequences of migration, though few works provide a comprehensive summary. This brief review summarizes consequences into four categories--demographic, social, political and economic--and is helpful in understanding why it is important to study migration and why officials in all levels of government should be aware of these impacts when designing public policy.

The main demographic effect of migration relates to age structure. As stated by Liaw and Kanaroglou (1986, 202), "the key to the understanding of the spatial distribution of the burden of the elderly lies mainly in the migration process". Because young people are more mobile and more sensitive to economic conditions, they are more apt to migrate from depressed areas in search of new opportunities, leaving behind an aging population. This situation puts significant pressure on social services and facilities in the depressed areas (Cheung and Liaw, 1987). In the receiving areas, the change in the age structure is quite different, as the young migrants may bear children (Ogden, 1984). Beaujot (1986, 1) notes that "with lower fertility in Canada, the demographic contribution of immigration is likely to be even higher in the future".

Social consequences of migration are also significant. According to Ogden (1984, 42), "the social geography of many parts of the modern city is directly attributable to migration". The mix of migrants (in terms of personal attributes) and the destination choice patterns of migrant groups affect the spatial distribution of human capital in the destination. Metropolitan destinations, as previously determined, tend to attract a disproportionately large share of high-quality migrants. This pattern has particular relevance for social services, and is best explained by Shaw (1985, 7):

> "If children or older people are heavily represented among new arrivals, the demand for specific services such as schooling or hospital facilities can be affected. Moreover, if urban communities experience a consistent loss of population through emigration, they may become susceptible to a heavy drain on their social and economic vitality. This follows from the almost universal finding that migration is selective of younger, more educated, more dynamic elements of the population."

Cultural ghettoization, another social consequence of migration, often occurs in large cities, and creates a reception area for immigrants. Not surprisingly, then, "cultural tensions may also be a direct product of migration" (Ogden, 1984, 39). Racial problems are increasingly becoming an issue in Canada (Weinfeld, 1987),

as illustrated by the recent refugee crisis (Dirks, 1987; Hamilton Spectator, July 20, 1988).

Migration also has political impacts, at the federal, provincial and municipal levels. In Canada, uneven spatial movement has necessitated federal incentive programs; isolation remuneration and government grants are designed to attract highly qualified migrants to less desirable areas of the country (eg. the North). The federal government also ensures that immigration levels are determined annually based on national economic circumstances, and that naturalization programs are provided for immigrants. As for impacts on provincial governments, Quebec, in the Meech Lake Accord, has demanded annual immigration levels at least equal to its population proportion in Canada (Weinfeld, 1987). This political manoeuvre attempts to alleviate Quebec's declining population share. As for local governments overcrowding and congestion become major local concerns during periods of high metropolitanward migration, but during periods of the "metropolitan-non-metropolitan turnaround" (Frey, 1979, 220), exurbanization into unserviced areas is the main problem. Furthermore, municipal governments are most actively involved in solving the problems of race relations, largely due to immigration.

Economic impacts of migration are less certain than the demographic, social and political impacts. In terms of interregional migration, Sjaastad (1962, 80) claimed that migration is "a means of promoting efficient resource allocation", and Courchene (1981) went on to say that migration is a mechanism for achieving a labour price equilibrium. Many critics of this Neoclassical approach, however, have less faith in the effects suggested (eg. Matthews, 1981; Polese, 1981). Some empirical studies on the economic effects of migration reveal "that migration has a small but significant impact on regional wages and unemployment rates" (Wrage, 1981, 51) and that only in the long-run does migration have a significant positive effect on personal income (Grant and Vanderkamp, 1980). In terms of immigration, Weinfeld (1987, 26) stated:

> "Immigrants today, as in the past, have played important roles in the Canadian economy, filling needs for skilled as well as unskilled occupations.... Moreover, immigrants are not only instant consumers but also help generate a larger domestic market needed to sustain demand".

In sum, the consequences--demographic, social, political and economic--of internal and international migration are indeed extensive, and should not be underestimated. These impacts must be addressed by government officials to ensure the development of

appropriate and effective public policy. Chapter 7 addresses some of the impacts of immigration in the context of federal, provincial and municipal policy.

2.4 IMMIGRANT ADAPTATION AND RELOCATION

An important outcome of migration not yet mentioned is the effect on the individual. In the case of international migration, this effect is obvious and much research has been done on documenting the experiences of immigrants and on assessing their economic adaptation in Canada. Relatively little has been done, however, on immigrant relocation within Canada. Adaptation and relocation are particularly important in understanding the destination choice patterns of immigrants after initial settlement.

2.4.1 ECONOMIC ADAPTATION

While some studies of immigrant adaptation have been theoretical (eg. Richmond's six models of migrant economic adaptation, 1984), most have been empirical. The special problems of immigrants--official language difficulties, racial discrimination, underemployment, and recertification requirements for occupation and education qualifications-- have been carefully documented, as has the social adaptation of immigrants in terms of social status and community

acceptance.   Most frequently,   however,   empirical studies
have focused on the economic adaptation of immigrants.

Length   of residence   in Canada   influences economic
adaptation. Beaujot   (1986, 10) cautioned   that "we can   in
fact expect[1] immigrants   to suffer some   disadvantages   in
economic   adaptation   during   the   first   years   of   their
arrival".   A   longitudinal study done   by the Department   of
Manpower   and   Immigration   (1974)   detailed   the   economic
adaptation of   immigrants during their first   three years in
Canada (1969 - 1971).   Most immigrants found acceptable work
soon after arrival.   In   fact, "within a week and a   half of
their   arrival,   50   percent   of   all   the   immigrants   who
eventually   entered the   labour   force had   already   started
working" (Manpower and Immigration, 1974, 6).   Furthermore,
income levels improved with length of   residence in Canada,
as "the percentage of immigrants living   below the   poverty
line   decreased sharply from 22 percent during the first six
months...to   four   percent during   their third   year" (Ibid,
10).   Similarly,   Richmond (1967) found   that immigrants   of
three years had lower average incomes than native Canadians,
but that   immigrants of six   or more   years had an   economic
advantage.   Clearly,   then,   the   economic   adaptation   of

---

[1]   Emphasis added.

immigrants progresses quickly with length of residence, particularly in the early years.

A second critical factor in economic adaptation is ethnic background. Samuel and Woloski (1985, 236) found that "immigrants entering Canada from Britain and Ireland, and Northern and Western Europe experienced the fewest weeks of unemployment, as well as the highest level of earnings in 1982". Basavarajappa and Verma (1985) found that British immigrants have higher incomes and participation rates than Asians, but that immigrants generally have a slight economic advantage over the Canadian-born. Beaujot (1986, 11) commented that "there is a persistence of ethnicity as a basis of social differentiation", which may translate into occupational underachievement and occupational segmentation for particular immigrant groups.

No less important, though too numerous to discuss, are the many other factors affecting the success of economic adaptation. Age at immigration, gender, education, class of immigrant, individuality and prevailing economic conditions are each influential. Beaujot (1986) provided an extensive review of empirical works discussing these factors. Most significant, however, is the combination of factors peculiar to each immigrant.

From the evidence presented, it appears that immigrants adapt very successfully in terms of their

economic situation. The most rapid phase of economic adaptation occurs in the first few years, and is often accompanied by geographical relocation.

2.4.2 RELOCATION

> "Immigrants, when they first arrive in a
> new country are obviously in a situation
> conducive to high mobility."
> (Manpower and Immigration, 1974, 10).

Implicit in this statement is the premise that the mobility behaviour of immigrants within Canada differs from that of native-born Canadians. Kalbach (1970) found that, in general, foreign-born individuals have higher local mobility than the native-born. It has been suggested that immigrants find it difficult to obtain suitable accommodation due to high housing and household expenditures and tight housing markets in Canada (Manpower and Immigration, 1974). Therefore, "as part of the progression to better and more stable accommodation immigrants move frequently" (Ibid, 10). In fact, Manpower and Immigration found that within the first year of residence, 60 to 65 percent of immigrants moved at least once. Ornstein and Sharma (1981) found that the mobility behaviour of immigrants varies with gender, employment status and class of immigrant. These findings are particularly important as little attention has been paid

to immigrant relocation in the literature on migration (Moore et al, 1988).

Moore et al. (1988) presented an interesting work on "Redistribution of Immigrant Groups in Canada, 1976 - 1981", in which age and birthplace differences in the relocation patterns of immigrants were addressed. Findings on immigrant re-migration from Canada show that "immigrants from the 'traditional' source countries have markedly lower retention values...than those from the 'new' immigrant countries" (Moore, 1988, 5). Interprovincially, immigrants display migration patterns similar to those of the rest of the population; they "have responded to the attraction of the West during the late seventies" and "have been sensitive to the issue of language conflict in Quebec" (Ibid, 15). Certain immigrant groups, such as the Southern Europeans, tend to remain in local areas, while other groups, such as the Americans, British and Europeans, are more likely to be more mobile both locally and interprovincially (Ibid, 8).

In sum, the relocation rates of Canadian immigrants tend to exceed those of native-born Canadians, yet the spatial patterns are roughly similar. The fact that relocation occurs during the adaptation process is indeed significant. A study of the destination choice patterns of immigrants over a given time interval must therefore address this fact, and differentiate between initial destination

choice patterns and subsequent destination choice patterns.
This very distinction is outlined in Chapter 5.

2.5 THE DESTINATION

According to Shaw (1985), the effects of the
destination clearly exceed those of the origin in the
decision to move, but to Lee (1966) the destination embodies
a certain element of mystery that cannot be measured. To
Kalbach (1970, 136) the destination gives an indication of
immigrants' "perceived differentials in socio-economic
opportunities at the time of migration" but to Boyd (1976,
83) the destination represents the controlling agent of
"both the volume and the composition of international
immigration streams". Each of these diverse interpretations
illustrates the centrality of the destination in migration
analysis. What follows in this section is first, a brief
review of the literature on Canadian immigrant destination
trends, which provides a context; and second, a review of
the literature on immigrant intentions, which provides a
rationale for this study.

2.5.1 CHOSEN DESTINATION TRENDS

It is frequently noted in the literature on
migration that internal and international migrants gravitate
toward highly urbanized areas. Yap (1977), in fact,
produced an article entitled "The Attraction of Cities: A

Review of the Migration Literature". In it she identified income and employment opportunities as motivating factors for migrants, in addition to "better educational opportunities, [and] a wider variety of shopping, social and recreational activities" (Yap, 1977, 224). Gertler and Crowley (1977) emphasized the trade-offs involved in selecting urban destinations which result from the forces of urban detraction--high housing prices, pollution, congestion and anonymity. They found that Canadian immigrants have a tendency to concentrate in the largest metropolitan areas (Toronto, Montreal and Vancouver), despite the disadvantages. In fact, Kalbach (1970, 400) found that "at each decennial census since 1921 [in Canada], the foreign-born have been more urbanized than the native-born population, and the more recent immigrants more urbanized than the earlier immigrants".

Within Canada, the geographical distribution of the foreign-born is quite uneven. In an analysis of Canadian urban areas in 1971, Ray (1976, 233) noted:

> "Only six urban areas east of the Ontario-Quebec boundary had more than five percent foreign-born population, and only one of these (Montreal) was in the province of Quebec. Within Atlantic Canada, the five urban areas with over five percent foreign-born population were largely functionally specialized. Two are capitals (Halifax and Fredericton), Oromocto and Kentville

> have military bases, and Labrador City
> is a new iron-mining centre".

Cities in Ontario generally had greater percentages of foreign-born, though within Ontario, the southwest had consistently higher percentages than the east and northeast. Interestingly, "Leamington, with its demand for immigrant labour on vegetable farms and in canneries, had the second highest foreign-born percentage in Canada" (Ibid, 233). Western Canadian cities had much higher percentages than the east, with most cities in Alberta and British Columbia having "more than the national level of fifteen percent foreign-born in 1971" (Ibid, 233).

With respect to destination choice proportions (as opposed to the percentage foreign-born), cities in Ontario were overwhelmingly preferred in the early 1970s. A general shift in preference toward the west in the late 1970s, however, caused a smaller share of immigrants to select cities in Ontario (Wellar, 1982). The importance of this trend should not be underestimated. As Moore et al. (n.d., 11) pointed out, "if it were not for international migration, Toronto would be a substantial net loser from internal migration".

Provincially, the destination choice patterns are very similar to the urban patterns. During the late 1970s, Ontario received a smaller share of immigrants while Alberta

received a considerably larger share than before. Foot
(1982, 29) stated that "in terms of population shares the
real losers in this period are the Atlantic provinces and
Quebec, not Ontario--since it is still receiving well above
its share of immigrants".

From this discussion, it is evident that trends in
the destinations actually chosen by Canadian immigrants,
particularly for the last two decades, have been well
documented. Nevertheless, there is one noticeable
deficiency in the literature on immigration. Very little
attention has been paid to the patterns of intended
destinations, and especially to a comparison of the intended
and actual destination choice patterns.

2.5.2 INTENDED DESTINATION TRENDS

In a section of Canada's 1967 Green Paper on
immigration, the intention to settle in Canada was studied.
Unfortunately, it only considered the distinction between
intention to settle permanently in Canada and the intention
not to. Nevertheless, several findings are interesting.
Nominated immigrants were found to be "more likely to intend
to settle permanently in Canada than were independent
immigrants" (Manpower and Immigration, 1974, 132), and
"people with lower educational levels were more prone to
remain in Canada than those with higher education" (Ibid,

134). When a comparison was completed of intentions at the time of immigration and intentions six months, one year, two and three years later, the greatest difference was seen between the original and six month intentions, and "only a small difference [was seen] between intentions after six months and after three years" (Ibid, 134).

Morrison (1973, 127), in a more theoretical study, noted that "People's disposition to move appears to depend on personal thresholds that govern their capacity to act on their preferences and intentions". As a suggestion for further research, he identified the need to "probe migrants' decision-making as well as record their actual moves, and thus gain new insights into the socio-economic determinants of the intent to move" (Ibid, 126). Morrison fell just short of the realization that new insights into intended destination choice could also be achieved through such a study.

Moore et al. (1988) have come closest to documenting intended destination choice patterns in their work on the redistribution of Canadian immigrants. They have found that for the period 1980 - 1985, "the percent of immigrants who intended to settle in Ontario fell by 7.5 compared to 1970 - 1979 while the comparable figure for the Prairies rose by 6.3" (Moore et al. 1988, 3). Unfortunately, a comparison of

these intended patterns with the actual patterns has not been made explicit.

The obvious conclusion from the works presented here on intended destination trends is that a significant shortage of research exists. This present study, though cursory, addresses the similarities and differences in the patterns of actual and intended destination choice for Canadian immigrants (1971 - 1981), and presents a most basic method for identifying systematic differences between the patterns. But perhaps the most important contribution is its highlighting of an area of migration research that remains in infancy.

CHAPTER 3

DATA SOURCES AND STATISTICAL TECHNIQUES

This study of immigration (1971 - 1981) uses data from the 1981 Statistics Canada Census, and from annual publications by the Department of Employment and Immigration. Statistics Canada collects information on the destinations actually chosen by immigrants, whereas Employment and Immigration collects information on intended destinations stated prior to immigration. In order to identify spatio-temporal patterns in actual and intended destination choice, the procedure of cross-tabulation is used, and in an attempt to statistically explain these patterns, a logit analysis is completed. This chapter describes the data, and the technical procedures used in this study.

3.1 STATISTICS CANADA PUBLIC USE SAMPLE TAPES (1981)

From the June 3, 1981 long-form census questionnaire, Statistics Canada published a microdata file called the Public Use Sample Tapes (PUS Tapes). One part of the PUS Tapes is devoted to individual-level data, and the other to household-level data. (See Appendix A for a discussion of data collection techniques). This study used

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the Individual file, which captures about 2% of the Canadian population. Included are the 23040 immigrants who landed between 1971 and 1981. Over one-hundred demographic and socioeconomic variables are reported for each immigrant, but the few described below are most pertinent to a study of destination choice.

3.1.1 TEMPORAL AND GEOGRAPHICAL VARIABLES

The census variable Year of First Immigration is critical to this study. It describes the year in which landed immigrant status was granted, and permits the extraction of immigrants from the PUS Tapes. The definition of this variable ensures that children born to Canadian citizens while outside of Canada, and individuals re-immigrating to Canada are excluded from the study.

Geographic variables permit the stratification of individuals into urban core, urban fringe and rural fringe classifications, or into provincial and CMA[1] classifications. The provincial scale of analysis was chosen for this study partly because it readily adapts to a

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[1] The Census Metropolitan area scale of analysis is suitable for a study of actual destination choice. CMAs are more homogeneous than provinces as labour and housing markets (Shaw, 1985), and CMA characteristics may give better indications as to why immigrants make the destination choices they do. Unfortunately, data on intended destinations are not kept for the CMA level. For this reason, the provincial scale of analysis has been chosen.

broad regionalization of Canada: the Atlantic, Quebec, Ontario, the Prairies, Alberta and British Columbia. Nova Scotia, New Brunswick and Newfoundland are consolidated into the Atlantic to aggregate the small provincial figures. Quebec stands alone because it is culturally diverse and is likely to attract characteristically different immigrants. Ontario stands alone because it is the most popular destination of immigrants. Manitoba and Saskatchewan are consolidated into the Prairies to aggregate the small provincial figures. Alberta is left separate in order to assess the impact of an economically burgeoning region on immigrant destination choice patterns. British Columbia remains separate because it is the traditional immigrant stronghold in the West. Unfortunately, Statistics Canada consolidated Prince Edward Island, the Northwest Territories and the Yukon Territories into one geographical unit, in order to preserve confidentiality. This consolidation is neither geographically contiguous nor culturally, socially or economically homogeneous, and as a result, immigrants settling in Prince Edward Island and the Territories have been excluded in this study.

3.1.2 PERSONAL VARIABLES

Six census variables are particularly helpful in summarizing the personal characteristics of immigrants and

in explaining destination choice patterns: sex, age at immigration, place of birth, occupational classification in 1981, highest level of schooling, and official language.

The Age at First Immigration variable "refers to the age at which the respondent first immigrated to Canada and acquired the official status of a permanent resident" (Rashid, 1984, 135). The age classification in the PUS Tapes is 0-4, 5-12, 13-19, 20-34, 35-64 and 65 years and over, but unfortunately age groups with distinctive migration patterns, like labour force entrants in their late teens (Liaw, Kanaroglou and Moffet, 1986), and retirement-oriented migrants in their late 50s and onward (Liaw and Kanaroglou, 1986; Cheung and Liaw, 1987) are not discernible. Thus the classification has been reaggregated-- children (0-19), young adults (20-34), middle-aged adults (35-64) and elderly (65 years and over).

The Place of Birth variable refers to specific country of birth in 1981 (Rashid, 1984, 124). It does not refer to the ethnic background of the respondent, although there is often correspondence. Once again, the classification scheme used by Statistics Canada is unsatisfactory. Asia, Africa and South and Central America are listed alongside the United States and individual European countries. As a result, the Place of Birth variable has been reaggregated to a more suitable

classification, where immigrants are grouped according to expected similarities in migration behaviour. The classification is: British, French, Southern European, Other European, Asian, African and Other[2]. This scheme resembles that used by Moore et al. (1988).

The Occupation variable (1981 classification basis) "refers to the kind of work the person was doing" (Rashid, 1984, 99), and is divided into sixteen subclasses taken from the Canadian Classification and Dictionary of Occupations. As very few immigrants enter some of the occupations listed (eg. artistic, literary and recreational occupations), and as the number of categories is rather large for cross-tabulation the occupational classification has been further collapsed into seven umbrella groups (Figure 3.1). The seven remaining groups are: Managerial/Administrative, Professional, Clerical, Sales, Service, Primary and Secondary, and Other.

The Highest Level of Schooling variable

> "refers to the highest grade or year of elementary or secondary school attended, or the highest year of university or other non-university completed. University education is considered to be at a higher level than the years completed or attended without an

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[2] The Other category includes a large immigrant group from the United States. This group has not been identified specifically, because American immigrants are not expected to have a particularly distinctive destination choice pattern.

