

THE UNIVERSITY OF MANITOBA
THE DYNAMICS OF POPULATION CHANGE
IN SOUTHERN MANITOBA AND SOME
IMPLICATIONS FOR PLANNING

by

JOHANNA REECE

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF CITY PLANNING

DEPARTMENT OF CITY PLANNING

WINNIPEG, MANITOBA

October, 1973



TABLE OF CONTENTS

INTRODUCTION.	1
SUMMARY	5
1. PATTERNS OF POPULATION DISTRIBUTION AND CHANGE IN THE SOUTHERN MANITOBA REGION, 1951-1971.	11
a) Population Distribution in the Southern Manitoba Region, 1951-1971.	11
b) Population Size and Change in the Functional Areas, 1951-1971.	18
2. COMPONENTS OF POPULATION CHANGE	28
a) Natural Increase.	28
b) Net Migration	37
3. THE DYNAMICS OF POPULATION CHANGE IN SOUTHERN MANITOBA.	51
a) The Distribution of the Share in Growth	51
b) The Relation of Natural Increase and Migration in Effecting Population Change in the Southern Manitoba Region	55
c) Natural Increase, Migration, and Population Change in the Cities and Centres of Southern Manitoba.	64
4. SOME IMPLICATIONS FOR PLANNING.	72
GLOSSARY.	80
APPENDIX A - The Composition of Functional Areas.	84
APPENDIX B - The Calculation of Migration Estimates	87
APPENDIX C - Note on Stability and Migration Selectivity.	90
BIBLIOGRAPHY.	93

LIST OF TABLES

Table

1. Population Size and Change for the Functional Areas in Southern Manitoba, 1951-1971.	21
2. Natural Increase by Five-Year Period for Southern Manitoba, 1951-1971.	29
3. Urban and Rural Birth Rates in Southern Manitoba, 1951-1971.	32
4. Estimated Net Migration by Five-Year Period for Southern Manitoba, 1951-1971.	40
5. The Contributions of Natural Increase and Migration to Population Change in the Functional Areas of Southern Manitoba, 1951-1971.	65
6. Estimated Migration for Functional Areas, 1951-1971 Appendix B.	88

LIST OF FIGURES

Figure	Page
1. Population Distribution by Functional Area, 1951 and 1971.	13
2. Population Distribution, Urban-Rural for Southern Manitoba, 1951-1971.	17
3. Percentage Change in Population Size, Southern Manitoba, 1951-1971.	27
4. Migration and Natural Increase, 1951-1971 Brandon's Functional Area	57
5. Migration and Natural Increase, 1951-1971 Dauphin's Functional Area	59
6. Migration and Natural Increase, 1951-1971 Portage la Prairie's Functional Area.	60
7. Migration and Natural Increase, 1951-1971 Steinbach's Functional Area	62
8. Migration and Natural Increase, 1951-1971 Swan River's Functional Area.	62
9. Migration and Natural Increase, 1951-1971 Winnipeg's Functional Area.	63
10. Functional Areas of Southern Manitoba Appendix A.	83

INTRODUCTION

A central problem in planning for the region and its communities is the identification of the phenomena to which the plan is addressed; that is, the determination of those features of the localities that are to be accommodated, encouraged, or otherwise affected by the plan. More simply, the problem resolves itself into two questions: what is being planned for, and what is the nature of the population-resource configuration in which the plan will operate? Decisions concerning the first question lie within the jurisdiction of the political planning function; it is a portion of the second, more technical question, to which this paper is directed. Specifically, if plans are to be generated for the communities of the Southern Manitoba Region, to what demographic context should they relate?

It is realized that the demographic aspect of the Region includes only one feature of the basic plan context; the others are the pattern of resources, economic attributes, and infrastructural development. For Southern Manitoba, however, the demographic aspect may be considered critical because it has been subject to substantial change and requires continued scrutiny if planning in Manitoba is to bear relevance to real issues.

It may be noted that the material presented in the paper does not deal with specific rural communities, but with sub-regional areas in Southern Manitoba. The method of presentation was based upon the assumption that rural centres do not function independently of one another, and that many of the changes occurring within the communities constitute sensitive responses to changes in the total Region. Planning at the community level then, may be presumed to heavily influenced by

the character of the Region.

Guidelines for the Seventies (March, 1973) published by the Provincial government enunciates policies such as the "stay option", the elimination of local disparities, and the development of activity centres. They are engendered by concern for the depopulation of rural areas, the waning of local centres, and the threat of deteriorating living standards through the erosion of the rural economy. A central assumption has been the operation of a rural-urban shift, drawing rural people into successively larger urban places. The implication is that a continuing cumulative imbalance in human resources is set into motion to increase the power and attractiveness of the stronger urban units, placing the smaller communities at an increasingly acute disadvantage. Local disparities and the weakening of the stay option are considered attributable, in part, to the 'backwash' effect of the rural shift in the Southern Manitoba Region. Programs designed to stimulate the centres in the rural area, therefore, require knowledge of people, specifically: how many people are involved in the problem, where are they located, and what factors determine the distribution and number of people in the Region?

It is the purpose of this paper to describe the demographic dimensions of the Southern Manitoba Region, to examine the determinants of population size and distribution, and to investigate the rural-urban shift, with its implications for planning in the Region. Chapter 1 deals with trends in population size and distribution during the 1951-1971 period, while the determinants: natural increase and migration, are described in Chapter 2, The Components of Population Change. The Distribution of population growth and the rural-urban shift in Southern

Manitoba are examined in Chapter 3, while Chapter 4 discusses the problems generated by the changes occurring in the Region, as they relate to planning in the communities of Southern Manitoba.

The region under study is Southern Manitoba, as defined by the Regional Analysis Program; that is, the portion of Manitoba lying south of the 53rd parallel, including the agricultural, as well as the most highly urbanized areas of the Province. The study area units have been defined in the Regional Analysis Program Working Paper #2, Community Functions and Relationships, on the basis of the communities' performance in relation to other communities, and the surrounding rural area. These are the spheres of influence served by the two Cities, Brandon and Winnipeg, and the Regional Centres of Dauphin, Portage la Prairie, Steinbach, and Swan River. The spheres of influence correspond to the trade areas of the Cities and Regional Centres, and because they were determined by the functional relationships existing among the communities, they are also referred to as Functional Areas. The Town of Selkirk also appears as a Regional Centre because the range and number of activities that exist there indicate that the demands of a trade area population, external to the town, support the continuation of the activities. The close proximity of Selkirk to Winnipeg, however, has rendered unfeasible the accurate delineation of Selkirk's Functional Area. The town is included within Winnipeg's Functional Area, in accordance with the

Note: The author has worked with the Regional Analysis Program since its inception in 1970, and was responsible for the compilation of most of the demographic information for Southern Manitoba, as published in Descriptive Data, Part 1A of the Regional Analysis Program, 1970, including the basic data on natural increase and migration.

relationship identified between the Selkirk and Winnipeg. The communities of Southern Manitoba have also been classified by the Program, on the basis of the functions that they perform within the Region, so that the terms Regional, Market, and Local Centres, appear in reference to urban places. The community classifications are described in the Glossary, p. 80 and a description of the study area units is found in Appendix A, the Composition of Functional Areas, and the map on Figure 10, p. 83.

The data upon which this paper is based was obtained from Statistics Canada; the Regional Analysis Program, Descriptive Data, Part 1A (Manitoba Department of Industry and Commerce, Regional Planning and Development Branch); and the Manitoba Department of Health and Social Development, Vital Statistics Branch.

Net migration estimates were made by means of the Vital Statistics method; the method is described in Appendix B.

SUMMARY

1. PATTERNS OF POPULATION DISTRIBUTION AND CHANGE IN THE SOUTHERN MANITOBA REGION, 1951-1971

1(a) Population Distribution in the Southern Manitoba Region, 1951-71

The pattern of population distribution in Southern Manitoba indicates increasing urbanization. In 1951, the Region (including Winnipeg City) contained 734,146 persons, with 58.4% of the population resident in the urban sector and 41.6% in the rural sector. Over half of the Region's population lived either in Brandon or Winnipeg (51.4%). In 1971, 71.5% of the population was resident in centres of population size 1000+. Sixty-three percent lived in either Brandon or Winnipeg. The rural sector comprised 28.5% of the Regional population.

1(b) Population Size and Change in the Functional Areas, 1951-1971

Population change in the Southern Manitoba Region (including Winnipeg) exhibited continued growth, but at a slower pace for each successive 5-year period. Although the population of the urban sector continued to increase, there was a sudden reduction in the rate of growth during the 1961-1966 period. The growth rate in the Market Centres had undergone this change during the preceding period, indicating perhaps, their greater sensitivity to factors affecting population change in the Region. Over the entire Region, including Winnipeg, and for larger population groupings, population increase appears to be levelling off at a slow rate of growth.

2. COMPONENTS OF POPULATION CHANGE

2(a) Natural Increase

Natural increase in Southern Manitoba declined dramatically between 1951 and 1971, particularly in the Centres, size 1000 to 3500 and the rural sector. The change was attributed to a 30% to 42% drop off in the birth rates of the Functional Areas. While the decline from 1951 to 1961 could be related to the cessation of the 'baby boom' of the 1950's, the cause of the continuing trend might be sought in changing family life-styles in the Region and increased participation of married females in the labour force.

2(b) Net Migration

Estimated net migration from the Southern Manitoba Region, (which includes Winnipeg City) rose rapidly from 1951 to 1966; out-migration quadrupled in the 1956-1961 period and increased ninefold in the 1961-1966 period. Following 1966, the increase in out-migration was relatively minor, suggesting a levelling off. The trend for the non-Winnipeg area of the Southern Manitoba Region fluctuated, with lower rates of out-migration, about 5,000 persons per year, occurring in the first and third 5-year periods, (1951-1956 and 1961-1966), and the higher rates, between 6,000 and 7,000 persons per year in the second and final periods. The Region's urban sector, including Winnipeg City, Brandon and the Centres of population size 1000+ experienced continued net in-migration until 1961, when urban migration became erratic. Net out-migration occurred in Winnipeg

during 1961-1966, and in the remaining Centres during 1966-1971. Generally, it appeared that migration into the entire urban sector (Winnipeg, Brandon, and the Urban Centres) levelled off at a relatively low level after 1961.

3. THE DYNAMICS OF POPULATION CHANGE IN SOUTHERN MANITOBA

3(a) The Distribution of the Share in Growth

While the size of the total population increase, (as opposed to the net population increase) diminished over the 20-year period, nearly 100% of the share of growth went to the urban sector, particularly the Cities and Regional Centres, where the shares became progressively larger, reflecting the urbanization of the Region mentioned above. Because of this latter, the Market and Local Centres' shares in population increase became slightly smaller toward 1971. The rural sectors of the Functional Areas, (with the exception of Winnipeg's, where the shading effect of the City is noted), had consistently larger shares of the net natural increase. Although the rural shares declined because of the drop off in the rural birth rate, they remained significantly larger than the urban shares in natural increase. With few exceptions, the urban sectors of the Functional Areas claimed 100% of the total in-migration, with the largest shares going to the Cities and Regional Centres during the first 10-year period. After 1961, it appeared that the Market and Local Centres had grown increasingly competitive in their attractiveness to migrants and their share of the total in-migration to the Functional Areas increased substantially.

3(b) The Relation of Natural Increase and Migration in Effecting Population Change in Southern Manitoba

While migration from the non-Winnipeg area of the Region fluctuated between 1951 and 1971, natural population growth dropped off with increasing rapidity. During the 1951-1956 period, the Region's natural increase had replaced the population loss through migration and created a total population increase of 8,972 persons. From 1956 to 1966, the natural increase was able to maintain the population size in the non-Winnipeg area of the Region. The magnitude of the recent change in the Region's population is due to the simultaneous occurrence of the second peak in out-migration and the lowest rate of natural increase. Between 1966 and 1971, the latter fell far short of the increase needed to maintain the population size.