FIGURE 3.1   40

THE DETERMINATION OF AN OCCUPATIONAL CLASSIFICATION

OCCUPATIONAL CLASSIFICATION	CCDO Code	CCDO Major Group Titles
ADMINISTRATIVE	11	Managerial, Administrative and Related Occupations
PROFESSIONAL	21	Occupations in Natural Sciences, Engineering and Mathematics
	23	Occupations in Social Sciences and Related Fields
	25	Occupations in Religion
	27	Teaching and Related Occupations
	31	Occupations in Medicine and Health
	33	Artistic, Literary, Performing Arts and Related Occupations
	37	Occupations in Sport and Recreation
CLERICAL	41	Clerical and Related Occupation
SALES	51	Sales Occupations
SERVICE	61	Service Occupations
PRIMARY & SECONDARY	71	Farming, Horticultural and Animal-Husbandry Occupation
	73	Fishing, Trapping and Related Occupation
	75	Forestry and Logging Occupation
	77	Mining and Quarrying Including Oil and Gal Field Occupation
	81	Processing Occupations
	83	Machining and Related Occupations
	85	Product Fabricating, Assembling and Repairing Occupations
	87	Construction Trades Occupations
OTHER	91	Transport Equipment Operating Occupations
	93	Material Handling and Related Occupations, n.e.c.
	95	Other Crafts and Equipment Operating Occupations
	99	Occupations Not Elsewhere Classified

Source: Canadian Classification and Dictionary of Occupations: Guide, 8th ed.

educational qualification" (Rashid, 1984, 111). There are eleven subclasses of educational attainment in the PUS Tapes, some of which have too few immigrant respondents for valid computation. For this reason, the Highest Level of Schooling variable is collapsed into four groups according to those suggested in the PUS manual: Less Than Grade 8, Secondary Education Only, Other Non-university Education Only, and University.

The Official Language variable "refers to the ability to conduct a conversation in either of the official languages of Canada" (Rashid, 1984, 126). There are four response categories suggested in the PUS manual: English Only, French Only, Both English and French, and Neither English and French.

3.1.3 DISADVANTAGES OF STATISTICS CANADA DATA

Several disadvantages to using census data are important to note. First there is a significant time delay in the publishing of census information, particularly the microlevel PUS Tapes. As a result, research based on census data is dated.

Second, it is estimated that 2% of the Canadian population does not complete the census, and that this underenumeration is not distributed evenly throughout the population. Certain provinces experience relatively high

underenumeration (eg. Quebec) and certain groups are more likely to be missed (eg. young adults). Illegal immigrants are not captured at all by the census.

Third, response validity is an issue because there is little incentive for respondents to complete the census questionnaire accurately, and census questions may be misinterpreted. The census question on Year of First Immigration, for example, refers to the year in which the immigrant first received landed immigrant status. But "an individual could have lived in Canada for a considerable length of time before officially immigrating to Canada" (Rashid, 1984, 135), which increases the possibility of respondents accidentally stating their year of first arrival, rather than their year of first immigration.

Fourth, and last, "the Public Use Sample Tapes are only a sample and should be treated as such" (Rashid, 1984, 12). Caution, therefore, should be exercised in using research results from the PUS Tapes.

3.1.4 ADVANTAGES OF STATISTICS CANADA DATA

The use of census data, also has distinct advantages. Statistics Canada carefully documents data collection techniques and tabulation procedures in a technical manual, allowing the researcher to be fully informed of the data strengths and limitations. Two of the

main strengths of the PUS Tapes are that the sample is representative of the entire census population, and that a wide selection of demographic and socioeconomic attributes are available.

Data contained in the PUS Tapes are particularly valuable for demographic and social research, as the unit of observation is the individual. Thus the researcher has an opportunity to aggregate figures in a way useful to answering specific research questions. In this study, for instance, the aggregation of personal variables has been tailored, the provincial scale of analysis has been specified, and two time periods have been selected--1971-1975 and 1976-1981.

The last main advantage of the PUS Tapes is the virtual objectivity of both researcher and participant. According to Shaw (1985, 11), it is sensible to use secondary data and multivariate statistical techniques in studies of migration, "rather than decipher migration behaviour from scanty data on subjective perceptions of individual migrants" (Shaw, 1985, 11). This is not to belittle the valuable research done by behavioural and social geographers using primary data and qualitative techniques. Rather, Shaw's statement legitimizes and emphasizes the importance of secondary data, hence objectivity, in migration research.

Much information can be gained about immigrants and their actual destination choice patterns from the census, yet statistics from the Department of Employment and Immigration provide an interesting comparison.

3.2 DEPARTMENT OF EMPLOYMENT AND IMMIGRATION STATISTICS

Each year, the Department of Employment and Immigration publishes statistics on Canadian immigration in volumes entitled Immigration Statistics. (See Appendix A for a discussion of data collection techniques). The total number of immigrants is tallied from immigrant visas, and details are recorded on origins, personal characteristics and intended destinations. The definition of 'immigrant' used by Employment and Immigration is identical to that used by Statistics Canada, so it is reasonable to compare trends exhibited in the two data sources.

3.2.1 GEOGRAPHICAL VARIABLES

In the Immigration Statistics volumes for 1971 through 1981, one table is of particular interest--"Country of Last Permanent Residence and Province of Destination". This is the only one of several tables that remained virtually unchanged in definition and format throughout the 1970s. Country of Last Permanent Residence is a very detailed variable on the origin of immigrants. It

approximates, but remains distinct from three variables in the census: Place of Birth, Ethnic Origin, and Country of Citizenship. Difficulty in directly comparing variables in different data sources does not preclude general inferences about immigrant origins. As one Statistics Canada publication indicates (1984, 94):

> "A survey aimed at assessing the relationship between Country of Last Permanent Residence and Country of Birth was conducted among immigrants from 48 foreign countries admitted in 1980. In 89% of the cases considered, the two countries were found to be the same".[3]

Based on this finding, comparisons of Country of Last Permanent Residence and Place of Birth are included in this study.

The Province of Destination variable is fundamentally different from province of residence in the census. In Employment and Immigration data, Province of Destination refers to the intended destination stated on immigrant applications for entry into Canada. It "is based on a statement of intention only and there is no guarantee that the intention was realized" (Employment and Immigration, 1981, 5). This definition allows for the distinction between intended and actual destination choice.

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[3] Original survey could not be found.

3.2.2 DISADVANTAGES OF EMPLOYMENT AND IMMIGRATION DATA

One of the disadvantages of Employment and Immigration data is the very limited range of personal variables, compared to the census. Research based solely on Employment and Immigration data would certainly be restricted; for example, models used to explain and predict immigration would be less comprehensive than those based on the PUS Tapes.

Aggregation in Employment and Immigration data presents another disadvantage. Unlike the PUS Tapes where the lowest level of aggregation is the individual, data from Employment and Immigration cannot be disaggregated beyond the provincial level.

A final disadvantage of Employment and Immigration data concerns the lack of any technical document describing the data collection and manipulation techniques. This prevents the researcher from fully understanding data strengths and limitations. (Appendix A outlines some of the techniques, as obtained by telephone conversations with Employment and Immigration officials).

3.2.3 ADVANTAGES OF EMPLOYMENT AND IMMIGRATION DATA

The use of Employment and Immigration data also has some distinct advantages. Most important, figures on immigration are collected annually, and are available to the

public within a relatively short period of time. As a result, research questions based on Employment and Immigration data can be more current than those based on the census.

Employment and Immigration data are collected by tally, not by sample survey. Therefore, unlike census figures, Employment and Immigration figures are not subject to the problems of bias in undercounting or of non-response. Furthermore, Employment and Immigration data are not manipulated to preserve confidentiality, and thus are deemed to be more valid and reliable than census data on immigration.

For researchers interested in the origins of Canadian immigrants, impressive detail is available from the Country of Last Permanent Residence variable. Without a doubt, this variable is far superior to the Place of Birth, Country of Citizenship or Ethnic Origin variables in the census.

Finally, it is an advantage that certain Employment and Immigration variables are similar to those of the census. This provides an opportunity for comparing the two data sources. A study of Canadian immigration using both Employment and Immigration data and the PUS Tapes could address a number of interesting research questions, many of which have not yet been explored. It is evident, however,

that the strengths and limitations of each data source make comparison challenging.

3.3 CROSS-TABULATION

In an attempt to organize and synthesize the vast amount of data included in this study, the procedure of cross-tabulation has been used. Cross-tabulation is suitable for multivariate categorical data, and is one means of studying the relationships between two or three variables.

Based on a frequency table, the procedure calculates a series of percentages which are used "to determine the relationship, if any, between the variables" (Anderson and Sclove, 1974, 144). If two variables are considered, the cross-tabulation is described as two-way. If there are three variables, the cross-tabulation is described as three-way, and "consider[s] the relationship between a pair of variables for different fixed values of a third variable" (Ibid, 144).

The objective of cross-tabulation is to identify associations between variables, not to attempt explanation. Cross-tabulation in no way establishes causality. However, according to Babbie (1983, 359), it is possible to gain a "rather superficial, common sense view of causation".

In this study, two-way and three-way tables have been used to characterize immigrant flows and to describe the relationships between various personal attributes and destination choice. The following tables were produced and appear in Chapter 4:

Census Data

Two-Way Table: -Province x Year of First Immigration

Three-Way Tables: -Place of Birth x Province x Year of First Immigration
-Sex x Province x Year of First Immigration
-Age at First Immigration x Province x Year of First Immigration
-Highest Level of Schooling x Province x Year of First Immigration
-Occupation x Province x Year of First Immigration
-Official Language x Province x Year of First Immigration

Employment and Immigration Data

Two-Way Tables: -Year of Immigration x Province of Intended Destination
-Year of Immigration x Country of Last Permanent Residence

Three-Way Table: -Country of Last Permanent Residence x Province of Intended Destination x Year of Immigration

(Note: In the three-way tables, the third dimension is Year of Immigration. Two time periods were used -- 1971-1975 and 1976-1981.)

3.4 LOGIT ANALYSIS

Discrete choice models are applicable to many fields of study--transportation research, marketing, regional science--and are based on a behavioural framework. The logit model is one such model used to predict the probabilities of discrete (or categorized or non-continuous) occurrences. Schmidt and Strauss (1975) used a multinomial logit model in their explanation of employment patterns, while Taylor et al. (1986) and Hayes (1988) used the same model to identify variables affecting the incidence of childhood diarrhoeal disease.

The nested logit model, as developed by Kanaroglou, Liaw and Papageorgiou (1986), can be used to systematically analyze the complex migration process. Conceptually, the migration process can be divided into two levels of analysis (Figure 3.2): the decision to move (or departure process) and the destination decision (or destination choice process). A study of migration behaviour, then, addresses questions such as Why do individuals migrate? Where do they go? and What factors are involved?. The nested logit model has been successfully applied by Liaw and Ledant (1988) in an analysis of elderly migration in Canada, and by Liaw and Schuur (1988) in an analysis of adult migration in the Netherlands. Liaw (1988) also used the nested logit model in a study on the joint effects of personal and ecological

FIGURE 3.2

3 - LEVEL CHOICE FRAMEWORK FOR INTERNATIONAL MIGRATION
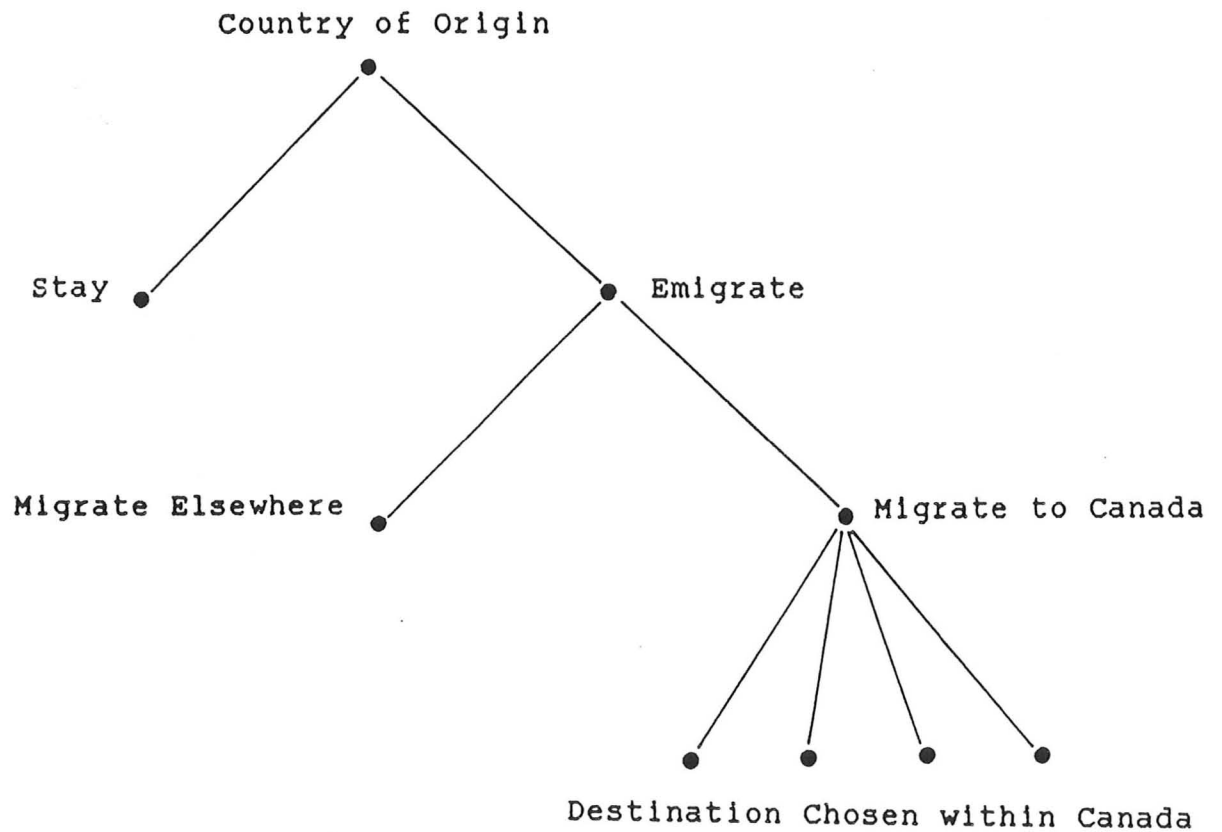
Based on Kanaroglou, Liaw and Papageorgiou (1986)

factors on the interprovincial migration of 25 - 29 year olds.

3.4.1 THE MODEL

Due to the lack of data on the populations at risk of migrating into Canada, the upper levels of the nested logit model cannot be applied. Thus, in this study, a destination choice model which is simply a multinomial logit model is applied.

One of the principal notions in the multinomial logit model is utility. It is assumed that an immigrant is able to synthesize all information on present and future circumstances of all potential destinations in Canada into one measure of utility, and that final destination choice is the result of utility maximization. In the multinomial logit model, utility is recognized as comprising a systematic (or deterministic) component and a random (or stochastic) component[4] :

$$U[s,j,t] = V[s,j,t] + R[s,j,t]$$

where V[s,j,t] is the systematic component,

> R[s,j.t] is a destination-specific error term which can assume different values for different destinations,

> s represents the immigrants personal attributes,

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[4] This principle is known as Random Utility Theory.

j is the destination, and

t is the year of immigration.

The random component, which represents randomness in personal migration decision, allows for individuals with similar characteristics to arrive at different decisions. The random variables are subject to two main assumptions:

1. Random variables are independent of each other.

2. Random variables R[s,j,t] are Gumbel-distributed "with the mode being 0 and the scale parameter being 1/u. Note that the parameter u indicates the dispersion of the Gumbel distribution, because the variance is (π u)**2/6." (Liaw, 1988, 8; Newbold, 1988).

Given then that we are unable to predict the behaviour of the immigrant with perfect certainty, we treat the destination choice of the immigrant as a **random phenomenon** and use probabilities to describe the immigration propensities (Liaw, 1988). The multinomial logit model describing the propensities of immigrants choosing each of the nine provincial destinations[5] is as follows:

$$P[j|s,t] = \exp[V[s,j,t]/u] \Big/ \sum_{k} \exp[V[s,k,t]/u]$$

where P[j|s,t] is the probability that an immigrant with personal attributes s immigrates to province j at time t. (Liaw, 1988).

As of yet, this Destination Choice Model cannot be applied to empirical data, because utilities are not observable. It

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[5] All Canadian provinces except Prince Edward Island.

is therefore necessary to make assumptions regarding utilities so that the model can be operationalized. One assumption is that utility is based on "observable personal factors, ecological variables and their interactions" (Liaw, 1988, 10); these variables are included in the utility equation of the model, in an attempt to simulate true utility values:

$$V[s,j,t] = B'X[s,j,t]$$

where B' is a column vector of unknown parameters, and

X[s,j,t] is a matrix of observable explanatory variables. (Liaw, 1988).

The remaining problem, then, surrounds the estimation of B'.

Two satisfactory methods exist for estimating the unknown parameters in the utility equation--maximum likelihood and maximum quasi-likelihood estimation. The former "aim[s] to find the parameter vector, which gives the observed choices of the individuals with highest probability" (Maier, n.d., 16). Both methods are suited to individual observations and estimated parameters.

Maximum likelihood estimation begins with an arbitrary vector B', usually composed of zeros. In order to improve on the model's estimation, a better set of B parameters is calculated. These new values are achieved by increasing the likelihood function; the likelihood function

is derived by multiplying the estimated choice probabilities of individual immigrants. It is assumed that the destination choices of individuals are independent. Customarily, for reasons of computational advantage, the log of the likelihood function is maximized. An iterative process ensures that this single maxima is reached. (Maier, n.d., 16).

Similar in procedure to maximum likelihood estimation is maximum quasi-likelihood estimation. Liaw and Ledant (1987, 17) pointed out that in an application to aggregate migration data, "adherence to the theory underlying the maximum likelihood method renders the coefficients of virtually all the independent variables used in a logit model significantly different from zero". Therefore, all independent variables would be deemed significant. In an effort to remedy this situation, Liaw and Ledant adopted the maximum quasi-likelihood method of estimation which "relax[ed] the assumption, implicit in the former method, that the migratory behaviour of an individual does not affect the migratory behaviour of another individual" (Ibid, 17). This method of estimation is chosen because it is based on a less restrictive assumption.

Given that the best set of B parameters, and thus the best estimated destination choice probabilities, can be calculated, all that remains is an evaluation of the results

of the multinomial logit model. First, the t-statistic is helpful in hypothesis testing. It indicates whether an estimated variable coefficient differs significantly from a predetermined value--usually zero. As the magnitude of the t-score increases, confidence in rejecting the null hypothesis about that variable increases. For a large sample, the critical value of t above which rejection of the null hypothesis can occur can be set at two (t=2). Frequently, an adjusted t-statistic is output from a logit model. This adjustment is designed to remove the effect of absolute sizes of the at-risk populations on the standard error, and thus the t-statistic.

Second, the Rho-square statistic is helpful in assessing the goodness of fit of the model--the extent to which the predicted destination choice pattern approximates the observed. The index is in the form:

$$\rho^2 = 1 - \frac{(\text{Log of likelihood of the given specification})}{(\text{Log of likelihood of the null model})^6}$$

The higher the index value, the greater the explanation. (Liaw, 1988, 35).

In summary, the multinomial logit model has several drawbacks and several merits worth mentioning. With respect to flaws in the principles of the model, utilities are not

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[6] The null model is the initial run, where all parameters are set to zero.

directly observable. Also, the assumption that individuals are motivated to maximize utility neglects to take into account that individuals are often satisficers rather than optimizers. Perhaps the greatest problem of the multinomial logit model, however, relates to the Independence of Irrelevant Alternatives (IIA). The assumption that random terms are independently distributed does not permit some options to be closer substitutes than others; for example, the model does not permit British Columbia and Alberta to be closer substitutes than British Columbia and Quebec.

In terms of advantages, the same property of IIA facilitates increasing the number of categories of the dependent variable during any run of the model without jeopardizing the results. The incorporation of interaction terms in the model is also a benefit, as hypothesis testing is enhanced. Finally, the greatest merit of the logit model is that the relationship between the dependent variable and independent variables "can be described as being asymptotic to zero and one" (Taylor et al, 1986, 998). In this way, all predicted probabilities are positive, and none exceeds 1.0.

CHAPTER 4

DESCRIPTION OF ACTUAL DESTINATION CHOICE PATTERNS 1971-1981

4.1 Introduction

A thorough study of destination choice involves two avenues of research: first, the spatio-temporal flow of migrants, and second, the resulting patterns of aggregated personal attributes. Based on data from the 1981 PUS Tapes, this chapter reports on actual[1] destination choice patterns of immigrants who landed in Canada between 1971 and 1981. The spatio-temporal flows of immigrants, and destination choice patterns differentiated by immigrant quality characteristics are discussed.

The reader, in interpreting this chapter, should be aware of two issues. First, the pattern of actual destination choice reflects immigrants' places of residence on June 3, 1981. This pattern likely represents the initial[2] destination choices of those who landed in 1981 and

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[1] The term 'actual' is used rather than 'observed' to avoid confusion in Chapter 6, where 'observed' is used in connection with the logit model.

[2] It is not possible to identify initial destination choice patterns for each year. Such data does not exist. Consequently, it is difficult to compare intended with initial destination patterns, and intended with initial and subsequent destination patterns. It is, however, possible to conceptualize such comparisons, as is done in Chapter 5.

late in 1980. For earlier immigrants, however, this pattern likely represents destinations chosen after adaptation and relocation in Canada.

Second, the discussion of actual and intended destination choice patterns is descriptive. This approach has been taken so as to avoid value-laden and politically contentious statements on the 'fair share' distribution of immigrants in terms of volume quality.

4.2 DESCRIPTION OF ACTUAL DESTINATION CHOICE PATTERNS

Census data from 1981 is the source of information on actual destination choice. The following sections document the spatio-temporal flow of immigrants and the patterns of immigrant quality characteristics (1971 - 1981) using six Canadian regions: the Atlantic, Quebec, Ontario, the Prairies, Alberta and British Columbia.

4.2.1 SPATIO-TEMPORAL FLOW PATTERN

Several events of the 1970s affected Canadian immigration, but two in particular influenced immigrants' destination choices. The economic boom in Alberta and a commensurate decline in Ontario during the late 1970s caused an increase in the popularity of Western Canada relative to Ontario. The Indochinese refugee crisis in 1979 and 1980 altered the overall pattern of destination choice.

Immigration to the Atlantic appeared to be affected very little by major Canadian events. In each year between 1971 and 1981, the Atlantic received the smallest proportion of Canadian immigrant flows (Table 4.1). Even its greatest share in 1973 was disproportionately low--a mere 3% compared with its 9% share of the Canadian population. (See Table 4.2--Regional Shares of the Canadian Population). Furthermore, when immigration levels were high for Canada in 1974 and 1975, the Atlantic did not even maintain its average 2% share. Unmistakably, the Atlantic was unattractive for immigrants in the 1970s, just as it was for inter-regional migrants (Moore et al., 1988; Shaw, 1985).

Quebec, like the Atlantic, attracted a disproportionately small share of immigrants; on average, 14% of immigrants chose Quebec as their destination, whereas over 26% of the Canadian population resided there. Perhaps most interesting, however, is that Quebec's share of the Canadian population declined consistently throughout the 1970s, yet its share of the immigrant population increased in the late 1970s. This indicates that Quebec's power of attraction strengthened. One possible explanation for this trend is that persons from non-traditional countries who began to occupy a greater share of the immigrant flow, may have been more willing to settle in a French-language society than previous immigrants. For example, Indochinese

TABLE 4.1

TEMPORAL PATTERN OF ACTUAL DESTINATION CHOICE (1971 - 1981)

YEAR	DESTINATION					
	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.
1971	2.0	13.0	54.7	4.2	8.6	17.6
1972	2.0	14.7	57.2	4.2	7.3	14.6
1973	2.7	12.1	53.6	4.0	8.5	19.1
1974	1.9	12.8	53.1	4.4	9.9	17.9
1975	1.8	14.0	51.6	4.0	11.4	17.2
1976	2.5	14.3	49.5	4.9	13.8	15.0
1977	2.1	15.7	47.5	5.9	12.8	16.0
1978	2.4	16.8	47.3	4.8	12.7	16.0
1979	1.7	17.3	44.9	7.2	12.2	16.8
1980	2.0	15.7	43.0	8.0	14.0	17.4
1981	1.7	13.0	47.6	5.4	13.5	18.8
Average	2.1	14.5	50.0	5.2	11.3	16.9

Source: 1981 PUS Tapes

TABLE 4.2

TEMPORAL PATTERN -- REGIONAL SHARES OF THE CANADIAN POPULATION

==

YEAR	PERCENTAGE OF CANADIAN POPULATION						
	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	Total
1971	9.1	28.2	36.0	9.0	7.6	10.2	100.1
1972	9.1	28.0	36.1	8.8	7.7	10.4	100.0
1973	9.1	27.8	36.2	8.7	7.7	10.5	100.0
1974	9.1	27.6	36.3	8.6	7.8	10.7	100.1
1975	9.0	27.4	36.3	8.5	7.9	10.8	99.9
1976	9.0	27.3	36.2	8.5	8.1	10.8	99.9
1977	9.0	27.2	36.2	8.5	8.3	10.8	100.0
1978	9.0	27.0	36.2	8.5	8.5	10.9	100.1
1979	8.9	26.9	36.1	8.4	8.7	11.0	100.0
1980	8.8	26.8	35.9	8.3	9.0	11.2	100.0
1981	8.7	26.7	35.7	8.3	9.3	11.4	100.0

Source: Canada Yearbook, 1988.

refugees may have contributed to Quebec's increasing popularity in the late 1970s. Indochina was formerly a colony of France.

Ontario, though remaining the most popular destination, experienced a strong trend of decline. While 57% of immigrants who landed in 1972 settled in Ontario, only 43% of the 1980 immigrants did. The economic boom in the West probably attracted immigrants at the expense of Ontario--a pattern similar to interprovincial migration during the same period (Field, 1988).

The Prairies showed a fairly stable temporal pattern. Overall, the Prairies received about 5% of Canadian immigrants--two-and-one-half times as many as the Atlantic, even though its national population share was slightly smaller. Evidently, the Prairies were popular relative to the Atlantic, yet still received a disproportionately small share of immigrants. Toward the end of the decade, popularity of the Prairies heightened, and larger proportions of immigrants chose to settle there. The boom years were 1979 and 1980 when up to 8% of Canadian immigrants chose the Prairies.

During the 1970s, Alberta received four-and-one-half times fewer immigrants than Ontario, but experienced increased popularity. Of the immigrants arriving between 1976 and 1981, 12% to 14% chose Alberta as their

destination, compared with an average of 8% of earlier immigrants. Similarly, Alberta's share of inter-regional migrants increased (Field, 1988), as did its share of the national population, which reached 9% at the end of the decade. At the root of these trends was the oil boom, which created an atmosphere of optimism and opportunity in the West.

British Columbia received about the same number of immigrants as Quebec in the 1970s, and both provinces vied each year for second-place ranking next to Ontario. In total, about 17% of immigrants settled in British Columbia-- a disproportionately large share. Popularity even increased toward the end of the decade, coinciding with the increase in population share held by British Columbia (11% in the late 1970s).

Now that the temporal trends in relative attractiveness of different regions have been established, an examination of the resulting distribution of personal attributes is possible. This second step is helpful in further understanding actual destination choice patterns.

4.2.2 PLACE OF BIRTH PATTERN

A study of spatial choice patterns by Place of Birth is important for inferring the effect of the origin on immigrants' decision-making. Tables 4.3 and 4.4 show the

TABLE 4.3

ACTUAL DESTINATION CHOICE PATTERNS AND IMMIGRANT COMPOSITIONS
BY PLACE OF BIRTH (1971-1975)

PLACE OF BIRTH	DESTINATION						AVERAGE
	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	

TOTAL ARRIVALS AT EACH DESTINATION (person)

	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	
Britain	54	70	1017	73	219	365	
France	2	89	23	4	9	14	
Southern Europe	7	297	1141	49	41	91	
Other Europe	11	115	616	44	125	184	
Asia	45	334	1625	174	354	863	
Africa	7	163	333	19	98	149	
Other	123	574	1858	148	299	461	
Total	249	1642	6613	511	1145	2127	

ACTUAL DESTINATION CHOICE PATTERNS (percent)

	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	
Britain	3.0	3.9	56.6	4.1	12.2	20.3	
France	1.4	63.1	16.3	2.8	6.4	9.9	
Southern Europe	0.4	18.3	70.2	3.0	2.5	5.6	
Other Europe	1.0	10.5	56.3	4.0	11.4	16.8	
Asia	1.3	9.8	47.9	5.1	10.4	25.4	
Africa	0.9	21.2	43.3	2.5	12.7	19.4	
Other	3.6	16.6	53.7	4.3	8.6	13.3	
Average	1.7	20.5	49.2	3.7	9.2	15.8	

COMPOSITION OF IMMIGRANTS (percent)

	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	
Britain	21.7	4.3	15.4	14.3	19.1	17.2	15.3
France	0.8	5.4	0.4	0.8	0.8	0.7	1.5
Southern Europe	2.8	18.1	17.3	9.6	3.6	4.3	9.3
Other Europe	4.4	7.0	9.3	8.6	10.9	8.7	8.2
Asia	18.1	20.3	24.6	34.1	30.9	40.6	28.1
Africa	2.8	9.9	5.0	3.7	8.6	7.0	6.2
Other	49.4	35.0	28.1	29.0	26.1	21.7	31.5

Source: 1981 PUS

TABLE 4.4

ACTUAL DESTINATION CHOICE PATTERNS AND IMMIGRANT COMPOSITIONS
BY PLACE OF BIRTH (1976-1981)

PLACE OF BIRTH	DESTINATION						AVERAGE
	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	
TOTAL ARRIVALS AT EACH DESTINATION (person)							
Britain	44	77	786	84	253	285	
France	3	105	13	4	6	9	
Southern Europe	1	139	388	25	32	34	
Other Europe	20	161	531	50	172	176	
Asia	50	566	1788	339	576	875	
Africa	6	134	233	17	93	69	
Other	101	497	1245	152	291	323	
Total	225	1679	4984	671	1423	1771	
ACTUAL DESTINATION CHOICE PATTERNS (percent)							
Britain	2.9	5.0	51.4	5.5	16.6	18.6	
France	2.1	75.0	9.3	2.9	4.3	6.4	
Southern Europe	0.2	22.5	62.7	4.0	5.2	5.5	
Other Europe	1.8	14.5	47.8	4.5	15.5	15.7	
Asia	1.2	13.5	42.6	8.1	13.7	20.9	
Africa	1.1	24.3	42.2	3.1	16.9	12.5	
Other	3.9	19.1	47.7	5.8	11.2	12.4	
Average	1.9	24.8	43.4	4.8	11.9	13.1	
COMPOSITION OF IMMIGRANTS (percent)							
Britain	19.6	4.6	15.8	12.5	17.8	16.1	14.4
France	1.3	6.3	0.3	0.6	0.4	0.5	1.6
Southern Europe	0.4	8.3	7.8	3.7	2.3	1.9	4.1
Other Europe	8.9	9.6	10.7	7.5	12.1	9.9	9.8
Asia	22.2	33.7	35.9	50.5	40.5	49.4	38.7
Africa	2.7	8.0	4.7	2.5	6.5	3.9	4.7
Other	44.9	29.6	25.0	22.7	20.5	18.2	26.8

Source: 1981 PUS

patterns for two time periods--1971 - 1975 and 1976 - 1981.

British immigrants ranked either first or second in terms of contribution to Canadian annual immigration flows throughout the 1970s, and not surprisingly, demonstrated a strong preference for Ontario. While 57% of those arriving between 1971 and 1975 settled in Ontario, only 51% arriving thereafter did--mainly the result of increased preference for Alberta. British Columbia remained the second favourite destination for the British, and Quebec remained second to last. While relatively few British immigrants chose the Atlantic, their proportional contribution there was indeed significant.

Comprising only a tiny part of the flow to Canada (less than 2%), immigrants from France had an extremely concentrated destination choice pattern, which became increasingly so toward the end of the decade. Some 75% of French immigrants landing between 1976 and 1981 chose Quebec, compared with 63% of earlier entrants. Ontario was the second-most preferred destination, suggesting that French immigrants were most attracted to central Canada. Despite the existence of a French-speaking population in New Brunswick, a very small proportion of the French chose the Atlantic.

About eight times as many Southern European immigrants as French landed during the 1970s, yet the

destination choice patterns were equally concentrated. Ontario received 70% of the Southern Europeans who landed between 1971 and 1975 and 63% of subsequent immigrants, while Quebec increased its share from 18% to 22%. The Southern European immigrant flow, therefore, became somewhat less concentrated. In addition, the flow became much smaller by the end of the decade, perhaps partly due to policy changes in the 1978 Immigration Act which brought increased flows of immigrants from non-traditional countries.

Immigrants from Other European countries showed a strong preference for Ontario, followed by British Columbia, Alberta and Quebec. In the latter half of the decade, Other European immigrants chose with greater frequency Alberta and Quebec as destinations. Historically, Eastern Europeans favoured western Canada for agricultural activities. As expected, then, Other Europeans (including Eastern Europeans) were more likely to choose destinations in Western Canada during the 1970s than were the French and Southern Europeans.

Asians, as expected, demonstrated a bimodal spatial choice pattern, where Ontario and British Columbia were preferred. Between 1976 and 1981, preferences shifted slightly toward Quebec and Alberta, probably as a result of the Indochinese refugee crisis and the Alberta oil boom.

Asians were the principal contributors to each of the western destinations between 1971 and 1975, and to every destination in Canada between 1976 and 1981.

For African immigrants, Ontario was the favourite selection, followed by Quebec and British Columbia. There was little change in the distribution throughout the decade, and the flows, like those of the French, were small and relatively unimportant to each destination.

All Other immigrants, many of whom were American, preferred the four most popular regions--Ontario, British Columbia, Quebec and Alberta. This group's actual destination choice pattern fluctuated more during the 1970s than those of the other Place of Birth groups, perhaps due to increased representation of immigrants from non-traditional countries.

Having seen large differences between the destination choice patterns of the various Place of Birth groups, it is reasonable to suggest that birthplace is an important influence on immigration behaviour.

4.2.3 AGE AT FIRST IMMIGRATION PATTERN

As outlined in Chapter 2, age is an extremely important factor in destination choice. Likewise, the age composition of migrant flows has important implications for destinations. Tables 4.5 and 4.6 show the destination

TABLE 4.5

ACTUAL DESTINATION CHOICE PATTERNS AND IMMIGRANT
COMPOSITIONS BY AGE AT FIRST IMMIGRATION (1971-1975)

AGE AT FIRST IMMIGRATION	DESTINATION						AVERAGE
	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	
TOTAL ARRIVALS AT							
Children (0-19)	112	618	2627	191	428	791	
Young Adults (20-34)	102	750	2858	240	546	911	
Middle-Aged (35-64)	33	247	1018	75	159	380	
Elderly (65+)	2	27	110	5	12	45	
Total	249	1642	6613	511	1145	2127	
ACTUAL DESTINATION CHOICE PATTERNS (percent)							
Children	2.4	13.0	55.1	4.0	9.0	16.6	
Young Adults	1.9	13.9	52.9	4.4	10.1	16.9	
Middle-Aged	1.7	12.9	53.2	3.9	8.3	19.9	
Elderly	1.0	13.4	54.7	2.5	6.0	22.4	
Average	1.7	13.3	54.0	3.7	8.3	18.9	
COMPOSITION OF IMMIGRANTS (percent)							
Children	45.0	37.6	39.7	37.4	37.4	37.2	39.0
Young Adults	41.0	45.7	43.2	47.0	47.7	42.8	44.6
Middle-Aged	13.3	15.0	15.4	14.7	13.9	17.9	15.0
Elderly	0.8	1.6	1.7	1.0	1.1	2.1	1.4

Source: 1981 PUS

TABLE 4.6

ACTUAL DESTINATION CHOICE PATTERNS AND IMMIGRANT
COMPOSITIONS BY AGE AT FIRST IMMIGRATION (1976-1981)

| AGE AT FIRST IMMIGRATION | DESTINATION | | | | | | AVERAGE |
	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	
TOTAL ARRIVALS AT EACH DESTINATION (person)							
Children (0-19)	105	629	1911	279	510	636	
Young Adults (20-34)	82	695	1917	251	634	681	
Middle-Aged (35-64)	37	291	942	126	247	379	
Elderly (65+)	1	64	214	15	32	75	
Total	225	1679	4984	671	1423	1771	
ACTUAL DESTINATION CHOICE PATTERNS (percent)							
Children	2.6	15.5	47.0	6.9	12.5	15.6	
Young Adults	1.9	16.3	45.0	5.9	14.9	16.0	
Middle-Aged	1.8	14.4	46.6	6.2	12.2	18.7	
Elderly	0.3	16.0	53.4	3.7	8.0	18.7	
Average	1.6	15.5	48.0	5.7	11.9	17.3	
COMPOSITION OF IMMIGRANTS (percent)							
Children	46.7	37.5	38.3	41.6	35.8	35.9	39.3
Young Adults	36.4	41.4	38.5	37.4	44.6	38.5	39.5
Middle-Aged	16.4	17.3	18.9	18.8	17.4	21.4	18.4
Elderly	0.4	3.8	4.3	2.2	2.3	4.2	2.9

Source: 1981 PUS

choice patterns and flow compositions by Age at First Immigration for 1971 - 1975 and 1976 - 1981.

In terms of destination choice, Children (0 - 19 years) settled in the Atlantic with greater frequency than other age groups, despite the fact that the Atlantic was the least favourite destination. Ontario was the most popular destination, and a disproportionately large share of children who landed between 1971 and 1975 selected Ontario. Conversely, a disproportionately small share of children who landed between 1976 and 1981 settled in Ontario. The decreasing popularity of Ontario for children was offset by the increasing attraction of Quebec, the Prairies and Alberta. This trend reflects the westward movement of children belonging to economically motivated adults, and of working-age children themselves. In British Columbia, the representation of immigrant children was disproportionately small, and decreased slightly.

Young Adults (20 - 34 years) and Middle-Aged Adults (35 - 64 years) exhibited destination choice behaviour similar to that of children, with some exceptions. Middle-aged adults, perhaps preparing for retirement, demonstrated a greater preference for British Columbia than the younger groups. Furthermore, middle-aged adults and children landing toward the end of the decade showed substantially higher destination choice proportions for the Prairies than

other groups. The Atlantic was slightly more attractive to young adults than middle-aged throughout the 1970s, whereas the opposite was true for Ontario. Young adults may be more willing to risk the economic uncertainty of the Atlantic.

The Elderly (65+ years) who landed between 1971 and 1975, as expected, chose British Columbia with greater frequency than other age groups. Surprisingly, their destination choice proportions decreased a great deal toward the end of the decade, coinciding with their increased proportions in Quebec, the Prairies and Alberta. As elderly immigrants are not employment-oriented, it was surprising that the boom appeared to have a strong influence on destination choice. The influx of Indochinese refugees may have affected this pattern.

In terms of the age compositions of immigrant flows, the Atlantic well exceeded the national average share of children throughout the 1970s, but received below average representation of all other age groups, particularly young and middle-aged adults. A somewhat smaller than average proportion of children and larger than average proportion of young adults were received by Quebec. Considering that the young adults are in the childbearing years, their relatively high representation was encouraging for potentially increasing fertility levels in Quebec. In Ontario, a somewhat smaller than average proportion of children and

larger proportion of young adults arrived between 1971 and 1975. The opposite was true between 1976 and 1981, when young adults were more likely to favour western destinations.