3(c) Natural Increase Migration and Population Change in the Cities and Centres of Southern Manitoba

Data on the trend since 1961 do not substantiate the hypothesis of an rural-urban shift of population within Southern Manitoba. During the latter part of the 1951-1971 period, it was found that the total urban sector (Winnipeg, Brandon, and the Centres) had become highly dependent upon natural increase to maintain its growth. Until 1961, over 40% of the population increase in the urban sector was attributable to in-migration. By 1971, natural increase accounted for 97% of the total urban growth. Ten of the Region's Centres, however, indicated substantial reliance upon in-migration during the 1966-1971 period.

Two assumptions must be drawn if the rural-urban shift is to be supported: (a) the rural in-migrants are replacing out-migrants from the urban sector of the Region; or, (b) a significant portion of the rural out-migration is directed to urban places outside the Province.

4. Some Implications for Planning

The challenges involved in planning may be expected to differ in communities according to whether they are undergoing population change as a result of natural increase, or as a result of migration. The problems are likely to be more acute in communities with stable or declining populations because the planning discipline, as practised in North America, has tended to develop its techniques to handle growth situations, to the exclusion of others. Whether growth, decline, or stability are occurring, the socio-demographic characteristics of the communities are altered. In the former case, the changes will be determined by the characteristics of in-migrants, and may generally be considered to be temporary in nature. In those communities experiencing stability or decline, changes are long-term because of migration selectivity which tends to draw the younger members of the labour force away from their communities. Out-migration therefore diminishes the number of persons in the community who are likely to become parents, and the depletion of reproductive age groups in the base population has serious implications when viewed in relation to the general decline in the birth rate. In stable communities, the maintenance of the population is due entirely to

natural increase. In time the, these communities may be expected to decline. The overall effect will be manifested in the increasing proportion of the local population in the older age groups with the corresponding shrinkage of the childhood and young adult age groups.

These changes require the consideration of further shifts in demand for different types of housing, recreational facilities, and institutional infrastructure. The socio-demographic changes will also influence the performance of the local business community. The pattern of population change should be assessed in relation to the communities' plans for investment in social overhead capital; this is of particular importance in Southern Manitoba, where the growth patterns are unstable.

The cessation of growth will also influence the direction of Government policy affecting regions or localities, not only as reflected in programs to stimulate economic development, or maintain employment levels, but also in the distribution of Government operated facilities, and grants for infrastructural development. The question of "who gets what, and where" will be answered by a Government's particular philosophy concerning stability and decline: an effort may be made to overcome the undesirable features of the trends by attempts to curb decline, or by measures to accelerate it.

1. PATTERNS OF POPULATION DISTRIBUTION AND CHANGE IN THE SOUTHERN MANITOBA REGION, 1951-1971

1(a) Population Distribution in the Southern Manitoba Region, 1951-71¹

In 1951 the Southern Manitoba Region, outside Winnipeg, contained a population of 377,333 persons. The population in the non-Winnipeg area of the Region had increased to 386,510 persons by 1966 and declined to 366,353 persons in 1971. Throughout the 20-year period, the population distribution among the spheres of influence of each Regional Centre, has remained relatively constant. In 1951, 72.4% of the total non-Winnipeg population of Southern Manitoba was resident within either Winnipeg's or Brandon's sphere of influence, with Winnipeg's share being the larger (40.5% of the total non-Winnipeg population in the Region). The remaining 27.6% was distributed among the smaller Functional Areas of Dauphin, 12.1%; Portage la Prairie, 6.5%; Steinbach, 5.2%; and, Swan River, 3.8%. The division of population between the Cities and the rest of the Region remained about the same during the 20-year period, but by 1971, Brandon's share of the 72.4% had increased slightly. From 1951 to 1971, two of the smaller Regional Centres: Portage la Prairie and Steinbach, experienced small increases in their shares of the Regional population, while slight decline occurred in the shares of Dauphin and Swan River.

1. In the following discussion, and throughout this report, where reference is made to the population of the Southern Manitoba Region and the various spheres of influence, the population of Indian Reserves and unorganized territory is not included in the figures. Data on these areas were not adequate for purposes of analysis.

If the City of Winnipeg is considered a part of the Southern Manitoba Region, then the total Regional population for 1951 becomes 734,146 persons, 48.6% resident within Winnipeg City, at the time. By 1971, Winnipeg's share of the Regional total had increased to 59.6%.

Although the percentage distribution of population among the Functional Areas served by the Regional Centres and Cities underwent only minor changes during the 20-year period, the distribution of persons on an urban-rural basis was altered significantly. Of the total Southern Manitoba population outside of Winnipeg in 1951, less than 20% could be considered urban population. The share of the urban sector increased by 3% during each of the two following 5-year periods, and 2% for each 5-year period thereafter, reaching 29.6% of the Regional population in 1971. The larger portion of expansion in the urban sector occurred in the Regional Centres. In 1951, 12.1% of the Regional non-Winnipeg population resided in Brandon and the Regional Centres; in 1971, the proportion had increased to 19.4%. Throughout the period, the number of persons residing in Market Centres and the two largest Local Centres remained at about half the collective population size of Brandon and the Regional Centres.² Corresponding to the increase in the percentage of population in the urban sector, the rural area's share of the Regional population declined from 80.9% in 1951 to 70.4% in 1971.

2. The only Local Centres considered here are Carberry and Rivers. Inadequacy of data made it necessary to group the remaining Local Centres with their respective rural sectors.

FUNCTIONAL AREAS

Brandon's

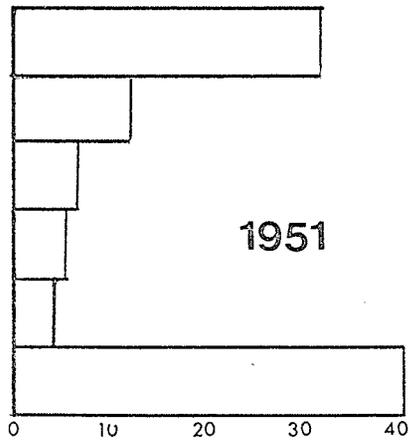
Dauphin's

Portage
la Prairie's

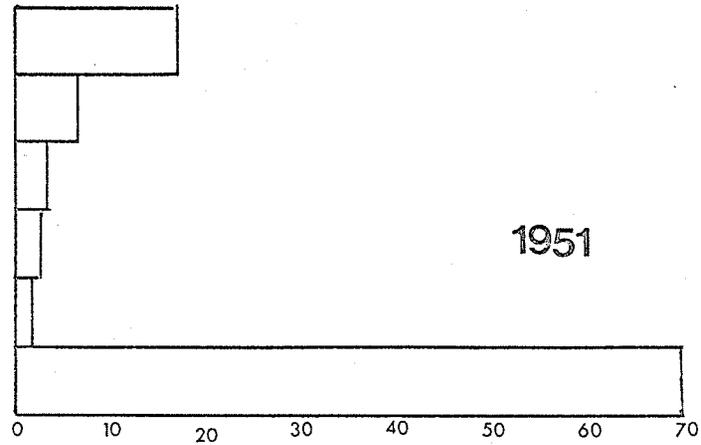
Steinbach's

Swan
River's

Winnipeg's



DISTRIBUTION of POPULATION
(EXCLUDING WINNIPEG CITY)



DISTRIBUTION of POPULATION
(INCLUDING WINNIPEG CITY)

Brandon's

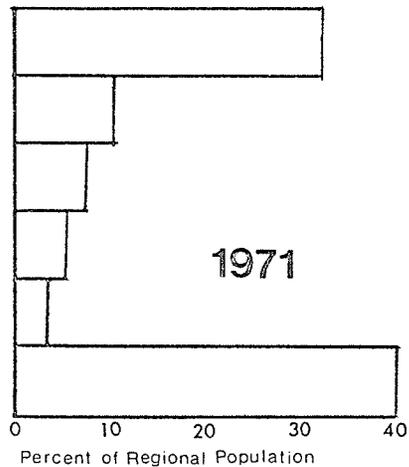
Dauphin's

Portage
la Prairie's

Steinbach's

Swan
River's

Winnipeg's



POPULATION DISTRIBUTION by FUNCTIONAL AREA, 1951 & 1971

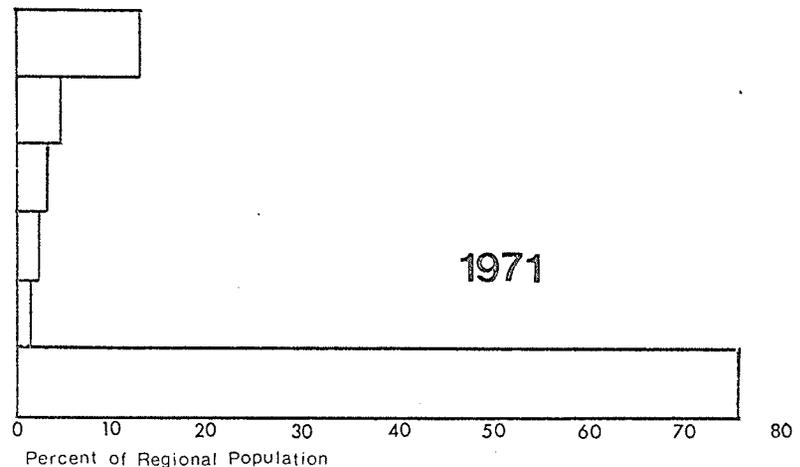


fig. 1

The increasing concentration of population in the urban places of Southern Manitoba reflect a global trend, and according to Ehrlich and Ehrlich is one of the most long-standing demographic phenomena.³ A cursory inspection of a map of the Province shows that land was subdivided with a view to encouraging an evenly distributed population pattern, of relatively low density, with one family to each quarter section. The parish lot subdivision along the Red and Assiniboine Rivers accommodated the tendency of population to cluster along these thoroughfares for the purpose of convenient transportation, as well as the necessity of living near a source of water supply. Early settlement patterns indicate the dependency of the population upon natural resources: arable land and water. The inhospitable Shield area was virtually ignored by early settlers who began to concentrate on the flood plains at the confluence of the Red and Assiniboine Rivers.

A preference for clustered settlement was also evident in the increasing population density along major overland trails, and later, along railway routes. Trewartha's observation that "[...]the role of physical factors in spatial distribution of population declines in direct importance as civilization advances in complexity[...]" seems applicable to the pattern in Southern Manitoba, as gregariousness gradually took precedence over the dependency upon resources.⁴ This does not mean that such

-
3. Paul R. Ehrlich and Anne H. Ehrlich, Population Resources Environment (San Francisco: W. H. Freeman and Company, 1972) p. 43.
 4. Glen T. Trewartha, A Geography of Population: World Patterns (Wiley and Sons, 1969), p. 78.

resources dwindled in importance in the Region, but simply that technology enabled the population to have them transported to whatever places it chose to reside.

During the period under study, there is evidence that population concentration is manifested, not only by a preference for urban places, as such, but for larger Centres. While data availability necessitated an arbitrary classification of communities with population of less than 1000 as rural, it may be noticed that, as a group, these smaller centres have tended to stabilize or decline, the exception being the Single Enterprise group, which contains three Centres of population size 1000+. ⁵ Further, the groupings of Cities and Regional Centres experienced greater increase in their shares of the Regional population than did the smaller Market Centres, and the Convenience Centres underwent a greater decline in their shares than did the larger Local Centres.

5. Those Centres identified as Single Enterprise Communities are: Bissett, Pinawa, Stony Mountain, and Pine Falls-Powerview, this latter being considered as a single urban unit.

Note on Figure 2

POPULATION DISTRIBUTION, URBAN AND RURAL, FOR SOUTHERN MANITOBA

1951 and 1971

	Population Size Range (1971)	Average Population Size (1971)
Regional Centres	3,300 - 15,000	7,978
Market Centres	1,000 - 3,300	2,117
Local Centres	500 - 1,000	700

The percentage distribution in the Market and Local Centres differs from the figures given in the text because only two Local Centres have been dealt with in the body of the report. These Local Centres (population size 1000+) have been grouped with the Market Centres for purposes of analysis, but for the graphic description of population distribution, they have been included with the remaining Local Centres. The inclusion of the two Local Centres (Carberry and Rivers) elsewhere in the paper, with the Market Centres has increased the population size of the latter by 8.1% in 1951 and 1956, by 7.9% in 1961, by 8.0% in 1966, and by 6.6% in 1971. The two Local Centres account for 3.3% of the total Market Centres' change between 1951 and 1971.

Convenience Centres	100 - 500	296
Single Enterprise Communities	148 - 2,174	1,345

Urban Population:

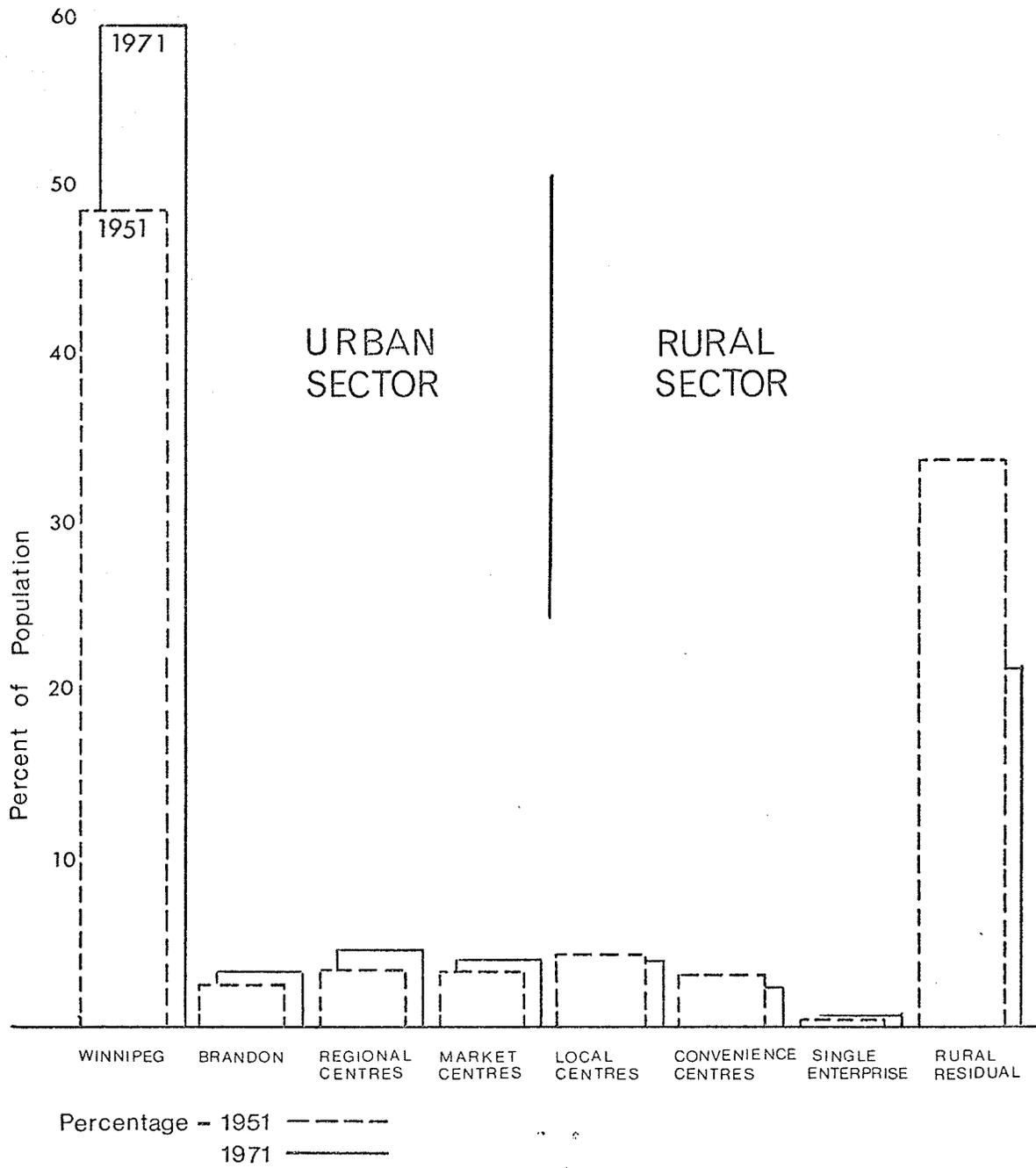
In general, the urban population is considered to include all persons living in Centres of population size 1000+. The exceptions are:

- Carberry and Rivers which, in Figure 1, are included with the Rural population.
- Pinawa, Pine Falls-Powerview, and Stony Mountain which are Single Enterprise Communities, included with the Rural Population.
- It should be noted further, that Melita, identified as a Market Centre, appears in Figure 1 with the Market Centre grouping. Elsewhere in the paper, it was necessary to include Melita in Brandon's rural sector. As was the case with the smaller Local Centres, the lack of vital statistics for Melita precluded analysis of its natural increase and migration. This has caused a minor distortion of figures given throughout the paper, for Brandon's rural sector. For any period, Melita's population does not exceed 1.6% of Brandon's rural sector. Growth in the Centre has however, caused the 1951-1971 decline in that sector to appear to be 2% smaller than was actually the case.

For further description of the above Centres, the reader is referred to the Glossary, p. 80.

POPULATION DISTRIBUTION,
 URBAN - RURAL
 for Southern Manitoba, 1951-1971

fig. 2



1(b) Population Size and Change in the Functional Areas, 1951-1971

The importance of population size and change in influencing social behavior and living standards is noted in the quantity of literature produced over the centuries, upon the topic. Contributions in this area of demographic study have included philosophers, businessmen, historians, clergymen, economists, and more recently, geographers. Cyclically, students of population have warned their readers that the threat of over population was imminent, or forecasted the coming dangers of under-population. To date, the condition of humanity appears suspended like a pendulum between war, famine, and environmental breakdown on one side, under-productivity and declining living standards, on the other. Vaccillations of opinion appear to have coincided roughly with social trauma, such as widespread plagues and wars. In recent times, one may note the revival of Malthusian conviction in response to bursts of population growth occurring after both World Wars, and predictions of over-population coinciding with sudden slumps in the growth rate. As quoted by Hutchinson, "The whole history of population thought shows that populations adjust to conditions more promptly than do writers on population."⁶ Apparent in the foregoing is the "optimum size" concept underlying opinion on population trends.

The concept was initially observed in Greek literature by Aristotle, and appeared in Plato's Laws.⁷ The magnitude of the optimum differed among writers, but the ideal condition was stability,

6. E. P. Hutchinson, The Population Debate (Boston: Houghton Mifflin, 1967), p. 2; quoted from Norman E. Himes, Medical History of Contraception (Baltimore: Williams and Wilkins, 1936), p. 417.

7. Ibid., p. 11.

which appears to have been logically linked to the relatively static quality of technology on the Greek mainland. Thomas Malthus' concern was not with optimum size, as such, but with departure from a reasonable balance between the number of labourers, and the absorptive capacity of the labour market. The implication was that population size will have grown too large when underemployment occurs and wages slide toward subsistence level. The pessimism of Malthus' Essay (1798) may have been occasioned by population growth in itself, but the Malthusian outlook, which had been enunciated by previous writers throughout the century certainly coincided with the trauma of urbanization which appeared to have been gaining momentum since the Tudor times. That is, urbanization had made the population more "visible" and the concentration of people had exceeded the absorptive capacity of urban technology. The optimum size concept was brought more clearly into focus by Edwin Cannan in 1888. While he pointed out that, at any time, there was an upper limit to the number of people that could be productively engaged upon a specified resource, no progress could occur without population growth.⁸ In other words, there also existed a lower limit beyond which infrastructural development, large-scale capital expenditure, and cultural achievement could not be sustained. The theme was later developed by Keynes who referred to the dangers of underemployment and reduced living standards on the plus side of the optimum, and industrial stagnation on the minus side.⁹

8. Ibid. pp. 385-391.

9. William Petersen, The Politics of Population (New York: Doubleday, 1964), pp. 46-71.

The continuing preoccupation with population size and change has been dealt with here because it is indicative of observed demographic fluctuations. The population may be considered then, to be undergoing a continual process of adjustment to changing conditions with each adjustment fostering additional alternatives, or perhaps correcting the problem for which the adjustment was made. While an analysis of factors underlying population change is beyond the scope of this paper, the trends described should be viewed as both responses and stimuli to shifts in social behavior patterns and in the labour-resource equation.

Brandon and its Sphere of Influence

The population of Brandon's Functional Area increased from 120,546 persons in 1951 to 127,208 persons in 1966, and declined by 7.4% to 117,823 persons by 1971. Growth in the area was attributable to the population increase in the urban sector, which comprised 28.5% of the area's population in 1951 and 41.6% in 1971. The rural sector declined in population size throughout the period, losing 16,233 persons between 1951 and 1971.

The pattern indicates a slowing down of urban growth trends, (Table 1, page 21). Brandon's population size increased by 20.4% during the first period, (1951-1956); 13.6% in the second period; 6.4% in the third period, and 3.9% in the final period, 1966-1971. The pattern is even more pronounced in the Market and Local Centres which experienced a 20.7% increase in population size during the first period. Growth dropped off sharply in the following period, and modest growth continued until the final period when a slight decrease occurred. In the rural sector the slow decline, established in the first