Fortunately, the Prairies received above average shares of children between 1971 and 1975, and above average shares of young adults between 1976 and 1981; these immigrants could contribute to the economy for many years. In Alberta, young adults exceeded the national mean by 4% to 5% throughout the decade, while children and middle-aged adults remained consistently below the mean. The atmosphere of optimism in Alberta likely attracted a high proportion of young employment-oriented immigrants. In British Columbia, there was an above average representation of middle-aged and elderly immigrants. This flow combined with a similar flow of interregional migrants, likely created additional burden on social service provision.

In noting differences in the age pattern of destination choices, it is apparent that age affects the motivations implicit in immigrants' destination decisions. Furthermore, the age composition of immigrant flows has significant consequences for destination regions.

TABLE 4.7

ACTUAL DESTINATION CHOICE PATTERNS AND IMMIGRANT COMPOSITIONS
BY HIGHEST LEVEL OF SCHOOLING (1971-1975)

HIGHEST LEVEL OF SCHOOLING	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	AVERAGE
TOTAL ARRIVALS AT EACH DESTINATION (person)							
Less Grade 8	17	271	1043	58	85	235	
Secondary	72	399	1953	147	321	615	
Non-University	27	265	1231	72	249	416	
University	77	450	1273	143	295	537	
Total	193	1385	5500	420	950	1803	
ACTUAL DESTINATION CHOICE PATTERNS (percent)							
Less Grade 8	1.0	15.9	61.0	3.4	5.0	13.8	
Secondary	2.1	11.4	55.7	4.2	9.2	17.5	
Non-University	1.2	11.7	54.5	3.2	11.0	18.4	
University	2.8	16.2	45.9	5.2	10.6	19.4	
Average	1.8	13.8	54.3	4.0	8.9	17.3	
COMPOSITION OF IMMIGRANTS (percent)							
Less Grade 8	8.8	19.6	19.0	13.8	9.0	13.0	13.9
Secondary	37.3	28.8	35.5	35.0	33.8	34.1	34.1
Non-University	14.0	19.1	20.3	17.1	26.2	23.1	20.3
University	39.9	32.5	23.2	34.1	31.1	29.8	31.7

Source: 1981 PUS Tapes

TABLE 4.8

ACTUAL DESTINATION CHOICE PATTERNS AND IMMIGRANT COMPOSITIONS
BY HIGHEST LEVEL OF SCHOOLING (1976-1981)

HIGHEST LEVEL	DESTINATION						AVERAGE
OF SCHOOLING	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	
TOTAL ARRIVALS AT EACH DESTINATION (person)							
Less Grade 8	15	296	746	105	164	243	
Secondary	47	417	1455	179	364	482	
Non-University	22	247	784	92	261	293	
University	62	319	876	117	285	368	
Total	146	1279	3861	493	1074	1386	
ACTUAL DESTINATION CHOICE PATTERNS (percent)							
Less Grade 8	1.0	18.9	47.6	6.7	10.5	15.5	
Secondary	1.6	14.2	49.4	6.1	12.4	16.4	
Non-University	1.3	14.5	46.1	5.4	15.4	17.3	
University	3.1	15.7	43.2	5.8	14.1	18.2	
Average	1.7	15.8	46.6	6.0	13.1	16.8	
COMPOSITION OF IMMIGRANTS (percent)							
Less Grade 8	10.3	23.1	19.3	21.3	15.3	17.5	17.8
Secondary	32.2	32.6	37.7	36.3	33.9	34.8	34.6
Non-University	15.1	19.3	29.3	18.7	24.3	21.1	19.8
University	42.5	24.9	22.7	23.7	26.5	26.6	27.8

Source: 1981 PUS Tapes

1970s. Secondary and Other Non-University groups displayed similar destination choice patterns, except Secondary immigrants preferred Ontario slightly more and Alberta slightly less than the Other Non-University immigrants. Well educated immigrants, those with University education, were more attracted to the Atlantic, Quebec and British Columbia than other education groups. As a very general pattern, there appeared to be a positive trend between level of education and proportional representation in British Columbia, and a somewhat negative trend between level of education and proportional representation in Ontario.

In terms of educational quality of immigrant flows, the Atlantic fared better than the rest of the country. Fully 41% of immigrants choosing Eastern destinations had university education and only 10% had less than grade eight; these figures can be compared with the national averages of 26% and 18% respectively. For Quebec, representation of immigrants with less than grade 8 and those with university education exceeded the national mean, even though immigrants who arrived between 1976 and 1981, had education levels below those of earlier immigrants. The large influx of Indochinese refugees combined with the increased focus on occupational criteria in the 1978 Immigration Act may have contributed to this pattern in Quebec.

The education trends for Ontario and British Columbia were fairly close to the national average, with Ontario receiving a slightly smaller than average proportion of university-level immigrants, and British Columbia receiving a slightly higher proportion. The Prairies and Alberta, by the second half of the decade, experienced a decline in the educational quality of immigrants; there was a 6% to 9% increase in the proportion of poorly educated immigrants, and a 4% to 10% decrease in the proportion of university educated immigrants. This trend was more distinct in the Prairies than in Alberta. Perhaps increasing representation of Indochinese refugees in the West contributed to these patterns, especially in the Prairies where immigrant flows were relatively small.

Education, like the other personal variables, seems to influence destination choices. Education is an important indicator of the quality of an immigrant, and it is desirable for destinations to attract the highest proportion of well-educated immigrants possible. Potentially, this could help to develop and sustain economic growth.

4.2.5 OCCUPATION PATTERN

Like Highest Level of Schooling, a large proportion of immigrants had missing information for the census question on occupation. About 44% of immigrants arriving in

the 1970s were not in the labour force (eg. retired; not seeking work), or were unemployed, or refused to answer the occupation question. Tables 4.9 and 4.10 show the choice patterns and compositions for the two time periods.

The destination choice patterns of both Administrative and Professional immigrants were very similar throughout the 1970s. Ontario was the favourite destination, even though it received disproportionately low shares of Administrative and Professional workers. Interestingly, the Atlantic was the least favourite destination, but it received a higher proportion of professionals during the decade than any other destination. This finding corresponds with the high proportion of well educated immigrants who choose the Atlantic. Alberta was the only region that increased in popularity with the Administrative and Professional immigrants during the late 1970s.

Clerical immigrants, particularly those who landed between 1971 and 1975, showed a greater preference for Ontario and a weaker preference for the Prairies than most other occupational groups. Immigrants in Sales, though few in number, showed an increasing attraction to Quebec and Alberta over the decade. The destination choice proportions for Ontario and British Columbia, on the other hand, decreased substantially. Service workers were much less

TABLE 4.9

ACTUAL DESTINATION CHOICE PATTERNS AND IMMIGRANT COMPOSITIONS
BY OCCUPATION (1971-1975)

| OCCUPATION | DESTINATION | | | | | | AVERAGE |
	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	
TOTAL ARRIVALS AT EACH DESTINATION (person)							
Administrative	6	77	278	24	67	98	
Professional	47	232	669	70	170	233	
Clerical	17	149	891	47	147	259	
Sales	8	66	313	12	57	117	
Service	19	142	624	57	124	251	
Prim & Second'y	28	363	1371	124	188	397	
Other	11	66	322	22	59	94	
Total	136	1095	4468	356	812	1449	
ACTUAL DESTINATION CHOICE PATTERNS (percent)							
Administrative	1.1	14.0	50.6	4.4	12.2	17.8	
Professional	3.3	16.3	47.1	4.9	12.0	16.4	
Clerical	1.1	9.9	59.0	3.1	9.7	17.2	
Sales	1.4	11.5	54.6	2.1	9.9	20.4	
Service	1.6	11.7	51.3	4.7	10.2	20.6	
Prim & Second'y	1.1	14.7	55.5	5.0	7.6	16.1	
Other	1.9	11.5	56.1	3.8	10.3	16.4	
Average	1.6	12.8	53.4	4.0	10.3	17.8	
COMPOSITION OF IMMIGRANTS (percent)							
Administrative	4.4	7.0	6.2	6.7	8.3	6.8	6.6
Professional	34.6	21.2	15.0	19.7	20.9	16.1	21.2
Clerical	12.5	13.6	19.9	13.0	18.1	17.9	13.5
Sales	5.9	6.0	7.0	3.4	7.0	8.1	6.2
Service	14.0	13.0	14.0	16.0	15.3	17.3	14.9
Prim & Second'y	20.6	33.2	30.7	34.8	23.2	27.4	28.3
Other	8.1	6.0	7.2	6.2	7.3	6.5	6.9

Source: 1981 PUS

TABLE 4.10

ACTUAL DESTINATION CHOICE PATTERNS AND IMMIGRANT COMPOSITIONS
BY OCCUPATION (1976-1981)

OCCUPATION	DESTINATION						AVERAGE
	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.	
TOTAL ARRIVALS AT EACH DESTINATION (person)							
Administrative	6	43	168	12	52	56	
Professional	29	128	400	52	124	161	
Clerical	17	127	496	37	138	165	
Sales	8	57	158	14	58	55	
Service	16	132	487	78	194	223	
Prim & Second'y	23	281	862	158	241	274	
Other	8	46	204	22	51	49	
Total	107	814	2775	373	858	983	
ACTUAL DESTINATION CHOICE PATTERNS (percent)							
Administrative	1.8	12.8	49.9	3.6	15.4	16.6	
Professional	3.2	14.3	44.7	5.8	13.9	18.0	
Clerical	1.7	13.0	50.6	3.8	14.1	16.8	
Sales	2.3	16.3	45.1	4.0	16.6	15.7	
Service	1.4	11.7	43.1	6.9	17.2	19.7	
Prim & Second'y	1.3	15.3	46.8	8.6	13.1	14.9	
Other	2.1	12.1	53.7	5.8	13.4	12.0	
Average	2.0	13.6	47.7	5.5	14.8	16.4	
COMPOSITION OF IMMIGRANTS (percent)							
Administrative	5.6	5.3	6.1	3.2	6.1	5.7	5.3
Professional	27.1	15.7	14.4	13.9	14.5	16.4	17.0
Clerical	15.9	15.6	17.9	9.9	16.1	16.8	15.4
Sales	7.5	7.0	5.7	3.8	6.8	5.6	6.0
Service	15.0	16.2	17.6	20.9	22.6	22.7	19.2
Prim & Second'y	21.5	34.5	31.1	42.4	28.1	27.9	30.9
Other	7.5	5.7	7.4	5.9	5.9	5.0	6.2

Source: 1981 PUS

likely to settle in Quebec than sales people, and were more likely to choose western destinations. Immigrants in the Other occupational group showed a greater preference for Ontario than most occupational groups. Influencing these destination choice patterns, at least in part, were regional differences in employment opportunities during the 1970s.

Immigrants in the Primary and Secondary group favoured the Prairies and disfavoured Alberta much more than the other occupational groups. This result is surprising, as Primary and Secondary workers were expected to dominate the destination choice proportions for Alberta during the oil boom. The large increase in Clerical, Sales and Service representation at that time indicates that economic spinoff activities were also important for employing immigrants in the West.

Trends in the occupational composition are also interesting. The Atlantic received a much larger than average, though declining, share of Professionals throughout the decade. Primary and Secondary workers were poorly represented, however, indicating that the Atlantic's industrial base was too weak to attract workers. Overall, however, immigrants who settled in the Atlantic, had high levels of human capital. Both Quebec and Ontario enjoyed an occupational mix approximating that of the national average, with the exception that Quebec received slightly above

average proportions of Professional, and Primary and Secondary workers, and slightly below average proportions of Service and Clerical workers. Altogether, the occupational pattern of immigrants choosing the West was quite homogeneous. Of the immigrants landing between 1971 and 1975, Alberta and the Prairies received above average proportions of Professional, and Primary and Secondary workers, and below average proportions of Clerical, Sales and Service workers. British Columbia received somewhat above average representations in Primary and Secondary, and Service occupations. Of the immigrants landing between 1976 and 1981, the Western regions attracted much larger shares of Primary and Secondary, and Service workers. The oil boom in Alberta likely brought industrial spinoffs to British Columbia and the Prairies, in addition to promoting the service sector throughout the West[3].

Just as education is a major indicator of the quality of immigrants, so too is occupational qualification. Unfortunately, it is impossible to know whether immigrants' occupational potentials are realized in Canada. This study of immigrant occupational patterns is useful, nonetheless, in assessing the economic attraction of different destinations.

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[3] This explanation of economic change parallels that embodied in economic base theory.

4.3 SUMMARY OF ACTUAL DESTINATION CHOICE PATTERNS

In summarizing the actual destination choice pattern of immigrants in terms of the spatio-temporal flows and distributions of aggregated personal attributes, it is most useful to form an impression of choice patterns for each destination.

The Atlantic was least frequently chosen by all immigrant groups throughout the 1970s. In spite of its unpopularity, the Atlantic was selected by a relatively high proportion of children and young adults. Furthermore, university educated immigrants and professionals showed disproportionately high proportions in the Atlantic. Without a doubt, the quality of this immigrant flow was superior relative to most other destinations.

Quebec was the favourite destination of French immigrants, and was chosen by higher than average proportions of immigrants with university education and with sales occupations. For most immigrant groups landing toward the end of the decade, the popularity of Quebec increased. It is expected that the Indochinese movement affected this pattern.

Ontario, though the most favourite destination, decreased in attractiveness with the majority of immigrant groups. Alberta, on the other hand, became more popular.

The Prairies increased in attractiveness toward the end of the decade. Middle-aged adults and Primary and Secondary workers had disproportionately high representation in the Prairies, perhaps due to quality of life and employment characteristics of the area.

British Columbia, as expected, was strongly preferred by the British and Asians, as well as by middle-aged and elderly immigrants. In addition, immigrants with university education showed above average representation there.

Having described the actual destination choice patterns in some detail, two main questions linger. How do intended destination choice patterns compare with the actual patterns? Is there systematic divergence between the two patterns? Attention turns to these questions in Chapter 5.

CHAPTER 5

COMPARISON OF INTENDED AND ACTUAL DESTINATION CHOICE PATTERNS

5.1 INTRODUCTION

Direct comparison of intended and actual destination choice patterns is fraught with difficulty. The main problem surrounds differences in data collection by Employment and Immigration, and Statistics Canada. The Department of Employment and Immigration annually records the intended destinations of immigrants, but Statistics Canada quinquennially records the actual destinations of immigrants. Intended destination choice represents an intention stated at the time of application, but actual destination choice represents the immigrant's place of residence in 1981. Clearly, for early immigrants, there is a span of time during which adaptation and maybe even relocation occurs. If immigrants do not relocate interregionally, intended and actual destination choice proportions for each year are equal. If, however, some immigrants do relocate interregionally, intended and actual destination choice proportions diverge.

Implicit in the discussion so far is that immigrants realize their intentions with respect to destination. There

is no guarantee, however, that the intentions are realized (Employment and Immigration, 1981a). The Canadian government does not impose restrictions on internal migration, and therefore, does not enforce immigrants' stated intentions for settlement. If intentions are not realized by some immigrants, intended and actual destination choice proportions diverge slightly.

A comparison of intended and actual destination choice patterns is helpful in three ways:

1. to see if the spatio-temporal patterns of intended destination choice, and patterns by country of origin are similar to the actual patterns.

2. to identify destinations where intended destination choice proportions differ from actual proportions around the time of immigrant arrival, and

3. to search for systematic differences between intended and actual destination choice proportions that may be caused by interregional relocation within Canada.

The following discussion addresses these main points.

5.2 DESCRIPTION OF INTENDED DESTINATION CHOICE PATTERNS AND COMPARISON WITH ACTUAL PATTERNS[1]

Throughout the 1970s, five points were allocated in the point system to independent immigrants who intended "to proceed to an area designated as one having a sustained and general need for people at various levels in the employment strata and the necessary services to accommodate population growth" (Employment and Immigration, 1978b). Five points were deducted from immigrants who intended to settle elsewhere. This arrangement may have encouraged prospective immigrants to state false intentions in order to receive favourable consideration for entry into Canada. It is hypothesized, therefore, that more immigrants stated the intention of settling in relatively unpopular areas (like the Atlantic and the Prairies) than actually did. One way of verifying this hypothesis is to compare intended and actual destination choice patterns.

5.2.1 SPATIO-TEMPORAL COMPARISON

Of the immigrants arriving each year between 1971 and 1981, a very small proportion (2% or 3%) intended to settle in the Atlantic (Table 5.1), and an even smaller

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[1] Because of the ecological fallacy, care should be taken in inferring individual destination decisions from aggregate destination patterns. Even if the intended destination choice pattern closely approximates the actual pattern, it would be misleading to say that most individuals' intentions were realized.

TABLE 5.1

TEMPORAL PATTERN OF INTENDED DESTINATION CHOICE (1971 - 1981)
(percent)

===

| YEAR | DESTINATION | | | | | |
	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.
1971	3.0	15.8	53.0	5.5	7.1	15.6
1972	3.2	15.3	52.5	5.6	6.9	16.6
1973	2.9	14.6	56.2	4.6	6.5	15.2
1974	2.7	15.4	55.1	4.4	6.6	15.8
1975	2.8	15.0	52.6	5.3	8.7	15.6
1976	3.0	19.7	48.4	5.3	10.0	13.8
1977	2.9	16.8	49.4	6.4	11.1	13.4
1978	2.3	16.6	49.3	6.0	11.4	14.3
1979	2.7	17.5	46.6	6.9	11.5	14.9
1980	2.4	15.8	43.6	7.9	13.2	17.1
1981	2.2	16.5	43.1	6.1	15.0	17.2

Source: 'Immigration Statistics' 1971 - 1981,
          Employment and Immigration

proportion actually did[2]. Evidently, the Atlantic was even less attractive to immigrants than they expected. A distinct trend of decline in the proportion of immigrants intending to settle in the Atlantic also indicated weakening popularity. In Table 5.2, the differences between intended and actual destination choice proportions for the Atlantic appear to be inconsequential--only 1% at most. This result is deceptive. In fact, correspondence between intended and actual destination choice proportions for the Atlantic is the poorest of all, as is confirmed by ratios of the absolute value of the differences between intended and actual proportions to the intended proportions (Table 5.3).

Quebec, like the Atlantic, attracted a smaller share of immigrants during the 1970s than the stated intention. In spite of Quebec's ranking as second- or third-most popular destination in each year, the proportions of intended destination choice consistently exceeded the actual proportions, casting doubt on Quebec's true popularity. Surprisingly, the passing of Bill 101 (the French language Bill) in 1977 did not appear to influence Quebec's power of attraction; the intended and actual destination choice

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[2] 1978 was an exception, when the actual proportion slightly exceeded the intended proportion.

TABLE 5.2

DIFFERENCE BETWEEN ACTUAL AND INTENDED DESTINATION
CHOICE PROPORTIONS (percent)
(Table 4.1 - Table 4.11)

YEAR	DESTINATION					
	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.
1971	-1.0	-2.8	1.7	-1.4	1.4	2.1
1972	-1.2	-0.6	4.7	-1.4	0.4	-2.0
1973	-0.2	-2.5	-2.6	-0.6	2.0	3.9
1974	-0.8	-2.5	-2.0	-0.0	3.3	2.1
1975	-1.1	-1.0	-1.0	-1.4	2.7	1.6
1976	-0.5	-5.3	1.1	-0.4	3.8	1.2
1977	-0.9	-1.1	-1.9	-0.4	1.7	2.6
1978	0.1	0.1	-2.0	-1.2	1.3	1.7
1979	-1.1	-0.2	-1.7	0.3	0.7	1.9
1980	-0.3	-0.1	-0.7	0.1	0.8	0.2
1981	-0.5	-3.5	4.6	-0.7	-1.5	1.7

Sources: 'Immigration Statistics' 1971 - 1981,
          Employment and Immigration

          1981 PUS Tapes

TABLE 5.3

RATIOS OF THE ABSOLUTE VALUE OF THE DIFFERENCES BETWEEN INTENDED AND
ACTUAL DESTINATION CHOICE PROPORTIONS TO THE INTENDED PROPORTIONS
(Table 5.2 / Table 5.1)

YEAR	DESTINATION					
	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.
1971	0.34	0.18	0.03	0.25	0.20	0.13
1972	0.39	0.04	0.09	0.24	0.06	0.12
1973	0.07	0.17	0.05	0.13	0.31	0.26
1974	0.30	0.16	0.04	0.01	0.50	0.13
1975	0.37	0.06	0.02	0.25	0.54	0.10
1976	0.16	0.27	0.02	0.07	0.38	0.09
1977	0.30	0.06	0.04	0.07	0.16	0.19
1978	0.03	0.01	0.04	0.19	0.11	0.12
1979	0.39	0.01	0.04	0.04	0.06	0.13
1980	0.14	0.01	0.02	0.02	0.06	0.01
1981	0.24	0.21	0.11	0.12	0.10	0.10

Sources: 'Immigration Statistics' 1971 - 1981,
Employment and Immigration

1981 PUS Tapes

proportions remained relatively stable[3] .