TABLE 1

POPULATION SIZE AND CHANGE FOR THE FUNCTIONAL AREAS
IN SOUTHERN MANITOBA, 1951-1971⁽¹⁾

	POPULATION SIZE					POPULATION CHANGE							
	1951	1956	1961	1966	1971	1951-1956		1956-1961		1961-1966		1966-1971	
						NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
Southern Manitoba	734,146	798,553	862,284	895,269	906,615	64,407	8.8	63,731	8.0	32,985	3.8	11,346	1.3
Winnipeg	356,813	412,248	475,989	508,759	540,262	55,435	15.5	63,741	15.5	32,770	7.9	31,503	6.2
Brandon	20,598	24,796	28,166	29,981	31,150	4,198	20.4	3,370	13.6	1,815	6.4	1,169	3.9
Regional Centres	25,181	29,460	35,240	38,942	39,891	4,279	17.0	5,780	19.6	3,702	10.5	949	2.4
Market and Local Centres	26,294	30,841	33,986	36,793	37,332	4,547	17.3	3,145	10.2	2,807	8.3	539	1.5
Total Urban Sector	428,886	497,345	573,381	614,475	648,635	68,459	16.0	76,036	15.3	41,094	7.2	34,160	5.6
Total Rural Sector	305,260	301,208	288,903	280,794	257,980	-4,052	-1.3	-12,305	-4.1	-8,109	-2.8	-22,814	-8.1
Brandon's Functional Area ⁽²⁾	120,546	126,445	126,714	127,208	117,823	5,899	4.9	269	.2	494	.4	-9,385	-7.4
Brandon	20,598	24,796	28,166	29,981	31,150	4,198	20.4	3,370	13.6	1,815	6.4	1,169	3.9
Market and Local Centres	13,808	16,662	16,939	18,066	17,919	2,854	20.7	277	1.7	1,127	6.7	-147	-8
Total Urban Sector	34,406	41,458	45,105	48,047	49,069	7,052	20.5	3,647	8.8	2,942	6.5	1,022	2.1
Total Rural Sector	86,140	84,987	81,609	79,161	68,754	-1,153	-1.4	-3,378	-4.0	-2,448	-3.0	-10,407	-13.2
Dauphin's Functional Area	45,603	44,418	42,872	42,138	38,732	-1,185	-2.6	-1,546	-3.5	-734	-1.7	-3,406	-8.1
Dauphin	6,007	6,190	7,374	8,655	8,891	183	3.1	1,184	19.1	1,281	17.4	236	2.7
Market Centre	1,055	1,173	1,368	1,617	1,753	118	11.2	195	16.6	249	18.2	136	8.4
Total Urban Sector	7,062	7,363	8,742	10,272	10,644	301	4.3	1,379	18.7	1,530	17.5	372	3.6
Total Rural Sector	38,541	37,055	34,130	31,866	28,088	-1,486	-3.9	-2,925	-7.9	-2,264	-6.6	-3,778	-11.9
Portage la Prairie's ⁽³⁾ Functional Area	24,419	28,750	29,008	28,914	28,231	4,331	17.7	258	.9	-94	-.3	-683	-2.4
Portage la Prairie	8,511	10,525	12,388	13,012	12,950	2,014	23.7	1,863	17.7	624	5.0	-62	-.5
Total Rural Sector	15,908	18,225	16,620	15,902	15,281	2,317	14.6	-1,605	-8.8	-718	-4.3	-621	-3.9
Steinbach's Functional Area	19,582	20,329	20,513	20,778	21,309	747	3.8	184	.9	265	1.3	531	2.6
Steinbach ⁽³⁾	2,155	2,688	3,739	4,648	5,197	533	24.7	1,051	39.1	909	24.3	549	11.8
Total Rural Sector	17,427	17,641	16,774	16,130	16,112	214	1.2	-867	-4.9	-644	-3.8	-18	-.1

TABLE 1

POPULATION SIZE AND CHANGE FOR THE FUNCTIONAL AREAS
IN SOUTHERN MANITOBA, 1951-1971⁽¹⁾

	POPULATION SIZE					POPULATION CHANGE							
	1951	1956	1961	1966	1971	1951-1956		1956-1961		1961-1966		1966-1971	
						NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
Swan River's Functional Area	14,373	14,374	14,573	14,402	12,860	1	0	199	1.4	-171	-1.2	-1,542	-10.7
Swan River ⁽³⁾	2,290	2,644	3,163	3,470	3,522	354	15.5	519	19.6	307	9.7	52	1.5
Total Rural Sector	12,083	11,730	11,410	10,932	9,338	-353	-2.9	-320	-2.7	-478	-4.2	-1,594	-14.6
Winnipeg's Functional Area	509,623	564,237	628,604	661,829	687,660	54,614	10.7	64,367	11.4	33,225	5.3	25,831	3.9
Winnipeg	356,813	412,248	475,989	508,759	540,262	55,435	15.5	63,741	15.5	32,770	6.9	31,503	6.2
Selkirk	6,218	7,413	8,576	9,157	9,331	1,195	19.2	1,163	15.7	581	6.8	174	1.9
Market Centres	11,431	13,006	15,679	17,110	17,660	1,575	13.8	2,673	20.5	1,431	9.1	550	3.2
Total Urban Sector	374,462	432,667	500,244	535,026	567,253	58,205	15.5	67,577	15.6	34,782	7.0	32,227	6.0
Total Rural Sector	135,161	131,570	128,360	126,803	120,407	-3,591	-2.7	-3,210	-2.4	-1,557	-1.2	-6,396	-5.0
TOTAL SOUTHERN MANITOBA REGION (excluding Winnipeg)	377,333	386,305	385,295	386,510	366,353	8,972	2.4	-1,010	-.3	1,215	.3	-20,157	-5.2

- (1) Rural Sector totals do not include population figures for unorganized territory or Indian Reserves.
(2) Brandon's Functional Area totals do not include the population of Riding Mountain National Park.
(3) In the Functional Areas of Portage la Prairie, Steinbach and Swan River, the Regional Centres comprise the entire urban sector populations.

period, gained momentum during the following 15 years. It is noted that, in the 1966-1971 period, the rate of decrease in the rural population appeared to have tripled. Caution should be used in interpreting the figures because an alteration in the boundary of Brandon during the period caused a relatively densely populated portion of the rural municipality of Cornwallis to be included within Brandon's city limits. The number of persons involved in the legal transference of population here has not been ascertained, and the portion of Brandon's numerical increase due to the boundary shift cannot be determined. If population changes in separate municipalities are considered, it is observed that the population in the R.M. of Cornwallis underwent substantial increases of 319 to 1,168 persons per five year period, up to the 1966-1971 period, when a decrease of 316 persons occurred. The aggregated population decrease in the rural sector, omitting the figures for Cornwallis, remains, however, quite high, at least double the population decrease in the previous period.

Dauphin and its Sphere of Influence

Dauphin's Functional Area has exhibited an increasing rate of decline in population size, interrupted during the 1961-1966 period when the population remained relatively stable. Unlike the Brandon Functional Area, Dauphin's sphere of influence has shown greater susceptibility to population changes in the rural sector because of the less urbanized character of the Area. In 1951, the urban population comprised 13.2% of the Area's population and 27.5% in 1971. While Dauphin's Functional Area has been urbanizing at a rate of about 3% per five-year period, reflecting continued growth in the urban sector, urban growth has been

unable to compensate for the numerical dominance of the rural area population. From 1956 to 1966, the urban sector increased rapidly in population size, relative to its previous performance with the rate of growth levelling off during the 1966-1971 period. Population decrease in the rural sector accelerated from 1951 to 1961, slowed down in the 1961-1966 period, regaining momentum in the 1966-1971 period.

In general, the population size of Dauphin's Functional Area declined by 6,871 persons between 1951 and 1971; the decrease may be attributed to the decline in the rural sector, which involved 10,453 persons. The loss, therefore was partially offset by a gain of 3,582 persons in the urban sector.

Portage la Prairie and its Sphere of Influence

The pattern of population change in the Portage la Prairie Functional Area corresponds somewhat to that observed in Brandon's sphere of influence, except that the diminishing growth trend was reversed in an earlier period, 1961-1966. From 1951 to 1956, the region experienced a significant population increase of 17.7%, with over half the numerical gain occurring in the rural sector. The Area's gain during the following period was less than 1%, and small decreases occurred during the 1961-1966 and 1966-1971 periods of -.3% and -2.4% respectively. After 1956, the population size in the rural sector began to decline; the rate of population loss however, has slowed down during the last two periods. This may suggest a trend toward stabilization of the rural population in the Portage la Prairie Functional Area. Again, losses in the rural sector were partially covered by substantial gains in the city of Portage la Prairie until 1961. In the 1961-1966 period,

the growth rate in the Regional Centre dropped to 5.0%, less than one-third of the rate during the previous period. The increase in the Regional Centre was unable to compensate for the rural decline. During the 1966-1971 period, the growth trend in the Regional Centre was also reversed, resulting in a slight population decrease, in the urban sector.

Steinbach and its Sphere of Influence

Population change in Steinbach's Functional Area has fluctuated during the 1951-1971 period. The growth rate dropped sharply between 1956 and 1961, but has increased gradually during the following two periods. From 1951 to 1971, the Area experienced a net gain of 1,727 persons. A small gain was observed in the rural sector during the initial period, followed by population decreases during successive periods. Rural population losses have, however, become smaller since 1961, with a very slight decrease of 18 persons during the 1966-1971 period. Although the urban population constitutes a relatively small proportion of the Area's total, (24.4% by 1971), growth in the Regional Centre has been significant and has offset all losses in the rural sector.

Swan River and its Sphere of Influence

In general, the change in population size in the Functional Area has been characterized by decline. Although a small increase occurred in the second five-year period, 1956-1961, a significant loss of 1,542 persons in the 1966-1971 period resulted in a net decrease of 1,513 persons from 1951 to 1971. The population size in the rural sector declined slowly until 1961, but losses became successively larger

thereafter. Growth in the Regional Centre remained vigorous until 1966, but because of its comparatively small population size in the Functional Area, the increases in the urban population have been unable to compensate for losses in the rural area. This was particularly true of the 1966-1971 period, when the rural decrease reached 14.6% per five-year period, and the urban gain dropped to 1.5%.

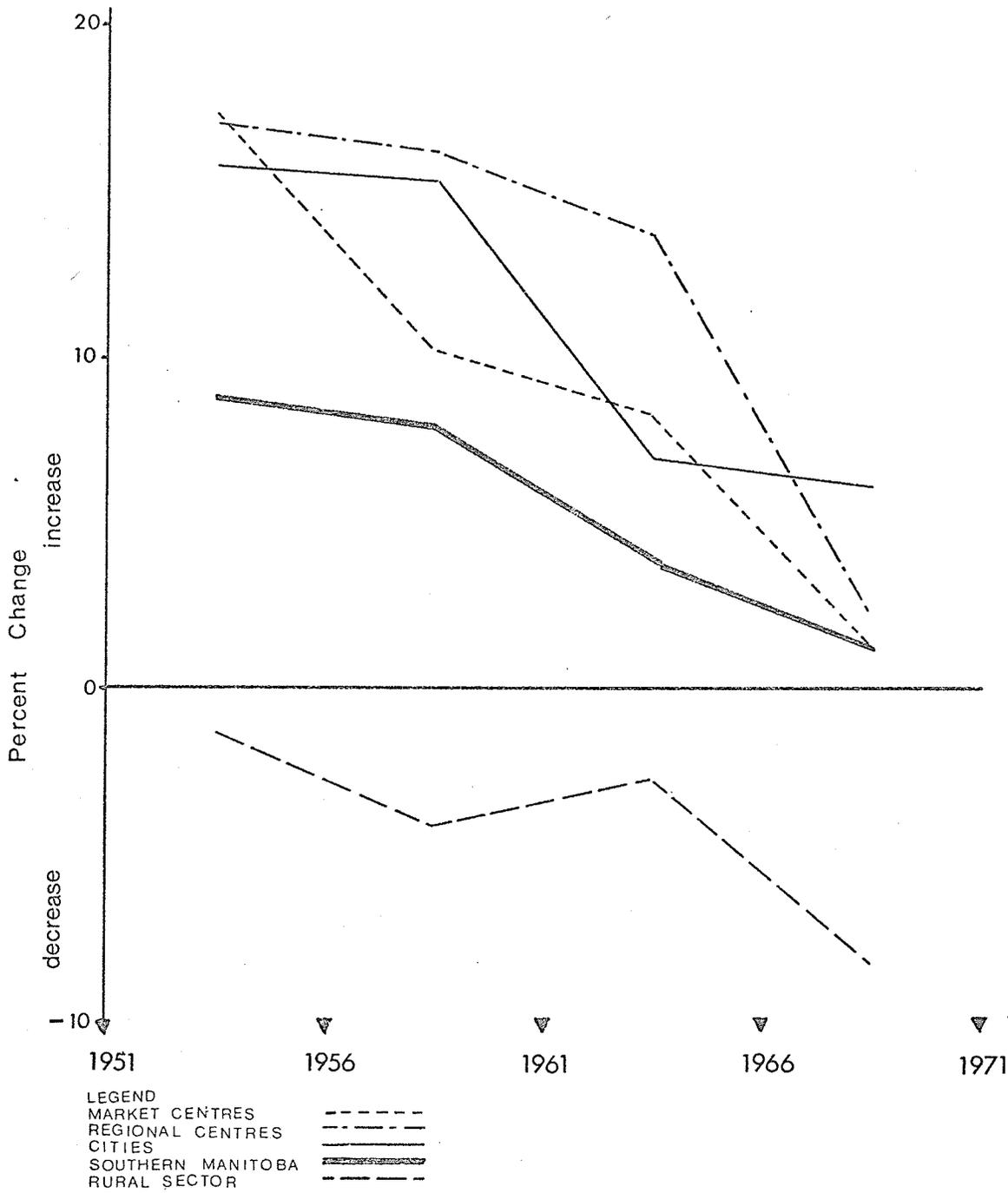
Winnipeg and its Sphere of Influence

Until 1961, the Functional Area experienced a reasonably high rate of growth, but population increase in the 1961-1966 period dropped to about half the rate of the previous period and continued low in the next period. From 1951 to 1971, the area experienced a net gain of 163,283 persons, all attributable to the population increase in Winnipeg, which offset a loss of 14,754 persons in the rural sector. The combined increase of the Regional Centre, Selkirk, and the Market Centres was 9,342 persons. If Winnipeg were taken out of the system, then a net loss of 5,232 persons would have occurred during the period.

The pattern of change corresponds to the general trend in Southern Manitoba: the rate of population increase in Winnipeg dropped sharply during the 1961-1966 period, and has declined gradually since. During the same period, population increase in the Regional Centres and Market Centres was reduced significantly but the subsequent decline in the growth rate has been more pronounced. Generally, population decline in the rural sector has shown a tendency to occur at a faster rate, but some notable fluctuations are observed from 1956-1966 when the rate of population decrease seemed to level off. (Figure 3, page 27).

PERCENTAGE CHANGE in POPULATION SIZE, Southern Manitoba, 1951-1971

fig. 3



2. COMPONENTS OF POPULATION CHANGE

2(a) Natural Increase

The natural population increase is defined as the increase that occurs during any given period, due to the number of births during the period, and accounting for the number of deaths occurring in the same interval. A natural increase of population then, takes place when the number of live births during the period is greater than the number of deaths during that time; conversely, a natural population decrease will be observed if the number of deaths exceeds the number of live births. In societies having access to modern medical technology, continued natural increase has been the general case because of the substantial reduction in the number of deaths during the past several decades. The natural increase may therefore be expected to expand because of the declining death rate. Thus, when an unusual variation in the natural increase of population occurs, the cause of change is sought in the number of live births that took place.

The distinctive characteristic of natural increase in the Southern Manitoba Region is its sharp decline during the 1951-1971 period, particularly in the smaller communities and the rural sectors. For the Southern Manitoba Region, excluding Winnipeg City, the natural population increase from 1951-1956 was 34,605 persons. During the 1966-1971 period the natural increase dropped to 14,546 persons, only 42% of the natural increase for the earlier period. (Table 2, page 29).

If the drop in natural population increase is measured from its peak period, 1956-1961, it is found that the natural

TABLE 2

NATURAL INCREASE BY FIVE YEAR PERIOD
FOR SOUTHERN MANITOBA, 1951-1971

	1951-1956	1956-1961	1961-1966	1966-1971
Southern Manitoba	65,061	66,658	61,466	44,315
Winnipeg	30,456	35,333	34,782	29,769
Urban Sector (without Winnipeg)	6,761	8,149	6,657	3,482
Rural Sector	27,844	23,176	20,027	11,064
Brandon's Functional Area	10,053	9,266	7,124	3,510
Urban Sector	2,903	3,521	2,551	1,167
Rural Sector	7,150	5,745	4,573	2,343
Dauphin's Functional Area	3,873	3,090	2,660	1,436
Urban Sector	553	544	496	303
Rural Sector	3,320	2,546	2,164	1,133
Portage la Prairie's Functional Area	2,689	2,761	2,219	1,068
Urban Sector	851	1,354	1,042	416
Rural Sector	1,838	1,407	1,177	652
Steinbach's Functional Area	2,123	1,967	1,828	1,252
Urban Sector	404	476	390	302
Rural Sector	1,719	1,491	1,438	950
Swan River's Functional Area	1,452	1,215	1,142	581
Urban Sector	224	340	330	165
Rural Sector	1,228	875	812	416
Winnipeg's Functional Area	44,871	48,359	46,493	36,468
Urban Sector	32,282	37,247	36,630	30,898
Rural Sector	12,589	11,112	9,863	5,570
SOUTHERN MANITOBA REGION (excluding Winnipeg)	34,605	31,325	26,684	14,546

increase declined in the entire urban sector by 57%; in Winnipeg City, by 16%; in Brandon, by 49%; in the Regional Centres (including Brandon), by 50%; and in the Market and Local Centres by 73%. Natural population increase in the rural area declined by 60% over the 20-year period.

For all urban and rural sectors of the Region, the most rapid decline in natural increase occurred during the final period, 1966-1971. In fact, the change in natural population increase during the 1966-1971 period accounts for over half of the numerical decline from peak period natural increase in the Southern Manitoba Region, including Winnipeg City.

Explanations of a reduction in natural population increase suggest alternative demographic changes underlying variations in population growth. These are changes occurring in:

- i) the death rate
- ii) the birth rate, ie., a change in the number of children being produced by each member of the population, and
- iii) the size and character of the base population, ie., a change in the number of population members who might produce children.

Obviously, a significant change in any one, or combination of the above factors could disrupt the natural population increase.

In the Southern Manitoba Region, the death rate is not considered to be an operative factor in the change in natural increase. Between 1951 and 1956, the number of deaths per 1000 population in Manitoba fluctuated between 8.8 and 8.0. The reasons underlying the drop in natural increase are associated with the birth factors.

As the preceding discussion on Population Size and Change in the Region, the base population of the urban sector has undergone

continuing increase, while the population of the rural sector has diminished over the 20-year period. It appears unlikely that the population change is in itself, sufficient to explain the entire decline in natural increase in the rural sector, and it does not, on the surface, relate to the similar decline in the urban sector. In considering the influence of the base population, however, the question being asked concerns the number of persons in the population who are likely to become parents. Of particular relevance then, is the age-sex composition of the Region's population. An inspection of the age structure in the Region indicates a slight aging of the population during the 1951-1966 period. For the total Region, excluding Winnipeg, 26.2% of the 1951 population was age 45 and over; by 1966, 29.8% of the population had reached this age group. More importantly the proportion of persons age 15-44 had dropped from 41.6% of the total population in 1951, to 35.8% in 1966. For the total Region, the number of females was not reduced since the decrease in the number of females in the rural sector was offset by the increase in the urban sector. The aging of the population was, however, evident in the urban sector, including Winnipeg, as well as in the rural area.

While it is probable that the change in the character of the base population has had some bearing on the rate of natural increase in the Region, of greater significance is the decline in the number of children being produced by each family. (Table 3, page 32). Between 1951 and 1971, the number of births per 1000 females in the Southern Manitoba Region, (excluding Winnipeg City), dropped from 52.9% to 31.9¹⁰

10. The birth rates for Southern Manitoba were calculated in terms of the number of females because it was expected that the imbalance of males and females in some parts of the Region would render the local birth rates incomparable with one another.

TABLE 3
 URBAN AND RURAL BIRTH RATES
 IN SOUTHERN MANITOBA, 1951-1971

	NUMBER OF BIRTHS PER 1000 FEMALES				
	1951	1956	1961	1966	1971
<u>Southern Manitoba</u>	50.0	52.6	48.6	34.9	32.8
Winnipeg	47.1	48.5	47.4	34.7	33.4
Brandon and Regional Centres	43.4	53.1	51.4	36.4	32.8
Market and Local Centres	52.5	54.3	52.3	35.5	30.1
Urban Sector (without Winnipeg)	46.8	53.5	51.7	36.1	31.9
Rural Sector	54.5	51.6	49.7	34.8	31.9
Regional Total (without Winnipeg)	52.9	52.0	50.2	35.2	31.9
<u>Brandon's Functional Area</u>	48.1	50.9	46.6	31.4	29.8
Brandon	43.8	50.4	47.5	34.3	32.3
Market and Local Centres	40.6	54.7	48.4	31.8	28.4
Urban Sector	42.5	52.1	47.8	33.4	30.9
Rural Sector	50.6	50.3	44.3	30.1	29.0
<u>Dauphin's Functional Area</u>	55.6	50.3	50.2	36.7	32.0
Dauphin	46.6	41.6	45.1	37.3	28.1
Market Centre	62.0	43.4	52.4	36.1	37.8
Urban Sector	48.9	41.9	46.2	37.1	29.7
Rural Sector	56.9	52.0	51.2	36.5	32.9
<u>Portage la Prairie's Functional Area</u>	47.7	56.0	53.0	35.4	33.6
Urban Sector	36.6	63.0	57.8	35.3	31.7
Rural Sector	54.3	51.6	49.1	35.5	35.4
<u>Steinbach's Functional Area</u>	58.4	51.4	54.0	43.1	37.4
Urban Sector	60.9	79.1	62.5	43.4	39.5
Rural Sector	58.0	46.6	51.9	43.0	36.6
<u>Swan River's Functional Area</u>	58.0	52.2	57.4	37.1	36.0
Urban Sector	20.9	57.0	68.5	41.6	37.8
Rural Sector	64.2	51.2	54.7	35.9	35.4
<u>Winnipeg's Functional Area</u>	49.4	49.6	48.6	35.1	33.1
Winnipeg	47.1	48.5	47.4	34.7	33.4
Selkirk	50.9	45.9	49.2	38.7	35.7
Market Centres	66.2	54.7	56.5	39.2	31.2
Urban Sector	47.7	48.6	47.8	34.9	33.4
Rural Sector	58.4	53.0	52.0	36.1	31.9
SOUTHERN MANITOBA REGION (excluding Winnipeg)	52.9	52.0	50.2	35.2	31.9

In Winnipeg City, the birth rate declined over the 20-year period by 13.7 births per 1000 females; in Brandon, by 11.5 births; and in the Regional Centres, by 10.6 births per 1000 females. A considerably greater change was observed in the birth rates of the Market and Local Centres, and in the rural sector, where the decline for the 20-year period was 22.4, and 22.6 births per 1000 females, respectively.

For the Functional Area served by the Cities and Regional Centres, the percentage decline in the birth rates were as follows for the 20-year period:

Brandon's Functional Area	38%
Dauphin's Functional Area	42%
Portage la Prairie's Functional Area	30%
Steinbach's Functional Area	36%
Swan River's Functional Area	38%
Winnipeg's Functional Area	33%

In all Areas, the greatest drop in the birth rate occurred in the rural sectors and the smaller Centres. Among the Regional Centres, Steinbach experienced the largest percentage decline (35%), but the actual birth rate here remains the highest among the Regional Centres. The lowest 1971 birth rates were observed in Dauphin and Portage la Prairie.

The pattern of change in Southern Manitoba birth rates differs in the urban and rural sectors. In the rural sectors of the Functional Areas served by Brandon, Dauphin, Portage la Prairie, and Winnipeg, the birth rates were found to be at their highest point in 1951, declining steadily to 1961, dropping sharply from 1961 to 1966, and falling off slowly to 1971. For the rural sectors served by Steinbach and Swan

River, there was a slight upward trend in the number of births (per 1000 females) between 1956 and 1961; otherwise, these areas followed the pattern prevailing in the remainder of the rural area. In the urban sector of the Region, the peak birth rates occurred in 1956 for Brandon and its Market and Local Centres, for Portage la Prairie, Steinbach, Winnipeg, and the Market Centres associated with the latter. The peak birth rates appeared five years later in Dauphin and its Market Centre; Swan River, and Selkirk. The abrupt drop in birth rates between 1961 and 1966 occurred for the entire urban sector of the Region, in a similar fashion to the decline in the rural area.

Changes in natural population increase that are due to a drop in the death rate may be easily associated with expanded medical technology which has reduced the incidence of infant mortality, fatal communicable disease, and so forth. Undoubtedly, medical technology has also facilitated the efforts of the population to regulate its rate of reproduction, but in attempting to determine why the population decides to limit its growth, one encounters a complex array of social, economic and cultural variables.