Undoubtedly the best correspondence between intended and actual proportions was for Ontario. Ratios of the absolute value of the differences (between intended and actual proportions) to the intended proportions were generally lower than those of other destinations (Table 5.3). Throughout the decade, Ontario's intended and actual shares of immigrants decreased, and in the majority of years, intended exceeded actual proportions. Immigrants, even when stating their intended destinations, appeared to be sensitive to the relative decline of Ontario, and appeared even more sensitive when selecting actual destinations.

The Prairies also experienced intended destination choice proportions in excess of actual proportions, particularly prior to 1978. Both proportions, however, increased slightly, suggesting that the Prairies became marginally more popular toward the end of the decade.

Perhaps the most striking pattern of intended destination choice was that of Alberta. A greater proportion of immigrants actually settled in Alberta than

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[3] Note: 1981 is an anomaly in this pattern. Little emphasis should rest on the 1981 actual destination choice proportions, because the data represents only January through the end of May.

intended to; between 1973 and 1977, the discrepancy was largest. For immigrants arriving in those years, reluctance to risk the economic boom may have contributed to the low intended proportions, and subsequent realization of the opportunities may have contributed to the high actual proportions.

For British Columbia, actual destination choice proportions exceeded intended proportions in each year except 1972. In addition to attracting many immigrants initially, it is likely that some immigrants who first settled elsewhere, relocated to British Columbia. Perhaps the biggest surprise, however, was the slump in British Columbia's popularity for immigrants who arrived in 1976. In that year, Alberta's popularity soared, which may have left those particular immigrants with a lasting preference for Alberta, rather than British Columbia.

This comparison of temporal trends in intended and actual destination choice patterns substantiates the main hypothesis--that a greater number of immigrants stated the intention of settling in relatively unpopular areas than actually did. Perhaps immigrants did initially settle in these areas but decided to relocate, or perhaps they purposely stated false intentions in the hope of being more favourably considered for landed-immigrant status. This is not possible to determine.

5.2.2 COMPARISON BY IMMIGRANT ORIGINS

As stated in Chapter 3, Country of Last Permanent Residence approximates Place of Birth with 89% accuracy. Because this correspondence is good, it is possible to compare the pattern of intended destination choice based on the Employment and Immigration variable Country of Last Permanent Residence with the pattern of actual destination choice based on the census variable Place of Birth. A comparison of these patterns, however, is not entirely conclusive due to differences in the data sources and variable definitions. Nevertheless, the results are interesting and informative. Tables 5.4 and 5.5 show the patterns of intended destination choice by Country of Last Permanent Residence for the two time periods.

British immigrants showed the greatest preference for Ontario in both their intended and actual destination choices, and like all other ethnic groups, showed the least preference for the Atlantic. Intentions to settle in the Atlantic, Quebec, Ontario and the Prairies, were generally overstated, with Quebec having the largest discrepancy. British Columbia, on the other hand, was understated.

Immigrants from France displayed the most volatile intended destination choice pattern. The French were the only group to considerably understate their proportional

TABLE 5.4

INTENDED DESTINATION CHOICE PATTERNS BY COUNTRY OF LAST
PERMANENT RESIDENCE (1971 - 1975)

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===========================================================================
COUNTRY                          DESTINATION
OF L P RES     Atlantic   Quebec  Ontario Prairies  Alberta   B.C.
---------------------------------------------------------------------------

Britain          3.9       7.4     57.8     5.7       9.3     16.0
France           1.2      65.8     22.5     2.4       3.7      4.4
Southern Eur.    0.8      20.0     67.0     3.8       2.8      5.7
Other Europe     1.6      13.9     56.3     5.2       9.5     13.4
Asia             1.9      11.2     49.4     6.7       8.1     22.7
Africa           1.7      18.1     48.9     3.7       7.7     19.8
Other            4.5      16.6     52.4     4.3       6.7     15.5

Average          2.2      21.9     50.6     4.5       6.8     13.9

---------------------------------------------------------------------------
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Source: 'Immigration Statistics' 1971 - 1981,
        Employment and Immigration

TABLE 5.5

INTENDED DESTINATION CHOICE PATTERNS BY COUNTRY OF LAST
PERMANENT RESIDENCE (1976 - 1981)