Speculation concerning inhibitions to population growth surrounded the Malthusian controversy during the 19th Century. Students of population had observed that, as growth continued, the means of sustaining it had improved to the point where the average labourer could be considered, at the time, to have been better off than he ever had been. It had been noted, moreover, that differentials in the birth rate coincided with material well-being; the poor were reproducing at a greater rate than the more well-to-do families. Among the first to distinguish a linkage between the reproduction rate and material security

was Adam Smith (Wealth of Nations, 1776) who observed that the more affluent families produced fewer children, possibly because they were confident that all their offspring would survive to adulthood. Impoverished families, however, had to contend with serious problems of infant mortality. The link was again made by John Burn in 1832, who noticed that increased productivity appeared to have a dampening effect upon population growth rates.¹¹ Robert Ingram stated that an effective check on population growth was the family's fear of falling into impoverishment as a result of having too many children to support.¹² Among early American economists, Daniel Raymond and George Tucker postulated that the progress of civilization engendered a desire for possessions and amenities considerably beyond those that were essential to survival, and that the threat of having to curtail the consumption of these superfluous things would inhibit further reproduction.¹³

With respect to the natality characteristics of the Southern Manitoba Region, there is little doubt that living standards are undergoing improvement. There is some question as to whether incomes, particularly in the rural areas, have increased sufficiently to create much expansion in the consumption of luxuries, but the population is exposed more than ever, to the spectacle of rising consumption in North American generally, and there could be a corresponding desire among the people to participate in it.¹⁴

11. Hutchinson, Population Debate, p. 183.

12. Ibid., p. 325.

13. Ibid., p. 317

14. As measured in constant dollars, rural incomes increased by 1% between 1967 and 1971, (see page 45).

Apart from rising expectations, is the likelihood of change in the traditional values and attitudes concerning family size. While the writer is not aware of a study of such attitudes in the Prairies, the results of some American surveys, conducted between 1936 and 1971, might be mentioned here: of persons interviewed in 1945, 49% expressed a favourable attitude to large families (four or more children); the number who shared this attitude in 1971 constituted 23%. In 1971, more than 90% of the respondents thought population increase was a problem and over half of the sample thought that family size should be limited. Forty-five percent were of the opinion that the number of children in a family should not exceed two; while 56% thought that if a family desired more than two children, it should adopt them.¹⁵

Although the reasons underlying the decline in the Southern Manitoba birth rate cannot be specified, coincident characteristics of the Region could be cited:

- the continuing mechanization of agricultural production and the accompanying contraction of acceptable employment possibilities in the rural areas;
- the rise in the participation rate of married Canadian females in the labour force from 11.2 in 1951 to 31.2 in 1969;
- the evident requirement of rural children for increasingly sophisticated and costly education, offered away from the home locality; and
- the possibility that a general change in life styles in the Region has dictated a preference for smaller families.

An important factor was the post-war 'baby-boom' which is reflected in the high birth rates at the beginning of the period. In a number of Western countries the decline in birth rates following the 'baby-boom'

15. Ehrlich and Ehrlich, Population Resources Environment, pp.321-324.

was underway between the mid-1950's and the early 1960's.¹⁶ This could explain the sharp drop in the Southern Manitoba reproduction rates from 1961 to 1966. The slower pace of decline after 1966 accords with the long-term trends observed in Western society. It may be noticed that the response to the 'baby-boom' was less marked in the rural sector of the Region; this has been found to be the case in other countries.¹⁷ An unusual characteristic of Southern Manitoba, however, is that the rural birth rates in four of the six Functional Areas have dropped below the urban birth rate, and for the Region as a whole, the rural birth rates have not exceeded the urban rates since 1956.

2(b) Net Migration

Over the 1951-1971 period, migration in the Southern Manitoba Region, including Winnipeg, is estimated to have effected a net re-distribution of over 65,000 persons. Apart from the obvious consequences of migration: a decrease in the population at the place of origin, and an increase in population at the destination, migration is likely to influence the natural population increase in the localities involved, the social climate, the infrastructure, and economic development. In re-distributing individuals, migration also re-distributes their future offspring, their social habits, their skills, and re-allocates as well, economic activity, capital, and tax revenues. As an example of the economic re-allocation involved, the migrant proceeding from

16. Dennis Wrong, Population and Society (New York: Random House), p.49.

17. Ibid., p. 70.

Community A, takes with him an investment in human capital, represented by the expenses incurred by Community A in his education; he settles in Community B, where he pays his taxes and contributes his labour to the economic productivity in B.

While net migration flows into and out of places in the Region can be estimated with relative ease, the dearth of information about the migrants themselves dictates the unfeasibility of adapting theoretical migration models to movement in Southern Manitoba. For example, gravity models, which postulate migration to be a function of P_a population size (mass) at the place of origin and d_{ab} , distance (between the origin and destination),

$$\text{or } M_{ab} = \frac{P_a}{d_{ab}} \cdot k,$$

can be tested only if a and b, the origin and destination are known. The same problem arises with respect to models dealing with intervening events, (opportunities or obstacles) in the path of the migrant, as hypothesized by Samuel Stouffer and Everett Lee.¹⁸

Some reference might be made, however, to the migration Typology developed by William Petersen who postulated four classes of migration: Primitive, Forced/Impelled, Free, and Mass.¹⁹ Each of the classes may be typed as Conservative or Innovative, depending upon the phenomena occurring as a result of the movement. It is the last two classes, Free and Mass, that are of interest to us here. Petersen

18. Walter Isard, Methods of Regional Analysis (Cambridge: M.I.T. Press), 1960, p. 538.
Everett S. Lee, "A Theory of Migration", Demography, 3 (1966) pp. 47-57.

19. Petersen, The Politics of Population, pp. 271-290.

describes Free migration as arising out of the relationship between "man and his norms", the motivating principle is "higher aspirations". In its innovative aspect, it is a pioneering movement; its conservative type is group migration. Free migration blazes the trail for Mass migration, which is generated by "collective behavior". The motive force here is social "momentum", and the related types of migration are "settlement" (conservative), and "urbanization" (innovative).²⁰ Although the Typology appears to have been intended for application to earlier migratory trends a partial correspondence to the Southern Manitoba trend is possible.

The pattern of migration for Southern Manitoba shows the development of momentum and the establishment of Mass migration. In the 1951-1956 period, only 654 persons were estimated to have left the Region; the volume of out-migration increased rapidly over the following ten years and seemed to be reaching an asymptote at a high level, (Table 4, page 40). Migration into Brandon and Winnipeg dropped off after 1961, suggesting that the more "innovative" migrants were ranging further afield. Migration into smaller Centres continued until five years later; this indicated the possibility of a more "conservative" mass movement that was distributing people into familiar Centres near their places of origin. (We may make a broad assumption that the "Free" innovators had foresaken these destinations at some earlier time period). After 1961, migration into the combined smaller Centres ceased, but migration into Winnipeg began again. Net migration into Brandon was negligible, but the possibility exists that rural migrants into Brandon were replacing

20. Ibid., p. 288.

TABLE 4

ESTIMATED NET MIGRATION BY FIVE YEAR PERIOD
FOR SOUTHERN MANITOBA, 1951-1971

	1951-1956	1956-1961	1961-1966	1966-1971
Southern Manitoba	-654	-2,965	-28,481	-32,969
Winnipeg	+24,979	+28,408	-2,012	+1,734
Brandon	+2,416	+1,097	-13	+21
Regional Centres (1)	+1,702	+2,494	+824	-674
Market and Local Centres	+2,145	+555	+856	-172
Urban Sector	+31,242	+32,554	-345	+909
Rural Sector	-31,896	-35,519	-28,136	-33,878
SOUTHERN MANITOBA REGION (excluding Winnipeg)	-25,633	-31,373	-26,469	-34,703
Brandon's Functional Area	-4,154	-8,997	-6,630	-12,895
Brandon	+2,416	+1,097	-13	+21
Market and Local Centres	+1,733	-971	+404	-166
Urban Sector	+4,149	+126	+391	-145
Rural Sector	-8,303	-9,123	-7,021	-12,750
Dauphin's Functional Area	-5,058	-4,636	-3,394	-4,842
Dauphin	-254	+738	+856	-30
Market Centre	+2	+97	+178	+99
Urban Sector	-252	+835	+1,034	+69
Rural Sector	-4,806	-5,471	-4,428	-4,911
Portage la Prairie's Functional Area	+1,642	-2,503	-2,313	-1,751
Urban Sector	+1,163	+509	-418	-478
Rural Sector	+479	-3,012	-1,895	-1,273
Steinbach's Functional Area	-1,376	-1,783	-1,563	-721
Urban Sector	+129	+575	+519	+247
Rural Sector	-1,505	-2,358	-2,082	-968
Swan River's Functional Area	-1,451	-1,016	-1,313	-2,123
Urban Sector	+130	+179	-23	-113
Rural Sector	-1,581	-1,195	-1,290	-2,010
Winnipeg's Functional Area	+9,743	+15,970	-13,268	-10,637
Winnipeg	+24,979	+28,408	-2,012	+1,734
Selkirk	+534	+493	-110	-300
Market Centres	+410	+1,429	+274	-105
Urban Sector	+25,923	+30,330	-1,848	+1,329
Rural Sector	-16,180	-14,360	-11,420	-11,966

(1) The migration estimate for Brandon is not included here with the estimate for the combined Regional Centres.

residents that were leaving the city. In other words, "conservative" migration may have been following the route into the Cities. The comparison of migration volumes for Southern Manitoba, described elsewhere in this paper, indicate that between 1951 and 1961, a small number of migrants were estimated to have left the Province. After 1961, the number had swelled to nearly 60,000 persons; in other words, the inter-Provincial routes established by the Free group prior to 1961, were being chosen by increasing numbers of the Mass migrants.

It is recognized that the partial adaptation of migration models, even one as broad as Petersen's Typology, is tenuous. Until the initial attempt has been made to determine the Actual, as opposed to the Net, numbers of persons who are migrating, and their destinations, the treatment of the subject will remain superficial.

Southern Manitoba

During the 1951-1971 period, there was a net out-migration from the non-Winnipeg area of Southern Manitoba 129,429 persons, distributed rather evenly over the period, although out-migration during 1956-1961 and 1966-1971 was slightly heavier, (Table 4, page 40). If Winnipeg City is considered to be part of the system, then the Regional total out-migration becomes 65,069, because of heavy in-migration to Winnipeg between 1951 and 1961. In-migration to the Region's urban sector continued from 1951 to 1966, over half of the total in-migration occurring during the 1951-1956 period. In-migration to the urban sector declined to 1966, and was followed by net out-migration during the 1966-1971 period. Heavy rural out-migration was characteristic of the

Region during all four periods; the greatest volume of out-migration occurred during the 1956-1961 period, followed by the lowest rate of out-migration during the 1961-1966 period.

Brandon and its Functional Area

During the 20-year period, Brandon received 3,521 in-migrants, nearly all of them in the first two periods, 1951-1956 and 1956-1961. Over the following ten years, stability was experienced, with a net in-migration of eight persons. For detailed estimates of migration by Functional Area, the reader is referred to Table 6, Appendix B.

The performance of the Market and Local Centres was, owing to the small size of the populations involved, rather erratic. Net in-migration of 1,733 persons took place during the first period, followed by net out-migration involving 971 persons during the second period. This was due chiefly to heavy migration out of Minnedosa and Virden. Net in-migration of 391 persons occurred between 1961 and 1966, and a net loss of 145 persons in the 1966-1971 period, this latter caused by heavy out-migration from Rivers. Continued net in-migration occurred in Boissevain, Killarney, and Carberry, while trends in Minnedosa and Virden fluctuated widely with out-migration in some periods being offset by in-migration in others. Net out-migration of 37,197 persons from the rural sector occurred between 1951 and 1971. The general trend was toward heavier out-migration in each successive period, although out-migration dropped from 9,123 to 7,021 persons between 1961 and 1966. The rural migratory trend was dominant in the Functional Area, with the outward flow of migrants being partially compensated for by the net urban gains.

Dauphin and its Functional Area

During the 20-year period, the Regional Centre of Dauphin gained 1,310 migrants, all net in-migration taking place between 1956 and 1966. Net out-migration during the 1966-1971 period was only 11% of the volume occurring between 1951 and 1956, but it is doubtful that a trend to stabilization is indicated, since the heaviest in-migration had taken place during the preceding period (1961-1966). The Market Centre of Roblin experienced stability during the 1951-1956 period and continuing net in-migration in the following 15 years. Roblin's net gain was largest between 1961 and 1966 (as was the case in Dauphin), and in the 1966-1971 period dropped back to its 1956-1961 level. Out-migration from the rural sector continued throughout the 20-year period, declining somewhat during the 1961-1966 period. Because of the volume of rural out-migration, a net loss of migrants in Dauphin's Functional Area was sustained throughout the 20-year period.

Portage la Prairie and its Functional Area

The Regional Centre of Portage la Prairie experienced in-migration from 1951-1961, with a total net gain of 1,672 persons over the 10-year period. Approximately 70% of the net in-migration took place between 1951 and 1961. The trend was reversed after 1961 and a total net out-migration of 869 persons was estimated for the 1961-1971 period. Net in-migration of 479 persons occurred in the rural sector between 1951 and 1956, followed by a net loss of 3,012 out-migrants in the next period. Over the 1961-1971 period, out-migration had occurred, but at a decreasing rate. For the Functional Area, in general, the rate of out-migration has been slowing down since 1961.

Steinbach and its Functional Area

Steinbach Regional Centre had a net gain of 1,470 in-migrants throughout the 1951-1971 period, but the volume of in-migration has been decreasing since 1961. Although a total net out-migration of 6,913 persons was estimated between 1951 and 1971, the rate of out-migration has been dropping rapidly since 1961.

Swan River and its Functional Area

In-migration to the Regional Centre of Swan River increased from 130 in 1951-1956 to 179 persons between 1956 and 1961. A small net out-migration of 23 persons occurred in the following period, and a net loss of 113 out-migrants was incurred between 1966 and 1971. Migration from the rural sector continued throughout the 20-year period at an average rate of 1,519 out-migrants per 5-year period. For the Functional Area, the net out-migration estimate is 5,903 persons between 1951 and 1971, with a trend toward increasing out-migration after 1956.

Winnipeg and its Functional Area

Net in-migration to Winnipeg City increased over the first ten years from 24,979 in 1951-1956 to 28,408 during 1956-1961. A net out-migration of 2,012 persons occurred in the following five-year period and in-migration resumed between 1966 and 1971, but at a greatly reduced rate, 1734 persons during the last five-year period. Net in-migration to Selkirk Regional Centre declined from 534 persons between 1951 and 1956, to 493 persons in the following five-year period. A trend to increasing out-migration was evident in Selkirk during the 1961-1966 period, with an estimated net loss of 110 persons, and 300 persons from

1966 to 1971.

Net in-migration to the Market Centres increased by nearly 250% from 410 persons to 1,429 between 1951 and 1961, the gain being attributable to expanded volumes of net in-migration to Winkler, Stonewall, Morden, Altona, and Beausejour. Between 1961 and 1966 net in-migration to the Market Centres dropped to 274 persons. Beausejour and Gimli were the only communities experiencing increases in in-migration; in other Market Centres, in-migration either continued at a reduced volume, or out-migration occurred. Low net out-migration was estimated for the Market Centres collectively from 1966 and 1971. Winkler, Morden, and Carman were the only Market Centres receiving in-migrants during the period. In the rural sector, out-migration continued over the 20-year period but at a decreasing rate, suggesting the possibility of stabilization.

In the attempt to determine reasons why population movement occurs, frequent use is made of the 'push-pull' concept of migration, that is the assumption that individuals and groups migrate because they are either 'pushed' out of the home territory by an unfavourable situation there, or else they are 'pulled' away from it by the attractions in the area of destination. Factors contributing to the force of migratory 'push' and 'pull' are generally classified as economic and cultural in nature.²¹ While the motives underlying migration in Southern Manitoba have not been formally investigated, certain features of the Region's development may be involved in the movement of population:

21. Economic and cultural factors produce voluntary migration. In addition to these, demographers identify factors that produce forced migration, which is associated with wars and natural disasters, as well as the compulsory migration arising out of government decree, such as mass deportation and 'ghetto-ization'.

- a) Between 1951 and 1966, the number of census farms in Southern Manitoba was reduced by 23% or 11,869 farms.²² This entailed a 25.7% reduction in the census farm population, representing 54,444 persons, some of whom moved away from farms, and others who died during the period and were not replaced.
- b) While the average farm size increased by 39.1%, the number of persons per farm dropped from 4.2 in 1951 to 4.1 in 1966. The number of census farms with annual sales less than \$2,500 was reduced by 35% in the five-year period between 1961 and 1966.
- c) In 1961, the average wage in the Regional Centres was 11% lower than that of Winnipeg City; wages in the communities of population size 500+ were, on the average, 22% lower than Winnipeg's, and in the rural sectors 32% lower.²³ Similarly, the number of net in-migrants between 1951 and 1961, was highest in Winnipeg and lowest in the Market Centres, while the rural areas experienced net out-migration.
- d) Between 1961 and 1971, the correspondence of migration and income becomes unclear. During the 1961-1971 period, the largest volume of net in-migration was to the Market Centres and the Local Centres. The Regional Centres received a smaller number of in-migrants, despite the fact that the average income of the Regional Centres was 10% higher than that of the Market Centres and two Local Centres.²⁴

22. Regional Analysis Program, Descriptive Data, Part 1A (Manitoba; 1971), p. 381; and Dominion Bureau of Statistics.

23. Ibid., pp. 314-328.

24. Data on wages for the 1961-1971 period are not available. Incomes by tax return were examined instead. The figures were derived from

Winnipeg City, with an average income 25% higher than the Market Centres, experienced net out-migration. It would appear that other factors were becoming important inducements to migration.

- e) After 1966, there was very little change in average incomes in the Region. Between 1967 and 1971, Winnipeg's average income (as measured in constant dollars) increased by 12%, while the average income in the Regional Centres underwent a 7% increase.²⁵ The Market Centres and rural sectors experienced a relatively static situation with respect to average incomes, having increases of 3% and 1%, respectively. The important fact is that incomes in some parts of the Region did not rise as fast as incomes in other areas, and that this created an increasing disparity in material advantage among Winnipeg, the remaining Centres, and the rural sectors. The small size of the overall change in incomes might also be related to the increasing out-flow of migrants from Manitoba, generally.

Although the foregoing discussion has emphasized some of the economic aspects associated with migration, it is not assumed that they are of primary importance to all migrants. It is frivolous to suggest that individuals would migrate to places where they would be unable to obtain a livelihood but, at the same time, the cultural factors should not be under-estimated. As mentioned previously, during the 1961-1971 period the correspondence of the net migration pattern in Manitoba to

the Regional Analysis Program, Descriptive Data, Part 1A, pp. 288-299 and the Department of National Revenue, Taxation Branch, unpublished material, 1966-1970.

25. The average incomes were converted to 1961 collars by means of the Statistics Canada Consumer Price Indexes, Regional Cities, 1962-1971, Table II. It was assumed that consumer prices in the Region were the same as those in Winnipeg.

income, becomes difficult to interpret. In the absence of supporting data, it becomes necessary to consider the increasing importance of cultural factors during the 1961-1971 period.

Because of the dearth of research on changing cultural values and life styles in the Southern Manitoba Region, it would be impossible to cite conclusively the range and impact of cultural variables. Certain possibilities could, however, be suggested:

Among nations of advanced economic attainment, a new cultural factor in migration is emerging. More and more moves are being inspired by the 'amenities' - those physical, recreational, and social attractions that draw affluent migrants in quest of more nearly ideal living conditions. Quite possibly, the nature of such pleasurable places may vary from country to country and from one culture to another.²⁶

In a study conducted by J. A. Abramson (Rural to Urban Adjustment, 1968), rural migrants in Saskatchewan gave the following reasons for moving:

- to improve the family's standard of living, (41% of the group);
- to provide their children with 'better educational opportunities' (31%);
- to avoid the worries associated with rural life, (23%).

Additional motives stated were: to obtain better access to medical facilities (particularly for elderly migrants); to improve access to secondary schools and other training institutions; and considerations concerning 'social contact'.²⁷

-
26. Wilber Zelinsky, A Prologue to Population Geography (New Jersey: Prentice-Hall, 1966), p. 44.
27. J. A. Abramson, Rural to Urban Adjustment (Ottawa: Dept. of Forestry and Rural Development, 1968).

The application of the 'push-pull' concept to culturally induced migration is somewhat simpler than in the case of economically determined migration. For the latter, it is difficult to ascertain whether the migrant is 'pulled' by higher paying jobs available in the intended destination, or 'pushed' by low income and the absence of employment opportunities in the place of origin. It would be necessary to discover the minimum level of income acceptable to the migrant, and to determine whether job opportunities existed, and whether the migrant were aware of them. Lacking this information, it is possible to assume that when the heaviest in-migration occurs in areas having the higher wages and incomes, the migrants have been subject to a migratory 'pull'. This may have been the case in Southern Manitoba up to 1961. (It is recognized of course that an explanation in terms of economic 'pull' may not be applicable to the migration of certain groups, such as retired persons and students.) Where the volume of in-migration does not correspond to the relative size of wages and incomes, it becomes necessary to assume that:

- a) the migrants are responding to economic 'push', such as a lack of employment opportunities, and are migrating wherever they can obtain jobs, or
- b) the migrants have been motivated by non-economic considerations.

For culturally induced migration the migratory 'pull' is assumed for those communities offering a wider range of services and a higher standard of amenity, this latter being defined by the cultural values of the population involved. Where net out-migration occurs from an area in which the level of service and amenity is judged to be reasonable, or 'average' for the Region, the 'pull' factor may be assumed to

be operative. If the flow of migrants is from an area where the range of services and standard of amenity is judged to be unacceptable, or significantly 'below average' for the Region, then it is possible that a migratory 'push' is in force.

An obvious problem in classifying migration according to the 'push-pull' of economic and cultural factors is that the underlying motives become over-simplified. For example, the migrant may perceive an economic or cultural 'push' in the place of origin, but in selecting among alternative destinations, his choice is likely to be determined by the attractiveness or 'pull' that a particular destination has for him. Similarly, it is difficult to sort out the economic and cultural factors according to their importance in migration. Where the potential migrant and his family are faced with the necessity of travelling considerable distances to utilize cultural facilities, the migrant may perceive the problem as one of economic strain resulting from transportation costs. He may choose to migrate to a destination that offers a higher income, but he is unlikely to accept the highest income alternative if it involves migrating to a community in which cultural facilities are absent.

3. THE DYNAMICS OF POPULATION CHANGE IN SOUTHERN MANITOBA, 1951-1971

3(a) The Distribution of the Share in Growth

Because the overall demographic picture in Southern Manitoba tends to be dominated by the reduction of the rural population size, the areas of growth in the Region have been obscured in the foregoing discussion. The purpose here is to examine the total growth in the Functional Areas, and to identify the contribution of each sector to the total population increase, net natural increase, and total in-migration.