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=========================================================================
COUNTRY                           DESTINATION
OF L P RES      Atlantic   Quebec  Ontario Prairies  Alberta    B.C.
-------------------------------------------------------------------------
```

COUNTRY OF L P RES	Atlantic	Quebec	Ontario	Prairies	Alberta	B.C.
Britain	3.4	6.7	51.6	5.8	17.3	15.4
France	0.9	74.8	14.3	2.5	4.1	3.4
Southern Eur.	1.2	22.5	59.9	4.6	5.4	6.5
Other Europe	1.7	15.6	47.5	6.7	15.9	12.7
Asia	2.0	15.9	41.4	8.2	12.1	20.4
Africa	1.3	20.5	47.9	3.7	14.2	12.4
Other	4.1	19.5	49.0	5.4	9.8	12.3
Average	2.1	25.1	44.5	5.3	11.2	11.9

Source: 'Immigration Statistics' 1971 - 1981,
         Employment and Immigration

representation in the Atlantic; for the years 1976 to 1981, intended destination choice proportions exceeded actual proportions by about 1%--a large discrepancy considering that only 2% of French immigrants actually settled in the Atlantic. Correspondence between intended and actual proportions was very poor, in fact, for most destinations. Flows to Ontario were the most severely overstated in terms of intention, and those to British Columbia the most understated. Overall, the intended and actual destination choice patterns were very concentrated, with most immigrants going to Quebec. The small size of the French immigrant population--only 2% of the total--casts some doubt on the reliability of these trends.

The Southern Europeans, compared with other groups, had the best correspondence between intended and actual destination choice patterns. Nevertheless, the actual destination choice pattern of Southern Europeans was more concentrated than the intended. Ontario was considerably underestimated throughout the decade. One interpretation of these findings is that a number of Southern Europeans may have stated false destination intentions, only then to settle in Ontario.

A greater proportion of Other Europeans actually settled in the Western destinations than stated the intention to. British Columbia, for instance, was

significantly understated as a place of residence in both the first and second halves of the decade. For Quebec, however, intentions were significantly overstated, indicating a reluctance among certain Other Europeans to assimilate into the francophone culture. On the whole, the Other Europeans behaved much like the British in terms of their destination choice patterns.

Asian immigrants landing between 1976 and 1981 stated with less frequency than previous Asians, the intention of settling in Ontario. Instead they showed greater preference for Quebec, Alberta and British Columbia. The Western provinces, in fact, received more Asian immigrants than expected, and Quebec received somewhat less. Given that a sizable number of Asians landing between 1976 and 1981 were refugees, it is not surprising that the 1976 - 1981 actual and intended destination choice proportions corresponded better than those of 1971 - 1975. Many refugees were sponsored by individuals or organizations, ensuring fairly secure intended destinations. Furthermore, most refugees tended to be financially dependent at first, and likely relocated with less frequency than other immigrants. The net result of the refugee movement, then, may have been to moderate the trends of other Asian immigrants.

Possessing a distinct pattern of intended and actual destination choice were the Africans. Ontario received the most Africans, yet was considerably overstated in terms of intention. Quebec was the second-most popular destination, and was understated[1]. An increased share of Africans in Alberta and British Columbia indicated a westward trend during the late 1970s.

Immigrants in the Other group showed an increasing preference for Alberta, the Prairies and Quebec through intended destination choice proportions. Ontario clearly lost popularity, as did British Columbia. Again, increased prosperity in the West may have contributed to the relative loss in popularity for Ontario and gain for Alberta and the Prairies. The loss for British Columbia and gain for Quebec are not easily explained, but may depend on changes in the ethnic composition of the Other group.

In studying patterns of intended and actual destination choice by Country of Last Permanent Residence and Place of Birth, it is possible to see trends specific to each group. Due to differences between the two data sources, however, these trends are not entirely conclusive.

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[1] French is spoken in a number of Northern African states.

5.2.3 SUMMARY OF THE COMPARISON OF INTENDED AND ACTUAL DESTINATION CHOICE PATTERNS

In summarizing the comparison of destination choice patterns, it is helpful to develop an impression of trends for each destination. The Atlantic had the overall poorest correspondence between intended and actual destination choice proportions, and was generally overstated in terms of intentions. Only the French understated their representation in the Atlantic.

Quebec also was overstated throughout the 1970s, and the British and Other Europeans had the poorest correspondence. African and French immigrants showed particularly strong intentions for settling in Quebec.

Ontario, comparatively, had the best correspondence between intended and actual destination choice proportions, although there was a tendency for overstatement. While its popularity declined throughout the decade, the British, Southern Europeans and Africans still preferred Ontario.

The Prairies and Alberta both increased in popularity throughout the 1970s, but the Prairies were overstated in terms of intention, and Alberta was understated. Alberta was the intended destination of an increasing proportion of Asian and African immigrants late in the decade, as was British Columbia. British Columbia

remained attractive as a destination, and was generally understated in terms of intention.

Perhaps the most interesting finding, however, is that the differences between intended and actual destination choice proportions are not extraordinary. Few outcomes cannot be addressed logically.

A more rigorous analysis of the differences is needed, however--one that attempts to interpret the gap between graphs of intended and actual destination choice proportions. One method, which focuses on the shape of the gap, is presented below.

5.3 CONCEPTUAL ANALYSIS OF THE GAP

Six possible scenarios come to mind in comparing hypothetical intended and actual destination choice. Each centres on the notions of destination popularity and immigrant relocation, and each embodies a set of simplifying assumptions. It is assumed that intended destination choice proportions are constant over time--that the proportion of immigrants intending to select each destination does not vary from year to year. It is also assumed that there is no loss of immigrants through emigration or death. Furthermore, it is assumed that the desirability of each destination does not change, and that actual destination

choice closely approximates intended destination choice in time period 't'--the year of the census.

Scenario 1 (Figure 5.1) represents an attractive destination, say British Columbia, where the actual destination choice proportion exceeds the intended proportion. For immigrants who land during years 't' and 't - 1', the actual proportion closely approximates the intended proportion. For immigrants who land during year 't - x' (for x>1), however, the actual proportion significantly exceeds the intended. This indicates that a proportion of immigrants relocate to British Columbia from elsewhere during the adjustment period of 'x' years. Immigrants who land before 't - x' cause no further divergence between intended and actual proportions, which indicates no further relocation after adjustment period 'x'. Scenario 2 (Figure 5.1) depicts the same pattern for an unpopular destination, say the Atlantic. The proportional representation of immigrants decreases during the adjustment period 'x', as immigrants relocate to other destinations. One question arises from Scenarios 1 and 2: Is it reasonable to expect relocation to stop after 'x' years? This is doubtful. Moore et al. (1988) found that the interprovincial relocation of foreign-born individuals exceeds that of provincial natives, which suggests that relocation does not end. The actual destination choice proportions of

FIGURE 5.1   105

HYPOTHETICAL PATTERNINGS OF THE GAP BETWEEN INTENDED AND ACTUAL
DESTINATION CHOICE PATTERNS
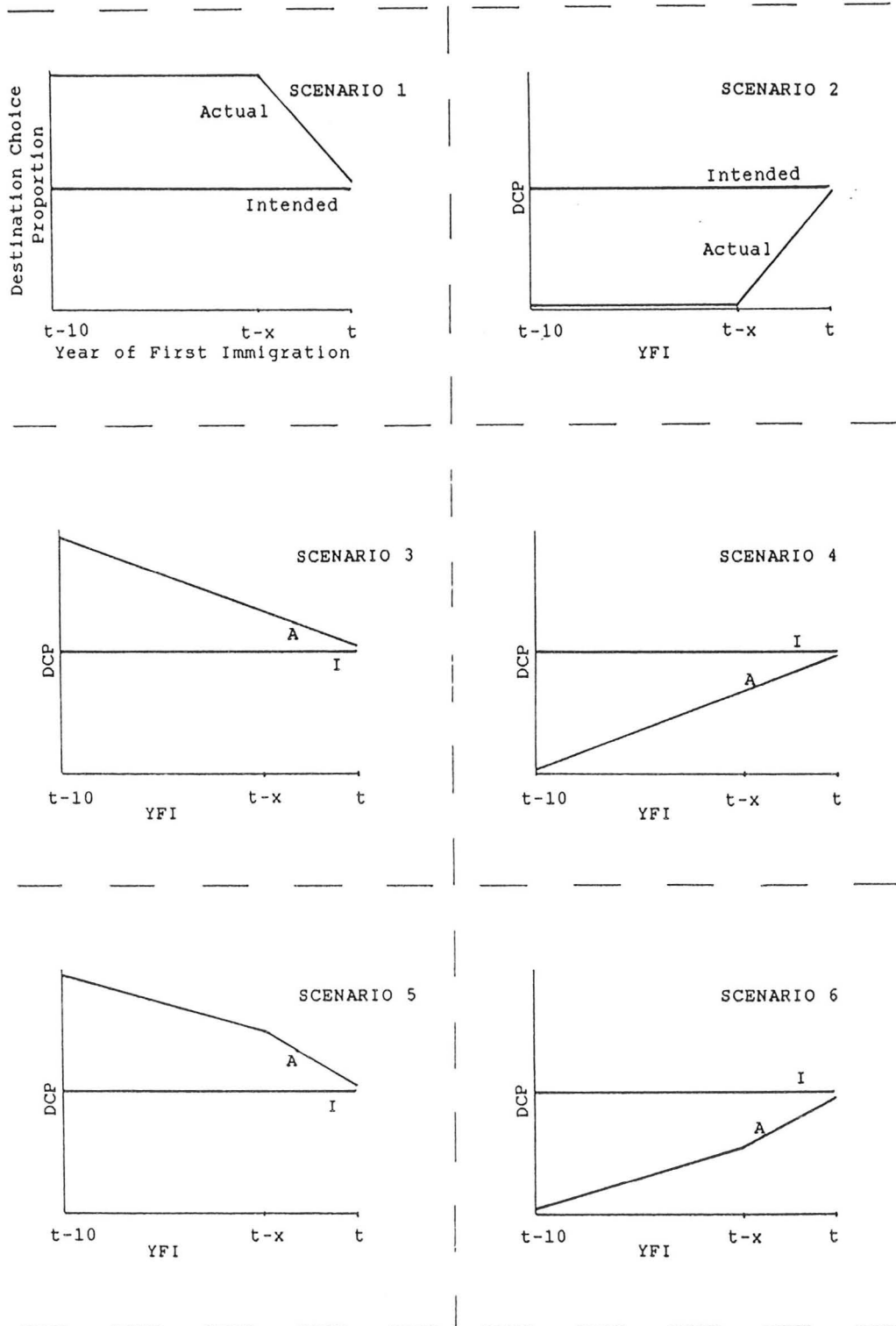
immigrants arriving before time 't - x' may continue to diverge from the intended proportions.

Scenario 3 (Figure 5.1) represents a popular destination where actual proportions do, in fact, continue to diverge from the intended proportions; and Scenario 4 (Figure 5.1) shows the same pattern for an unpopular destination. Because the rate of divergence is continual, adaptation and relocation are assumed to occur at a constant rate. One question arising from Scenarios 3 and 4: Is it reasonable to expect that the adaptation and relocation process continues at the same rate in the later periods as in earlier periods? This is doubtful. It is likely that immigrants will relocate more frequently in the short run, when their adjustment to the Canadian way-of-life is progressing quickly (Manpower and Immigration, 1974). After the immigrants become established and find suitable housing, relocation is probably less frequent.

Scenarios 5 and 6 (Figure 5.1) represent a popular and unpopular destination where the rate of relocation slows over time. Initial relocation of the foreign-born during time period 'x' is relatively rapid, but subsequent relocation progresses at a much slower rate. Intended and actual destination choice proportions diverge in a plausible systematic pattern.

These six scenarios provide a baseline for interpreting the gaps between intended and actual destination choice proportions for each destination in the Canadian example.

5.4 EMPIRICAL ANALYSIS OF THE GAP

To reiterate, it is hypothesized that systematic differences exist between intended and actual destination choice proportions for the six Canadian destinations (Figures 5.2 - 5.7). In an attempt to verify this hypothesis, four additional sub-hypotheses relating to expected characteristics of the gap are examined.

First, it is hypothesized that the gap between actual and intended destination choice proportions is narrow for 1980. It is expected that the most recent immigrants have not relocated interprovincially, and that their _initial_ destinations most likely correspond with their _intended_ destinations. Ignoring the incomplete year of 1981, the results in Figures 5.2 - 5.7 lend support to this claim. British Columbia and Ontario displayed narrow gaps for 1980, relative to other years, and Quebec, Alberta and the Prairies showed excellent correspondence between the intended and initial proportions for even more than one year. The Atlantic, however, displayed somewhat poorer correspondence, as the intended proportions exceeded the

FIGURE 5.2

INTENDED VS ACTUAL DESTINATION CHOICE PROPORTIONS
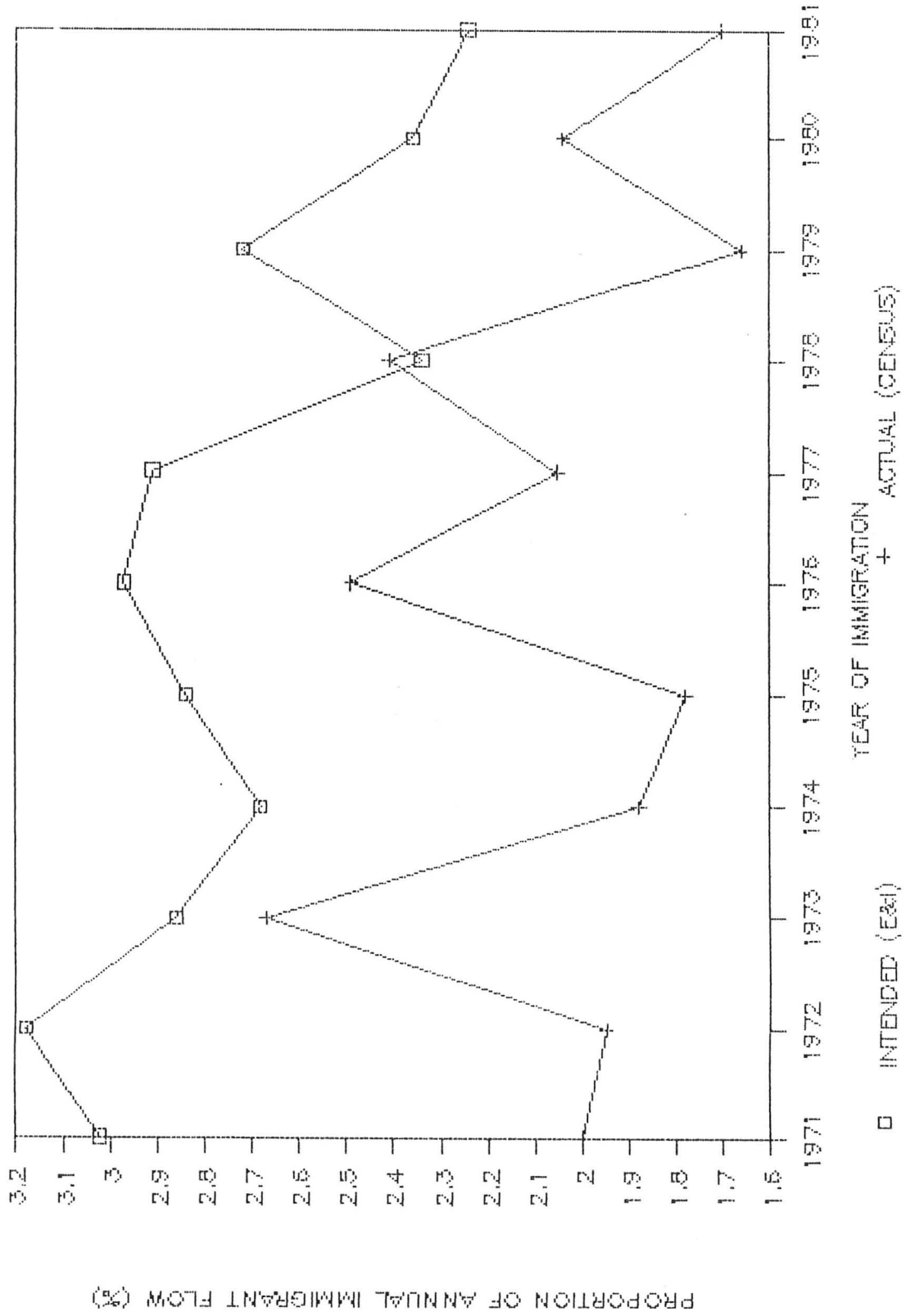ATLANTIC (1971 - 1981)

108

FIGURE 5.3

INTENDED VS ACTUAL DESTINATION CHOICE PROPORTIONS
QUEBEC (1971 - 1981)

110

FIGURE 5.4

INTENDED VS ACTUAL DESTINATION CHOICE PROPORTIONS
ONTARIO (1971 - 1981)
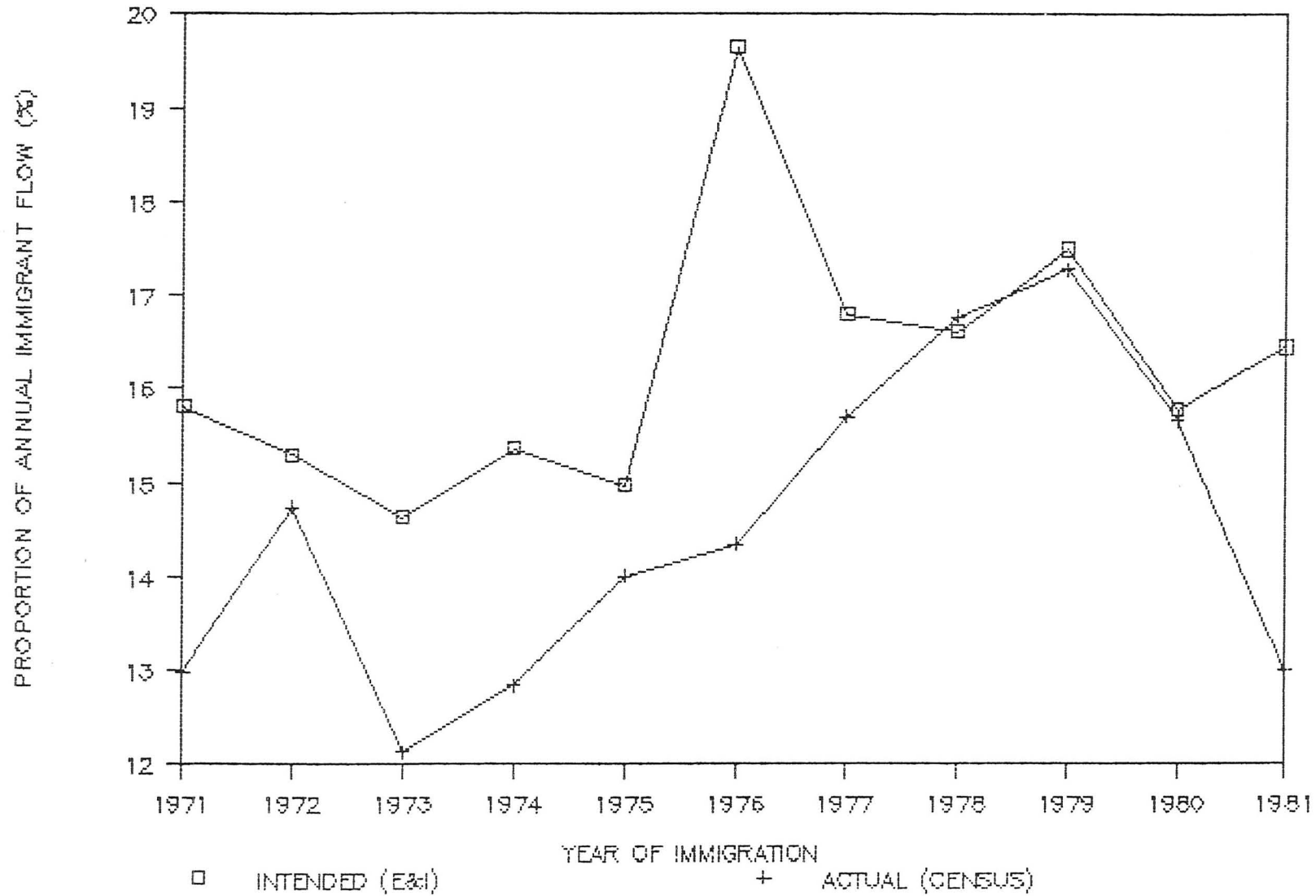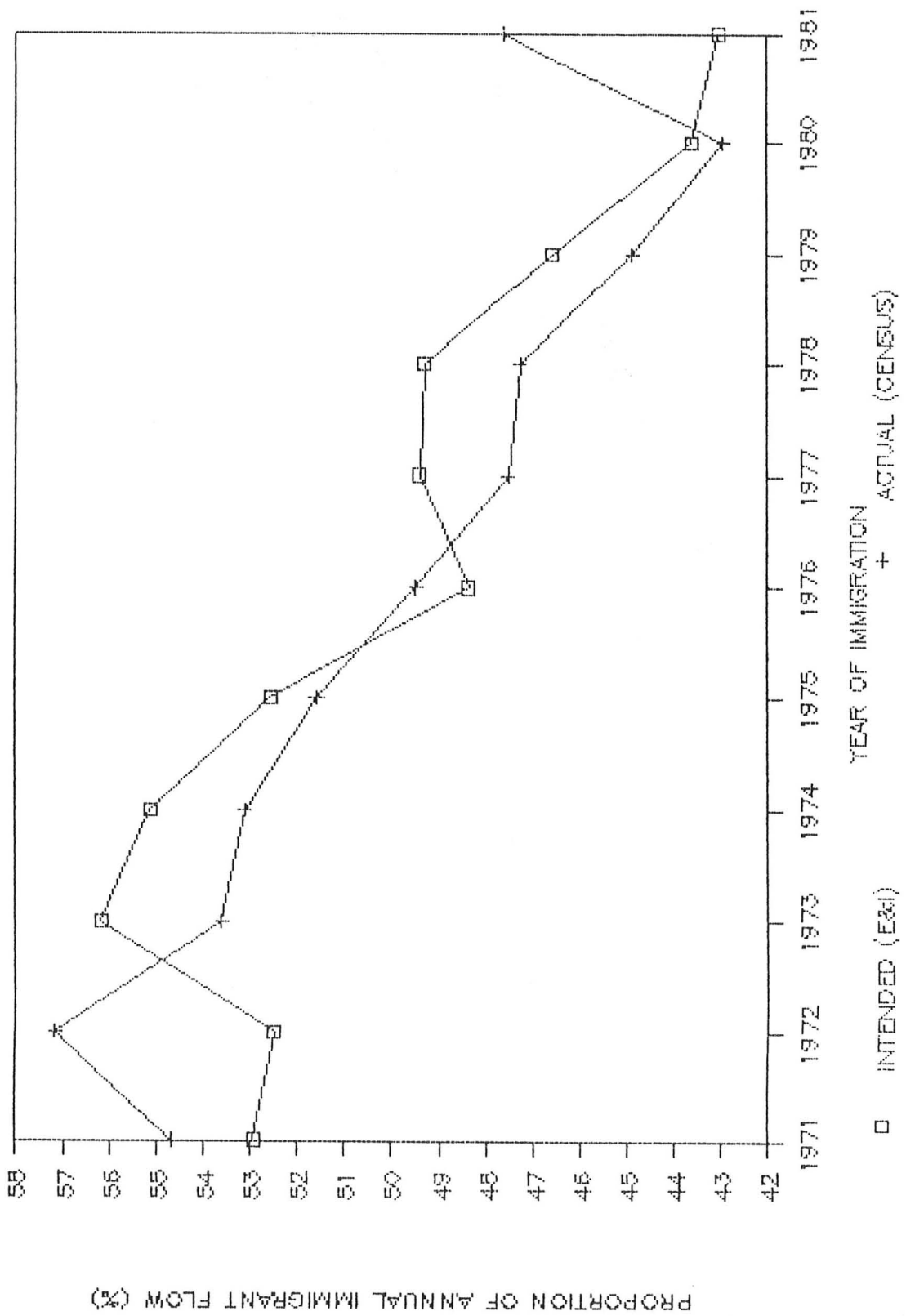
FIGURE 5.5

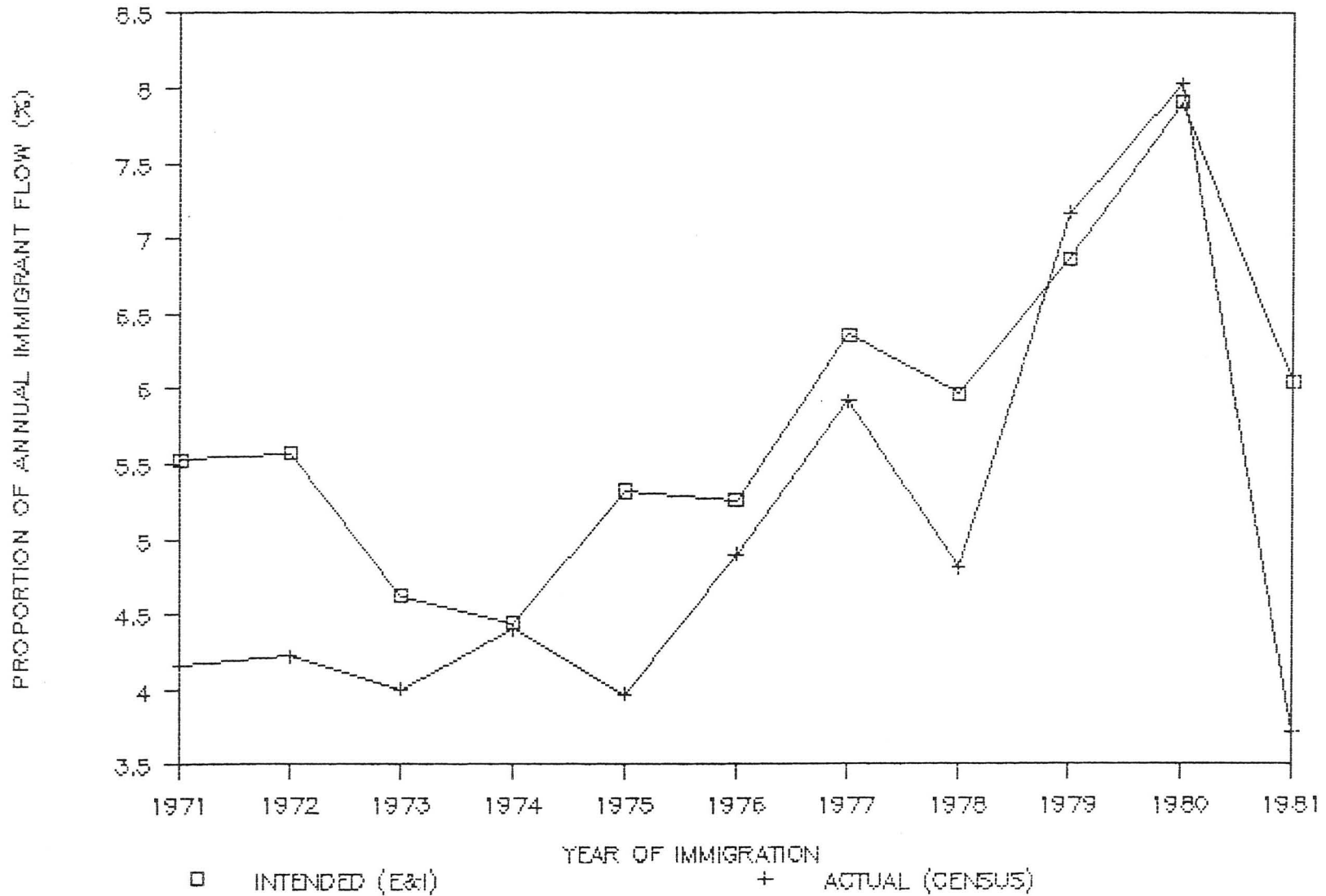INTENDED VS ACTUAL DESTINATION CHOICE PROPORTIONS
PRAIRIES (1971 - 1981)

FIGURE 5.6

INTENDED VS ACTUAL DESTINATION CHOICE PROPORTIONS
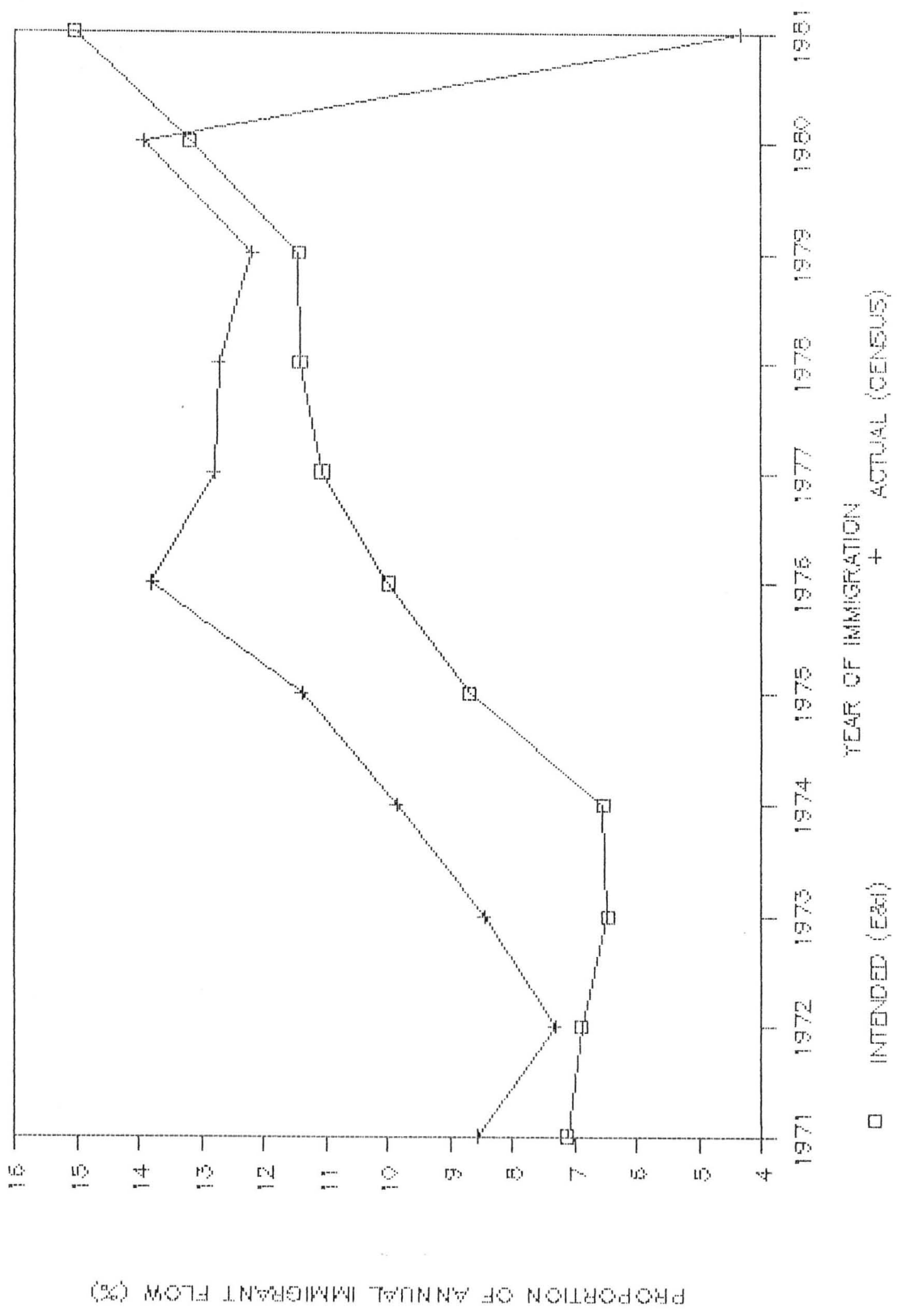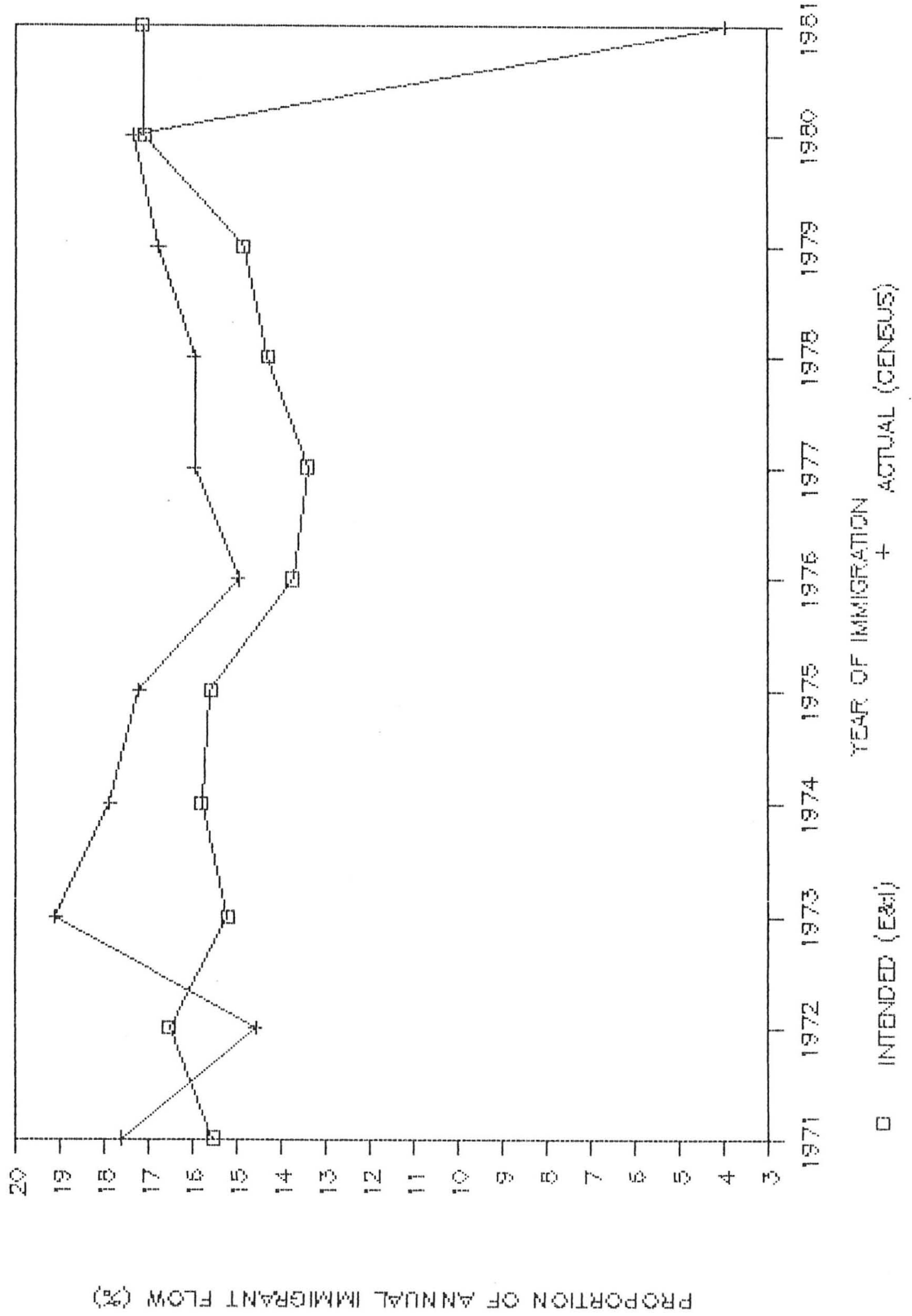ALBERTA (1971 - 1981)

FIGURE 5.7

INTENDED VS ACTUAL DESTINATION CHOICE PROPORTIONS
BRITISH COLUMBIA (1971 - 1981)

PROPORTION OF ANNUAL IMMIGRANT FLOW (%)

YEAR OF IMMIGRATION

□ INTENDED (E&I)   + ACTUAL (CENSUS)

actual proportions as much in 1980 and 1981 as in earlier years. Support for the first hypothesis, therefore, is strong.

Second, it is hypothesized that for each destination, the gap widens reasonably quickly. It is expected that the adaptation and relocation process proceeds quickly during the immigrants' first few years in Canada. Evidence for Alberta and British Columbia demonstrated this pattern quite clearly, while that for Quebec and Ontario showed a rough similarity. Graphs for the Prairies and the Atlantic did not support the idea. Overall, support for the second hypothesis is moderate.

Third, it is hypothesized that the gap continues to widen at a somewhat slower rate. It is expected that immigrant relocation becomes less frequent as the adaptation process slows in the early 1970s. Little evidence of this trend appears in the Canadian data. Only the graphs for Alberta and British Columbia show even the slightest similarity. Support for the third hypothesis, then, is very weak.

Fourth, it is hypothesized that the gaps for very popular and very unpopular destinations are comparatively wider than those for more moderately popular destinations. The ratio of the size of the gap in a given year to the intended destination choice proportion in that year is used

as a comparative measure. Evidence in Table 5.1 lends support to this hypothesis. The ratios for Alberta, a very popular destination, and the Atlantic, a very unpopular destination, are larger than those for Ontario a moderately popular destination. Support for the fourth hypothesis, therefore, is strong.

Given that support for the four sub-hypotheses is mixed, it is not possible to confirm the main hypothesis-- that the differences between intended and actual destination choice proportions exhibit a systematic pattern. There appears to be certain regularity to the pattern, however. The gap tends to be narrow around the time of the census and tends to be somewhat wider in the years prior to it. Furthermore, the gap appears to be wider for very popular and very unpopular destinations compared with moderately popular destinations.

From this analysis, it is clear that a graphical technique for comparing intended and actual destination choice proportions is not entirely satisfactory. Information is lost on intermediate destinations when immigrants relocate more than once during the inter-censal period. Significant fluctuations in both the intended and actual proportions are difficult to interpret, and may, in fact, mask important trends. This lack of clarity in the patterning of the gaps gives the researcher excessive

latitude for personal interpretation. Even the development of scenarios does not curtail this problem. Despite these difficulties, the graphical technique is an acceptable first-step in approaching a technical comparison of intended and actual destination choice proportions.

CHAPTER 6

LOGIT ANALYSIS OF DESTINATION CHOICE PATTERNS

6.1 INTRODUCTION

In the study of destination choice, logit analysis is helpful in at least two ways: first, for identifying the type of immigrants who significantly prefer certain destinations, and second, for identifying variables which bear statistical significance in the explanation of destination choices. Wort (1988) used the first approach in analyzing the 1981 actual destination choice pattern of Canadian immigrants. Her results are useful in answering questions that are of interest to regional administrators, such as Do better educated immigrants have a stronger preference for Ontario?. In this study, the second approach is used. Research results are helpful in dealing with more analytic questions, such as Does the wage rate significantly influence immigrant destination choice patterns?.

In this chapter, logit models are discussed for actual destination choice and for intended destination choice. (Only 1976 - 1981 is modeled in order to avoid using too much computer space.) Hypotheses involving the combination of different variables are tested by way of

interaction terms, and various specifications of the models are measured for goodness of fit.

In the logit analysis of the actual destination choice pattern, the dependent variable is the proportion of immigrants residing in each province[1] on June 3, 1981. The independent <u>personal</u> variables[2] are as follows:

<pre>
Sex   -male
           -female
Year of First Immigration -each year 1976 - 1981
Age at First Immigration   -children (0 - 19 years)
                           -labour force age (20 -
                           64 years)
                           -elderly (65 years +)
Place of Birth   -Britain
                 -France
                 -Southern Europe
                 -Other Europe
                 -Asia
                 -Africa
                 -Other
Official Language   -English
                     -French
                     -Both
                     -Neither
Highest Level of Schooling -primary
                           -secondary
                           -post-secondary.
</pre>

The destination choice model of <u>intended</u> choice has as the dependent variable the proportion of immigrants naming a province as the intended destination; the figures are

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[1] Each province is considered separately for a more exact explanation of immigrant behaviour. Prince Edward Island is excluded.

[2] Some of the subcategories have been further collapsed from those previously discussed in Chapter 3. This step was necessary to preserve computer space. A seven-dimensional cross-tabulation was done in preparation for running the logit model.

annual. The independent <u>personal</u> variables are fewer than those of the census:

> Year of Immigration -each year 1976 through 1981.
> Country of Last Permanent Residence
> >   -Britain
> >   -France
> >   -Southern Europe
> >   -Other Europe
> >   -Asia
> >   -Africa
> >   -Other.

The independent <u>ecological</u> variables characterize each province of destination and are the same for both the actual and intended destination choice models. Five variables are considered.

The <u>relative size</u> variable contains the proportional share of the national population held by each province in each year 1976-1981. It is expected that the relationship between relative size and the proportion of immigrants selecting each destination is positive.

<u>Coldness</u> represents the number of degree days below 18°C per 1000 degree days for each province, averaged for 1951-1980. It is expected that coldness has a negative effect on destination choice.

<u>Ethnic concentration</u> is a measure of the proportional share of the provincial population in each year held by one of the seven ethnic groups (British, French, Southern European, Other European, Asian, African and Other) matching that of the immigrants under consideration. It is

expected that ethnic concentration has a stronger positive effect on the destination choice of some groups than others.

The <u>wage</u> variable refers to the average annual wage rate for each province during the years 1976-1981. The figures are made comparable across provinces by adjusting for interprovincial variations in consumer price index (Economic Council of Canada, 1977, 177). The figures are made comparable across years by applying annual consumer price indices. It is expected that the relationship between wages and the proportion of immigrants selecting each destination is positive.

The <u>employment growth</u> variable contains figures on provincial employment growth rate measured for each of the following periods: 1974-1975, 1975-1976, 1976-1977, 1977-1978, 1978-1979, and 1979-1980. A one-year time lag was introduced into the model because research indicates that migrants, in making their migration decisions, generally respond to employment conditions of the year prior to their move (Richmond, 1984). This pattern indicates imperfection in the transfer and absorption of information on economic opportunities. It is expected that employment growth has a positive effect on destination choice.

In the initial runs of the models, arbitrary B coefficients each having a value of zero were entered along with five ecological variables as independent variables--

coldness, relative size, ethnic concentration, wages and employment growth. The statistical significance of the ecological variables was then tested in each model. These were the reference runs for each model. All subsequent runs were specified by adding one or two interaction terms at a time, and were recalibrated. Liaw (1988, 37) comments that:

> "since the estimation algorithm tends to diverge when too many statistically insignificant variables are used, only a subset of all possible variables are used in each run of the destination choice model".

Altogether twenty-eight specifications of the logit model on actual destination choice and twelve specifications of the model on intended destination choice were tried.

6.2   MODEL OF ACTUAL DESTINATION CHOICE

The model of actual destination choice considered nine provincial destinations (excluding Prince Edward Island), five ecological variables and six personal variables (sex, age at and year of first immigration, place of birth, official language and highest level of schooling). Due to the wide selection of variables, many hypotheses based on the interactions of the personal and ecological variables were tested. All significant interaction terms were combined with the ecological variables in the final run, giving it the highest explanatory power.

6.2.1 HYPOTHESIS TESTING

Table 6.1 summarizes the hypotheses tested in the model of actual destination choice. Interaction terms were accepted or rejected based on a critical t-score of 2 or (-2). If an interaction term was accepted, its hypothesis was confirmed.

Only one hypothesis relating to coldness was examined--that elderly immigrants prefer to settle in relatively warm areas. This hypothesis was developed from the cross-tabulation result showing an above average representation of elderly immigrants in British Columbia. As expected, the interaction was statistically significant, and the hypothesis was accepted.

Three interactions were tried with the ecological variable relative size. First, based on results of the cross-tabulation, it was hypothesized that working-age immigrants prefer large provinces. The t-score for the interaction between working-age and relative size was negative and did not reach the critical value; the hypothesis was thus rejected. Second, the idea that highly educated immigrants prefer large provinces (because of the wide range of opportunities and facilities) was tested. Once again the t-score was insignificant and the hypothesis was rejected. Third, it was expected that Asians who landed

TABLE 6.1

HYPOTHESES TESTED IN THE ACTUAL DESTINATION CHOICE MODEL

HYPOTHESIS	SIGNIFICANCE	ACCEPT/REJECT
1. Elderly prefer warmer destinations	t = -3.7 sign correct significant	Accept
2. Working-aged prefer large destinations	t = -1.6 insignificant	Reject
3. Highly educated prefer large destinations	t = -1.7 insignificant	Reject
4. Refugees prefer large destinations less than other immigrants	t = -3.8 sign correct significant	Accept
5. Asians prefer large destinations	t = -1.6 insignificant	Reject Significant in earlier run. Multicollinear
6. French prefer ethnic concentration	t = 1.1 insignificant	Reject
7. French official language prefer ethnic concentration	t = -1.3 insignificant	Reject
8. South Europeans prefer ethnic concentration	t = 7.1 sign correct significant	Accept
9. 'Other' immigrants don't demand ethnic concentration	t = 3.7 sign unexpected	Reject. Reverse hypothesis not sensible.
10. Asians prefer ethnic concentration	t = 17.6 sign correct significant	Accept
11. Immigrants with neither language prefer ethnic concentration	t = 1.6 insignificant	Reject. Significant in earlier run. Multicollinear
12. Immigrants with both official languages don't demand ethnic concentration	t = -8.0 sign correct significant	Accept

13. Refugees less sensitive to economic conditions	t = -4.9 (wages) significant	Accept
	t = .6 (emp growth) insignificant	Reject
14. Working-aged more sensitive to economic conditions	t = 2.9 (wages) sign correct significant	Accept
	t = 1.6 (emp growth) insignificant	Reject. Multicollinear.
15. Highly educated more sensitive to economic conditions	t = 0 (wages) insignificant	Reject
	t = 1.6 (emp growth) insignificant	Reject
16. Poorly educated more sensitive to economic conditions	t = 1.0 (wages) insignificant	Reject
	t = -3.7 sign correct significant	Accept
17. Males more sensitive to employment conditions	t = 2.5 (wages) sign correct significant	Accept
	t = .1 (emp growth) insignificant	Reject

during 1979 and 1980 (many of whom were refugees) were less influenced by provincial size than were all Asians who landed between 1976 and 1981. When both of these interaction terms were entered separately, the t-scores were significant and did confirm the hypothesis; but when entered together, multicollinearity forced the interaction term involving all Asians to be dropped. The hypothesis involving the refugees was accepted.

A number of interactions were tried with the ecological variable ethnic concentration. Surprisingly, the interaction between French-born immigrants and ethnic concentration was insignificant, as was the interaction between French-language immigrants and ethnic concentration. This result suggests that French immigrants did not strongly prefer destinations where the concentration of French (from France) population was high. Southern Europeans and Asians, however, were strongly attracted to destinations with concentrations of people with the same background; the t-scores for these interactions were both positive and significant. Further, it was expected that destination choices of immigrants in the Other place of birth group would be unaffected by ethnic concentration--that the ethnically diverse group would reflect a more dispersed destination choice pattern. The t-score, although indicating statistical significance, was positive rather

than negative. Therefore, the hypothesis was rejected. The remaining interaction terms included immigrants who spoke neither official language and those who spoke both, in conjunction with ethnic concentration. It was expected that the former would prefer destinations with high ethnic concentration and the latter would not. While the signs of the t-statistics were "correct", only the interaction term for the group with both official languages was statistically significant.

The last set of interaction terms involved the ecological variables wage and employment growth--the economic indicators of the destinations. Because the cross-tabulation indicated that working-age immigrants preferred the West, interaction terms testing the sensitivity of these immigrants to economic conditions were introduced. T-scores were statistically significant for the term including wages, but not for the term including employment growth; only the first hypothesis was accepted. Hypotheses on the relationship between education and economic conditions were also tested. Initially, it appeared that the highly educated immigrants were significantly responsive to employment growth but not to wages. When similar interaction terms for the poorly educated were introduced, however, significance for the highly educated was lost due to multicollinearity. Instead, a term showing significant

negative association between the poorly educated and employment growth was accepted. Two final hypotheses were tested. Males were found to be significantly more influenced by destination wages, whereas Asians who landed during 1979 and 1980 were not significantly affected by wages.

All combined, the acceptance and rejection of the hypotheses tell an interesting story about the destination choice behaviour of immigrants. Of the twenty-seven hypotheses tested, only nine were significant when run simultaneously. This final run of the logit model provides the best estimation of the actual destination choice pattern.

2.2.2 SUMMARY SPECIFICATIONS OF THE MODEL OF ACTUAL DESTINATION CHOICE MODEL

Table 6.2 summarizes the first and last runs of the destination choice model. Specification A1 shows the performance of the five ecological variables, and Specification A2 shows the combined performance of the ecological variables and the nine interaction terms.

Coefficients (B) for each of the ecological variables in Specification A1 are highly significant and have the expected signs. Coldness has a negative effect on destination choice, while relative size, ethnic concentration, wage and employment growth each has a positive effect. The most influential ecological variable

TABLE 6.2

ESTIMATION RESULTS OF THE ACTUAL DESTINATION CHOICE MODEL OF
IMMIGRATION TO CANADA DURING 1976 - 1981

VARIABLE	SPEC. A1	SPEC. A2	SPEC. A1	SPEC. A2
	COEFFICIENT		T-STATISTIC	
ECOLOGICAL:				
Coldness	.278	-.090	-19.6	- 5.2
Relative Size	.086	.090	81.6	76.4
Ethnic Similarity	.028	.030	21.5	21.3
Wages	.034	.031	21.0	12.7
Employment Growth	.194	.145	20.4	14.2
INTERACTACTIONS: ECOLOGICAL AND PERSONAL VARIABLES				
Cold * Elderly		-.260		- 3.7
Size * Refugees		-.017		- 6.6
Ethnic * South Eur		.097		7.1
Ethnic * Asian		.173		17.6
Ethnic * Both Lang		-.024		- 8.0
Wages * Working Age		.008		2.9
Wages * Refugees		-.018		- 4.9
Wages * Male		.006		2.5
Emp Growth * Low Edu		-.083		- 3.7
RHO-SQUARE	.462	.483		
DEGREES OF FREEDOM	5	14		
WEIGHTED DISSIM INDEX	11.1	9.4		
BRITISH	11.1	14.4		
FRENCH	7.1	17.1		
SOUTHERN EUROPE	16.8	5.0		
OTHER EUROPE	8.2	11.4		
ASIAN	13.0	6.4		
AFRICAN	8.3	10.4		
OTHER	.8.8	10.9		

is relative size; the magnitude of its t-score is the largest. Naturally, immigrants prefer Ontario and Quebec to the Atlantic provinces. All the other ecological variables are of roughly equal importance.

In terms of the goodness of fit of Specification A1, the rho-square indicator is strong (ρ^2 = .462) and the dissimilarity index[3] is low (DI = 11.1%). Interestingly, the dissimilarity indices by place of birth group indicate that the destination choice patterns of some groups are better predicted than others. While the French are best predicted in Specification A1 (DI = 7.1%) the Southern Europeans and Asians are poorly predicted (DI = 16.8% and 13.0% respectively). British immigrants have average predictability. This indicates that the destination choice of Southern Europeans and Asians, relative to the French, requires more sophisticated explanation than just ecological variables.

Specification A2 represents the best run of the logit model. The five ecological variables remain highly significant, but their relative importance is somewhat different. Coldness is less important than in Specification A1, as are wages and employment growth. Ethnic

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[3] The dissimilarity index represents the percentage of immigrants whose predicted destination choice would need to change so that the predicted and observed patterns were identical.

concentration and relative size, however, maintain high t-scores. The nine interaction terms generally have smaller t-scores than the ecological variables, indicating that they are slightly less influential in destination choice. Just as the ecological variables on relative size and ethnic concentration yield high t-scores in Specifications A1 and A2, so do the interaction terms involving these variables. The strongest positive interaction is between Asian immigrants and ethnic concentration (t = 17.6) and the strongest negative interaction is between immigrants having both official languages and ethnic concentration (t = -8.0). Much weaker t-scores are found for interactions involving coldness and the economic variables. This does not necessarily mean that economic considerations are relatively unimportant in the destination choice process. Conversely, the fact that there are four statistically significant interaction terms involving wages and employment growth reflects the importance of the economy in destination choice.

In terms of goodness of fit, the rho-square indicator for Specification A2 (ρ^2 = .483) is somewhat better than that of Specification A1 (ρ^2 = .462). The inclusion of the interaction terms, therefore, improved the predictive ability of the model. In addition, the dissimilarity index is even lower in Specification A2 (DI = 9.4% compared with

11.1% in Specification A1), indicating an overall better fit of the predicted proportions of destination choice with the observed proportions. Most interesting is the changing pattern of dissimilarity indices among the place of birth groups. The destination choice patterns of Southern European, Other European and Asian groups are better predicted in Specification A2, at the expense of the British, French, African and Other groups. In some detail, the dissimilarity index of the Southern European pattern improves a full 11.8% when interaction terms are included. Prediction for Southern European immigrants destined for Ontario is much more accurate, and for those destined for British Columbia, Alberta, Saskatchewan and New Brunswick, is slightly better. Prediction is slightly less accurate for Southern Europeans going to Quebec. Regarding the French pattern, the dissimilarity index increases by 10% when interaction terms are included. Prediction is less accurate for French immigrants destined to all provinces except British Columbia. Perhaps an important interaction term involving French immigrants was overlooked during the analysis.

It would be interesting to further analyze the changes in the dissimilarity index by place of birth groups in order to see specific effects of existing and even overlooked interaction terms on the destination choice

predictions. Such a detailed analysis is beyond the scope of this paper, however.

6.3 MODEL OF INTENDED DESTINATION CHOICE

The model of intended destination choice considers nine provincial destinations, five ecological variables and the personal variable Country of Last Permanent Residence. Based in part on the data from Employment and Immigration, this model does not include the wide range of personal variables that the previous model does. As a result, only a subset of the previous interaction terms is possible.

6.3.1 HYPOTHESIS TESTING

In total, eleven interaction terms were tried in the model, most relating to ethnic concentration, but some to economic conditions. Once again, if an interaction term was accepted, its hypothesis was confirmed. Results are summarized in Table 6.3.

Of the seven immigrant ethnic groups, it was hypothesized that French, Southern European, Asian, African and Other European immigrants would prefer more strongly destinations with high ethnic concentration[1]. Only Southern

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[1] Historically, each of these groups has had somewhat concentrated settlement patterns in Canada--the French in Quebec, Southern European in Ontario, Asian in Ontario and British Columbia, African in Ontario and Quebec, and Other European in Ontario and the West.

TABLE 6.3

HYPOTHESES TESTED IN THE INTENDED DESTINATION CHOICE MODEL

HYPOTHESES	SIGNIFICANCE	ACCEPT/REJECT
1. French prefer ethnic concentration	t = .8 insignificant	Reject
2. South Europeans prefer concentration	t = 4 sign correct significant	Accept
3. 'Other' immigrants don't demand ethnic concentration	t = 1.3 insignificant	Reject
4. Asians prefer ethnic ethnic concentration	t = 9.4 sign correct significant	Accept
5. Africans prefer ethnic ethnic concentration	t = 1.1 insignificant	Reject
6. British don't demand ethnic concentration	No convergence	Reject
7. Other Europeans prefer ethnic concentration	No convergence	Reject
9. Asians more sensitive to economic conditions	t = .4 (wages) insignificant	Reject
	t = .0 (emp growth) insignificant	Reject
10. Refugees more sensitive to economic conditions	t = 1.1 (wages) insignificant	Reject
	t = .3 (emp growth) insignificant	Reject

European and Asian immigrants, however, demonstrated significantly stronger preferences for destinations with high ethnic concentration. These results correspond with the same interactions in the model of actual destination choice. T-scores for the French and Africans did not reach the critical value, and inconclusive results were achieved for the Other Europeans when the model did not converge (likely due to multicollinearity). It was also hypothesized that the British and Other immigrant groups would be indifferent to destinations with high ethnic concentration, but neither of these groups demonstrated t-scores which were negative and significant. Both interaction terms were thus rejected, just as they were in the model of actual destination choice.

Interaction terms involving the wage and employment growth variables were also tested. Asian immigrants who landed in 1979 and 1980 (many of whom were refugees) did not show any significant interactions with the economic variables, nor did all Asians who landed between 1976 and 1981. It was expected that Asians arriving between 1979 and 1980 would have been less sensitive to economic conditions than the Asian immigrant flow as a whole.

Of the eleven interaction terms tested, only two were accepted as being statistically significant. The model of intended destination choice is undoubtedly less

informative than that of actual destination choice. Nonetheless, the first and last specifications of the intended model are worth examining.

6.3.2 SUMMARY SPECIFICATIONS OF THE MODEL OF INTENDED DESTINATION CHOICE

Specifications I1 and I2, the first and last runs of the logit model of intended destination choice are summarized in Table 6.4. Specification I1 includes the five ecological variables, and Specification I2 shows the combined performance of the ecological variables and the two significant interaction terms.

Coefficients for each of the ecological variables in Specification I1 are highly significant and have the expected signs. Again, coldness has a negative effect on destination choice, while relative size, ethnic concentration, wage and employment growth each has a positive effect. It is noteworthy that relative size is the most influential ecological variable--its t-score is the highest--and that all other variables are roughly of equal importance.

In terms of the goodness of fit of Specification I1, the rho-square indicator is low (ρ^2 = .104), but the dissimilarity index is quite strong (DI = 10.6%)--even slightly stronger than Specification A1 of the previous

TABLE 6.4

ESTIMATION RESULTS OF THE INTENDED DESTINATION CHOICE MODEL OF
IMMIGRATION TO CANADA DURING 1976 - 1981

VARIABLE	SPEC. I1	SPEC. I2	SPEC. I1	SPEC. I2
	COEFFICIENT		T-STATISTIC	
ECOLOGICAL:				
Coldness	-.229	-.082	- 7.8	- 2.7
Relative Size	.087	.087	40.6	45.9
Ethnic Similarity	.027	.024	10.7	11.6
Wages	.031	.031	9.7	10.9
Employment Growth	.156	.108	8.3	6.6
INTERACTACTIONS: ECOLOGICAL AND PERSONAL VARIABLES				
Ethnic * South Eur		.086		4.0
Ethnic * Asian		.160		9.4
RHO-SQUARE	.104	.228		
DEGREES OF FREEDOM	5	7		
WEIGHTED DISSIM INDEX	10.6	8.5		
BRITISH	9.9	12.2		
FRENCH	7.0	8.8		
SOUTHERN EUROPE	14.1	5.0		
OTHER EUROPE	9.6	11.0		
ASIAN	12.5	5.0		
AFRICAN	10.5	12.7		
OTHER	8.2	10.7		

model (DI = 11.1%). It is interesting that the destination choice pattern of the French again has the best prediction in the first specification, and that those of the Southern Europeans and Asians have the worst prediction.

Specification I2 represents the best run of the logit model. The five ecological variables remain highly significant, and relative size remains the most important. As in the previous model, the coldness variable becomes less important in Specification I2, as does the employment growth variable. Ethnic concentration and wages both increase in importance slightly. The interaction term between Asian immigrants and ethnic concentration is very strong, just as in the previous model.

In terms of goodness of fit, the rho-square indicator for Specification I2 increases substantially over that for Specification I1 (ρ^2 = .228 vs ρ^2 = .104). The larger indicator gives more confidence in the results of the model. In addition, the dissimilarity index decreases in Specification I2 (DI = 8.5%), to a level even lower than that of the second specification of the model of actual destination choice (DI = 9.4%). This indicates a good fit of the predicted proportions of destination choice with the observed proportions.

Most interesting is the changing pattern of dissimilarity indices among the Country of Last Permanent

Residence groups. While the prediction of most groups deteriorates with the inclusion of the two new interaction terms, that of the Southern Europeans and Asians improves considerably.

In total, the dissimilarity index of the Southern European pattern improves by 9.1% when the interaction terms are added. As in the previous model, prediction for Ontario is much more accurate and for British Columbia, Alberta and the Atlantic is slightly better; prediction for Southern Europeans going to Quebec is poorer. The dissimilarity index of the Asian pattern improves by 7.5%, with Quebec, the Atlantic, Alberta and British Columbia being better predicted.

6.4 SUMMARY

Logit analysis on the actual destination choice pattern of immigrants is revealing indeed. A greater understanding of the trends in destination choice behaviour is achieved by specifying different combinations of ecological variables and interaction terms. Furthermore, the testing of many hypotheses resolves some speculation about the nature of immigrant decision-making. Finally, an assessment of the goodness of fit of the model instills confidence in its results.

Logit analysis on the intended destination choice pattern of immigrants, though not as revealing as analysis on the actual pattern, is still interesting to consider. It confirms the significance of the five ecological variables first noted in the model for the actual pattern, and confirms the significance of the interactions between ethnic concentration and the Asian and Southern European immigrant groups. If Employment and Immigration collected more detailed personal information on immigrants it would have been interesting to compare further interactions.

CHAPTER 7

POLICY IMPLICATIONS OF IMMIGRATION RESEARCH

Now that the intended and actual destination choice patterns have been described, compared and explained, it is appropriate to suggest some policy implications at each of three levels of government. Clearly, immigration has a wide range of impacts on each destination--on the demographic and social fabric, on service provision, and on the economy. Government policies are designed to intervene in these processes in order to achieve desired outcomes. Below is a discussion of several policy issues that have a relevance to immigration.

7.1 SELECTED MUNICIPAL POLICY ISSUES

Ogden (1984, 34) stated that "the social structure of individual cities is often shaped as much by international movements as by migration within the state [or province] concerned". Two recent features in Macleans, illustrate the impact of immigration on the social structure of Canadian cities. The first, entitled "An Angry Racial Backlash", commented on decreasing public support for multiculturalism.

> "In cities whose prosperity has
> attracted the largest share of
> immigrants--notably Montreal,
> Vancouver and Toronto--the

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> shifting color balance of society
> has already spawned outbreaks of
> racism". (<u>Macleans</u>, July 10,
> 1989, 15).

The second, entitled "Gang Terror", discussed subcultures within the city, and the role of immigrants.

> "Whatever the gang members' racial
> or cultural backgrounds, police
> say that almost all of the gang
> membership in Vancouver is made up
> of immigrants who have done poorly
> in school and who have fallen
> through the gaps in the city's
> social service network....The gang
> provides a place where they
> belong, and that's exactly what we
> have not given them. The real
> issue is racism and our ability to
> aid in assimilation of
> immigrants". (<u>Macleans</u>, May 22,
> 1989, 37).

Perhaps Canadians have had difficulty in aiding assimilation because the composition of the immigrant flow has changed significantly and quickly; the 1970s, for instance, brought a much greater representation of immigrants from non-traditional countries. Or perhaps the persistent choice of urban destinations by immigrants has, in fact, exacerbated adverse social conditions. Either way, municipal governments must identify the causes and develop programs for improving race relations based on the knowledge that immigrants will inevitably continue to settle in cities.

Another issue is the scarcity of affordable housing. The high proportion of immigrants (22% in 1971) that live

below the poverty line during their first year in Canada (Manpower and Immigration, 1974), places an additional burden on affordable housing in places of initial destination. While municipalities in conjunction with the provinces provide much of this housing, some charitable organizations also help (eg. Tuccer House for refugees sponsored by the United Church in Toronto). Even wealthy business class immigrants like those from Hong Kong (Globe and Mail, November 21, 1988, C1; Macleans July 10, 1989, 19) indirectly assist the housing situation by way of property taxes. In assessing the need for affordable housing, then, host communities could use data on the volume and quality of immigrant flows. Furthermore, information on immigrant relocation behaviour could be helpful in assessing long-term demand for community services and facilities.

7.2 SELECTED PROVINCIAL POLICY ISSUES

Education is strongly impacted by immigration. Recent policy changes on opening exercises in Ontario schools, for example, were motivated in part by increasing multiculturalism in urban areas. Responsibility for the provision of education to immigrant children throughout the country lies with the provinces. Regardless of children's official language and academic skills, the provinces must provide and oversee special "catch-up" programs. In order

to allocate funds efficiently, the provinces could use information on the destination choice pattern and age pattern of immigrants. Given that most immigrants settle in large urban areas, levels of funding and service, even if efficiently allocated, may appear to be excessively high in large urban centres. The provinces, then, must be prepared to field criticism on the apparent inequality of service provision.

Regional demographic disparities are studied by the provinces. Knowledge of relative position is important for the provinces in their appeal for federal support. Immigration has an interesting relationship with population disparities. For a small region like the Atlantic, a disproportionately low share of immigrants exacerbates the problem of relative smallness. And for Quebec, a province with very low fertility, disproportionately low levels of immigration contribute to provincial population decline. But for large cities like Toronto, Montreal and Vancouver, high levels of immigration help to counterbalance negative net domestic migration (Field, 1988). Knowledge of initial and subsequent destination choice patterns is important for provincial officials in monitoring the long-run demographic effects of immigration.

With respect to regional economic disparities, the pattern of immigrant quality is an issue. The fact that

immigrants settling in the Atlantic are better educated, as a group, than other regional flows, lessens the impact of the small share of the national total. Well educated immigrants are likely to be more economically productive. Alberta's attraction of a high proportion of young adults is beneficial in that young adults contribute to the economy for many years. However, British Columbia's attraction of many middle-aged and elderly adults probably has an opposite effect. For provincial officials making economic projections and seeking federal assistance, knowledge of the quality and destination choice of immigrant flows is indeed important. Even more important for officials in economically weak regions is the need to attract high quality immigrants, for:

> "without planned regional
> development, new immigrants will
> continue to avoid jobless areas"
> (Toronto Star, November 26, 1988,
> D5).

7.3 SELECTED FEDERAL POLICY ISSUES

The federal government appears to be more active than municipal or provincial governments in policy development related to immigration. Naturally, the broad questions on entry along with those on integration are addressed by the Department of Employment and Immigration.

Immigrant adaptation is a federal responsibility. Naturalization and language programs[1] are provided by the government to help immigrants become functional as quickly as possible. In immigration policy, selectivity criteria ensure that only those immigrants most likely to adapt to Canadian society are permitted entry. The development of adaptation programs, then, should be based on knowledge of the characteristics of immigrants entering Canada, and implementation of programs on knowledge of the initial destination choice patterns.

Policy related to the discrepancy between intended and actual destination choice is important, particularly if the federal government plans programs based on statistics collected on intended destination choice by Employment and Immigration. Funding to regions like the Atlantic, Quebec and the Prairies where intended destination choice proportions consistently exceed actual proportions, could easily be misallocated. It would be fitting, though logistically impossible, to monitor the movement of immigrants in Canada, especially those intending to settle in relatively unattractive regions.

Perhaps the most encompassing issue facing the federal government is whether or not to increase immigration levels.

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[1] Some provincial governments are involved in the provision of language and adaptation programs.

Media attention has captured the urgency of this policy debate:

> "If we really want to stop the decline in population...we need twice as much immigration as we have now. To assure growth we need levels that nobody is even talking about" (<u>Toronto Star</u>, November 26, 1988, D1).

Most demographers support increased immigration. The short-term benefit is that immigrants have high human capital (Weinfeld, 1987), and actually boost labour market opportunities (Shaw, 1985). The long-term benefit is that Canada's fertility decline, which will create considerable stress on service provision, could be alleviated by changing the age structure of the Canadian population through "More and Younger" immigrants--the title of Seward's article (1986). Weiner (1987) advances this argument by suggesting that the federal government develop an integrated long-term approach to economic, social and demographic planning.

Assuming that immigration levels rise in the future, the remaining policy issue is national settlement. By its very nature, settlement policy is controversial. It represents an attempt by the government to control the flow of people, and change the spatial patterns of population and population characteristics. According to Ogden (1984), such a policy would be met with limited success because powerful economic trends could not be reversed, even by the

government. Furthermore, strict political control of movement within Canada would never be tolerated in a democratic society.

7.4 IDEAS ON IDEAL POLICY-MAKING

While it is unreasonable to attempt to identify the best strategies for each level of government in immigration-related issues, it is possible to identify the characteristics of ideal policy-making. First, flexibility is essential, so that changing trends and circumstances can be incorporated into implementation schemes.

Second, coordination of all types of policies within each level of government and between governments is desirable for effective outcomes. The federal government, in particular, should be sensitive to the policy goals of the subordinate levels of government, and a consistent view of the future should be common to all. In fact, a forum where the three levels of government regularly discuss policy issues would be extremely useful (Wellar, 1982).

Third, policy should be based on careful study of demographic, social and economic trends, and should be well grounded in theory. Academic works would be a valuable source of information. Even better would be academic-governmental liaisons which would strengthen the policy development process.

In summary, it is clear that immigration influences government policy decisions at all levels. A study such as this on the intended and actual destination choice patterns provides useful, practical knowledge for government policy-makers. While only a few issues have been presented here, the implications extend to a much wider range of policy issues.

CHAPTER 8

SUMMARY AND CONCLUSION

Several questions posed at the outset have been
carefully considered in this paper. First, spatio-temporal
patterns of actual destination choice for the 1970s were
described. The Atlantic was unquestionably the least
favoured destination, although it received higher than
average proportions of young, well-educated and professional
immigrants. Quebec increased in popularity toward the end
of the decade, particularly for immigrants from countries
other than Britain and the United States; this trend
compensated for the net out-migration of many non-French-
speaking Canadians during the late 1970s. Ontario remained
the most favoured destination, but its popularity declined
while that of Alberta and the Prairies rose during the oil
boom. British Columbia continued to attract a
disproportionately large share of immigrants, particularly
British, Asian, and elderly.

Second, the spatio-temporal pattern of intended
destination choice was described and compared with the
actual patterns. Ontario displayed the best correspondence
between the two patterns. The Atlantic showed the poorest
correspondence; the intended choice proportion exceeded the

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actual choice proportion by a wide margin. To a lesser extent, this excess also appeared in Quebec and the Prairies. In contrast, the actual share exceeded the intended share in Alberta and British Columbia. To the extent that the intended and initial destination provinces were mostly the same, this contrast suggests that the immigrants, after settling in Canada, tended to display a westward drift similar to that of native born Canadians.

Third, the gap between intended and actual destination choice proportions was examined for systematic divergence. The gap appeared to be narrow in the years just prior to the census, and appeared to diverge somewhat in earlier years. This divergence, however, did not begin quickly and proceed more slowly, as hypothesized. Very popular and very unpopular destinations, such as Alberta and the Atlantic, demonstrated comparatively larger gaps than destinations of average popularity.

Fourth, logit analysis concluded that ecological variables and interaction terms involving ecological and personal variables were significant in explaining actual and intended destination choices. The main results based on actual destinations are as follows. For the immigrants as a whole, coldness had a negative effect on destination choice, whereas relative population size, ethnic concentration, wage rate and employment growth all had positive effects. The

statistically significant interaction terms indicate, among other things, (1) that elderly immigrants were more likely to choose warmer destinations; (2) that Asians and Southern Europeans showed a stronger preference for destinations with high concentrations of ethnically similar populations; and (3) that the working-aged and male immigrants were more attracted to destinations with high wage rates.

The application of the logit model to the intended destination choice data yielded a very similar result: all ecological variables and the interactions between ethnic concentration and Asian and Southern European immigrants remained highly significant, and the coefficients had their signs unchanged and were of similar magnitudes.

The main contribution of this study is the identification of an area of migration research that has yet to be fully explained. Few empirical works have attempted a comparison of intended and actual destination choice patterns. This study suggests one simple approach to such a comparison, but more sophisticated approaches are necessary. One possibility is a longitudinal study of immigrants, starting with the time of application for entry when intended destination is stated, continuing to the time of arrival and initial destination selection, and ending some two or three years later when relocation has probably occurred. This type of study would permit not only

quantitative analysis like the logit model, but also qualitative analysis of immigrants' personal reasons for destination selection.

In conclusion, it is hoped that this study successfully links academic research and practical application. While this objective is by no means unique, it is often overlooked by researchers. Regrettably, the true worth of academic research may not be realized unless public policy-makers and private planners seek out and use research findings. Furthermore, without such coordination, policy development may involve duplication of effort and relatively weak quality control. Similarly, the full potential of academic research may not be achieved unless a contingent of researchers produce timely work geared to current policy issues. If a balance can be met and liaisons formed between academics and government officials, the result would be more effective policy to the ultimate satisfaction of those doing research.

APPENDIX A

Data Description--Statistics Canada

Statistics Canada conducts a full census of the Canadian population every five years, and administers a detailed, long-form questionnaire to a subset of the population (20% in 1981). The long-form contains more questions for years ending with '1' (eg. the June 3, 1981 census). Statistics Canada published aggregated summary tables of persons, families and household units in Canada, as well as a microdata file called the Public Use Sample Tapes (PUS Tapes). These PUS Tapes include a one-in-fifty sample of the 1981 long-form survey in an Individual file, and a one-in-a-hundred sample in a Household file. The Individual file, then, contains a 2% sample of the entire Canadian population, and the Household file a 1% sample. Care was taken to protect confidentiality of respondents through the following steps:

a) names, addresses and detailed geographic information were withheld.
b) geographic detail was restricted to areas with a minimum population of 250000 (with the exception of Prince Edward Island and the Territories, and Hull, Quebec).
c) regrouping of certain characteristics initially coded to a detailed level was undertaken (eg. mother tongue).
d) listing of geographic areas in random order on the PUST was arranged so as to prevent the identification of small areas, possible from the

> systematic ordering of records selected during the sampling. (Ibid, 12).

The sample included individuals "from each geographic area and stratum in proportion to the estimated frequency in the actual population" (Rashid, 1984), thus ensuring a representative sample.

Data Description--Employment and Immigration

Annually, the Department of Employment and Immigration publishes tables of statistics on the labour force and immigration situation in Canada. One publication entitled Immigration Statistics documents "immigration movement" each calendar year and provides some detail on the origins, personal characteristics and intended destinations of each year's immigrants.

Employment and Immigration tallies immigrant entries by recording the issuance of immigrant visas, the documents verifying the "lawful permission to come into Canada to establish permanent residence" (Immigration Statistics, 1981, 5). After a prospective immigrant applies for landed status and successfully completes a series of eligibility stages, the immigrant visa is issued. Usually the principal family member submits an application and proceeds through the eligibility stages, but visas are granted to each healthy family member. Each immigrant, upon receiving the visa, is required to provide the following information:

sex, age, marital status, official language ability, class (type of immigrant), country of last permanent residence, country of birth, country of citizenship, intended occupation and intended destination. At year end, the data base contains information on each immigrant admitted during that particular year.

Between 1971 and 1981, the data collection system used by Employment and Immigration did not change significantly, and confidentiality criteria which tend to mask detail were not used. According to federal officials in the Immigration Statistics Department of Employment and Immigration, the figures at year end are indeed accurate, with the exception of occasional revisions and an approximate 5% margin of error for late arrivals. They also maintain that their figures on immigration are superior to those included in the census. (From telephone conversations May 9 and 10, 1989).

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