Total population increase was calculated by summing population changes only for those places showing an actual population increase. 'Total' increase differs from the population increase referred to elsewhere in this paper, which is 'net' increase, that is, the increase in an area after the decreases have been accounted for. The 'total' increase was used here in order to prevent any sectors' contribution to growth yielding a percentage greater than 100, since the purpose of the investigation is simply to show each sectors' share in the area's growth. 'Total' in-migration was computed in the same way, considering only those places where net in-migration occurred. (Elsewhere in this paper, the migration figures used represent 'net' migration for the area or community grouping, that is, in-migration minus out-migration.)

In general, the size of the total increase diminished over the 20-year period in the Functional Areas. For all Functional Areas the largest contribution to total increase was made by the Cities, Regional Centres, excepting Selkirk, and 100% of the total increases occurred in the combined urban sectors

during the 1956-1971 period. Between 1951 and 1971, progressively larger shares of the total increase went to most of the Cities and Regional Centres, as shown below.

<u>Cities and Regional Centres</u>	<u>Share of Total Population Increase in the Functional Area</u>	
	<u>1951-1956</u>	<u>1966-1971</u>
Brandon	59.5%	64.5%
Dauphin	60.8%	63.4%
Portage la Prairie	46.5%	no increase
Steinbach	71.4%	100.0%
Swan River	100.0%	100.0%
Selkirk	2.1%	.5%
Winnipeg	95.2%	97.1%

The figures show that, in Brandon's Functional Area, 59.5% of the total Area's increase took place in Brandon. It may be noted that, because Winnipeg City is included in the system, Selkirk's share in population growth remains small.

Since all of the total increase between 1956 and 1971 took place in the urban sector, the share of the Market and Local Centres has declined slightly:

<u>Location of Market and Local Centres</u>	<u>Share of Total Population Increase in the Functional Area</u>	
	<u>1951-1956</u>	<u>1966-1971</u>
Brandon's Functional Area	40.5%	35.5%
Dauphin's Functional Area	39.2%	36.6%
Winnipeg's Functional Area	2.7%	2.4%

Considered in terms of the net natural increase, the rural sectors have experienced a larger share of the total increase than the urban sectors, with the exception of the rural sector in Winnipeg's Functional Area where the percentage share in natural increase

appears small because it has been compared with that of Winnipeg City. In numerical terms, however, the size of the natural increase in Winnipeg's rural sector is considerably larger than those of the other Regions. (See Table 2, page 27). While the rural share has diminished, due to the rapid decline in the rural birth rate, it has remained significantly high in all Functional Areas:

<u>Location of Rural Sector</u>	<u>Share of Net Natural Increase in the Functional Area</u>	
	<u>1951-1956</u>	<u>1966-1971</u>
Brandon's Functional Area	71.1%	66.8%
Dauphin's Functional Area	85.7%	78.9%
Portage la Prairie's Functional Area	68.4%	61.0%
Steinbach's Functional Area	81.0%	75.9%
Swan River's Functional Area	84.6%	71.6%
Winnipeg's Functional Area	28.0%	15.3%

With few exceptions, the urban sectors in the Southern Manitoba Region gained 100% of the total in-migrants to the Functional Areas.²⁸ During the 1951-1961 period, the Cities and Regional Centres claimed the largest share of in-migrants to the Functional Areas, but the data suggest that the Market and Local Centres became increasingly competitive in their ability to attract migrants and their share of the Area's total in-migrants increased substantially during the 1961-1971 period.

28. During the 1951-1956 period Portage la Prairie's rural sector gained 29.2% of the Area's in-migrants. For Functional Areas in which no in-migration was estimated for the 5-year period, the share of in-migrants to the urban sectors has been recorded as zero.

<u>Cities and Regional Centres</u>	<u>Share of Total In-Migration to Functional Area</u>			
	<u>1951-1956</u>	<u>1956-1961</u>	<u>1961-1966</u>	<u>1966-1971</u>
Brandon	58.2%	74.4%	0	3.0%
Dauphin	0	88.4%	82.8%	0
Portage la Prairie	70.8%	100.0%	0	0
Steinbach	100.0%	100.0%	100.0%	100.0%
Swan River	100.0%	100.0%	0	0
Selkirk	2.0%	1.6%	0	0
Winnipeg	96.0%	93.3%	0	79.5%

<u>Location of Market and Local Centres</u>	<u>Share of Total In-Migration to Functional Area</u>			
	<u>1951-1956</u>	<u>1956-1961</u>	<u>1961-1966</u>	<u>1966-1971</u>
Brandon's Functional Area	41.8%	25.6%	100.0%	97.0%
Dauphin's Functional Area	100.0%	11.6%	17.2%	100.0%
Winnipeg's Functional Area	2.0%	5.1%	100.0%	20.5%

As shown above, the total in-migration to Brandon's Functional Area, 1951-1956, was shared by the City of Brandon and its Market and Local Centres with 58.2% of the total going to Brandon and 41.8% going to the Market and Local Centres. During the 1966-1971 period, only 3% of the in-migrants went to Brandon, and the remaining 97% went to the Market and Local Centres.

In Dauphin's sphere of influence, all of the in-migration was gained by the Market Centre (Roblin) during the first period. In the following two five-year periods, Dauphin Regional Centre improved its position gaining over 80% of the total in-migration to the Functional Area. During the final period, all in-migration to the Functional Area was gained by Roblin Market Centre.

In the sphere of influence served by Portage la Prairie, the Regional Centre claimed 70.8% of the in-migrants to the Functional Area during the first period; the remainder went to the rural sector; and in the 1956-1961 period, all of the in-migrants were received by the Regional Centre. During the 1961-1971 period there was net out-migration from both Portage Regional Centre and the rural sector.

All in-migration to Steinbach's Functional Area went to Steinbach Regional Centre, between 1951 and 1971. In the sphere of influence served by Swan River, all of the net in-migrants went to the Regional Centre during the first two periods; after 1961, there was no net in-migration in the Swan River Functional Area.

In Winnipeg's Functional Area the Selkirk Regional Centre received 2% of the total in-migration to the Area between 1951 and 1956, 1.6% in the following period, and experienced net out-migration during the remainder of the period under study. Winnipeg City gained 96% of the total in-migration to the Functional Area in the first (1951-1956) period; but in the final period, the Winnipeg's share had declined to 79.5% of the total in-migration. Between 1951 and 1971, however, the Market Centres' share of the total in-migration rose from 2% to 20.5%.

3(b) The Relation of Natural Increase and Migration in Effecting
Population Change in Southern Manitoba

The consideration of population change in Southern Manitoba and, in fact, most agricultural areas in North America, is frequently associated with the terms 'rural depopulation', the

'rural exodus' and 'the rural-urban shift', all of these connotating large scale rural migration into urban places. It is suggested here that, while migration has been a major factor in the re-distribution occurring in the Southern Manitoba Region, it presents only half of the picture. The magnitude of recent change in the Region's population is due to the fact that the increase in out-migration coincided with a significant decline in the natural population increase.

Brandon and its Sphere of Influence

Net out-migration from the Functional Area fluctuated over the 20-year period, rising sharply between 1956 and 1961, and again in 1966 and 1971. (Figure 4, page 57). Although the natural increase declined steadily from 1951, it remained large enough to compensate for the area's out-migration until 1966. During the 1966-1971 period, however, the five-year natural increase dropped to about 50% of its previous level, while out-migration reached its peak volume. This resulted in a change from the slow growth trend prevailing from 1951 to 1966, to one of total population decline. About 39% of the population loss in the 1966-1971 period may be attributed to the decline in natural increase during this period.²⁹

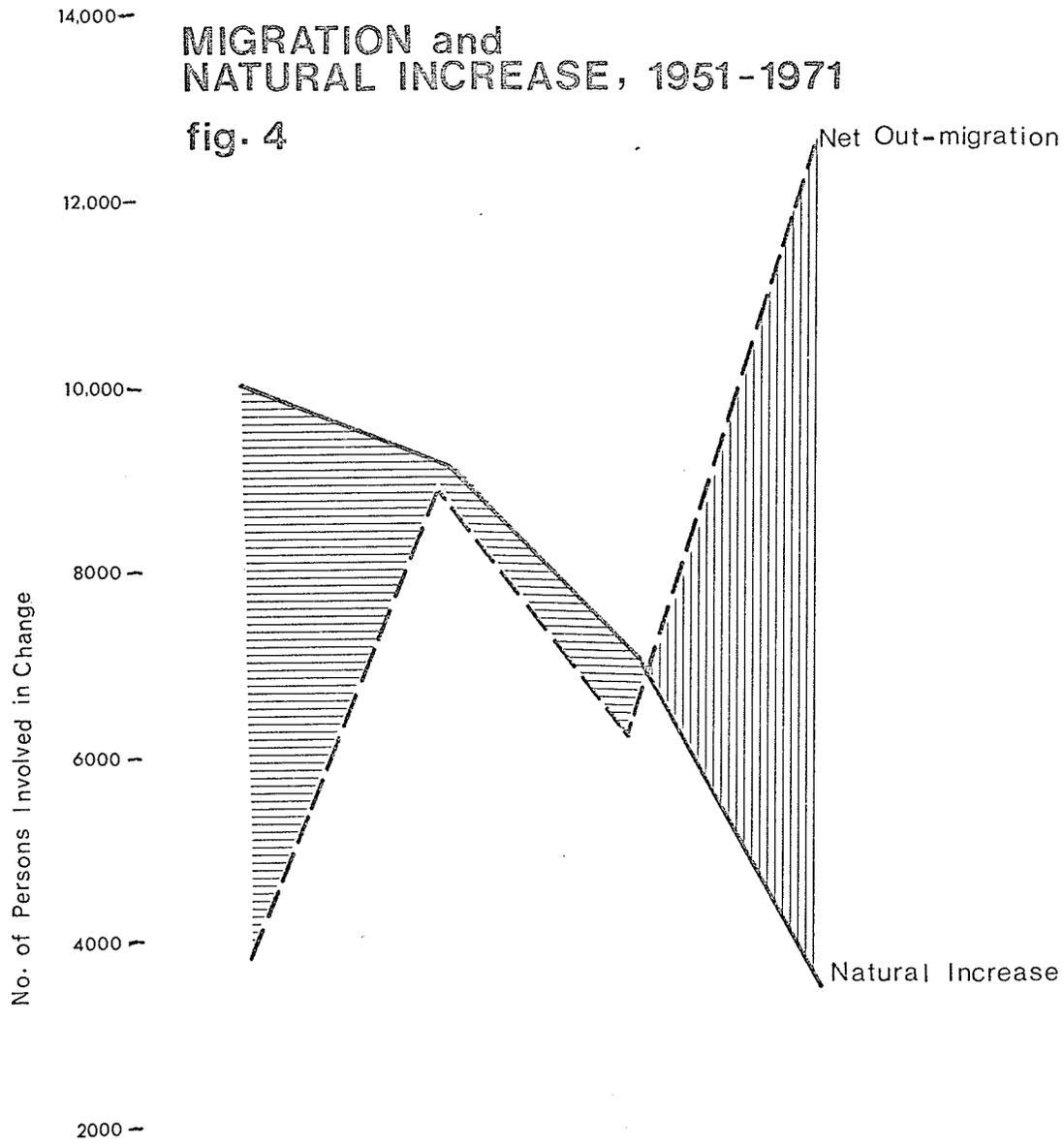
Dauphin and its Sphere of Influence

Throughout the 1951-1971 period, natural increase in the Functional Area remained insufficient to compensate for the Area's net

29. Had the 5-year natural increase remained at its 1961-1966 level, it is estimated that the net population loss in the Functional Area would have been reduced from 9,385 persons to 5,771 persons.

MIGRATION and NATURAL INCREASE, 1951-1971

fig. 4



zero population change

1951 1971

Size of population gain 

Size of population loss 

Brandon's Functional Area

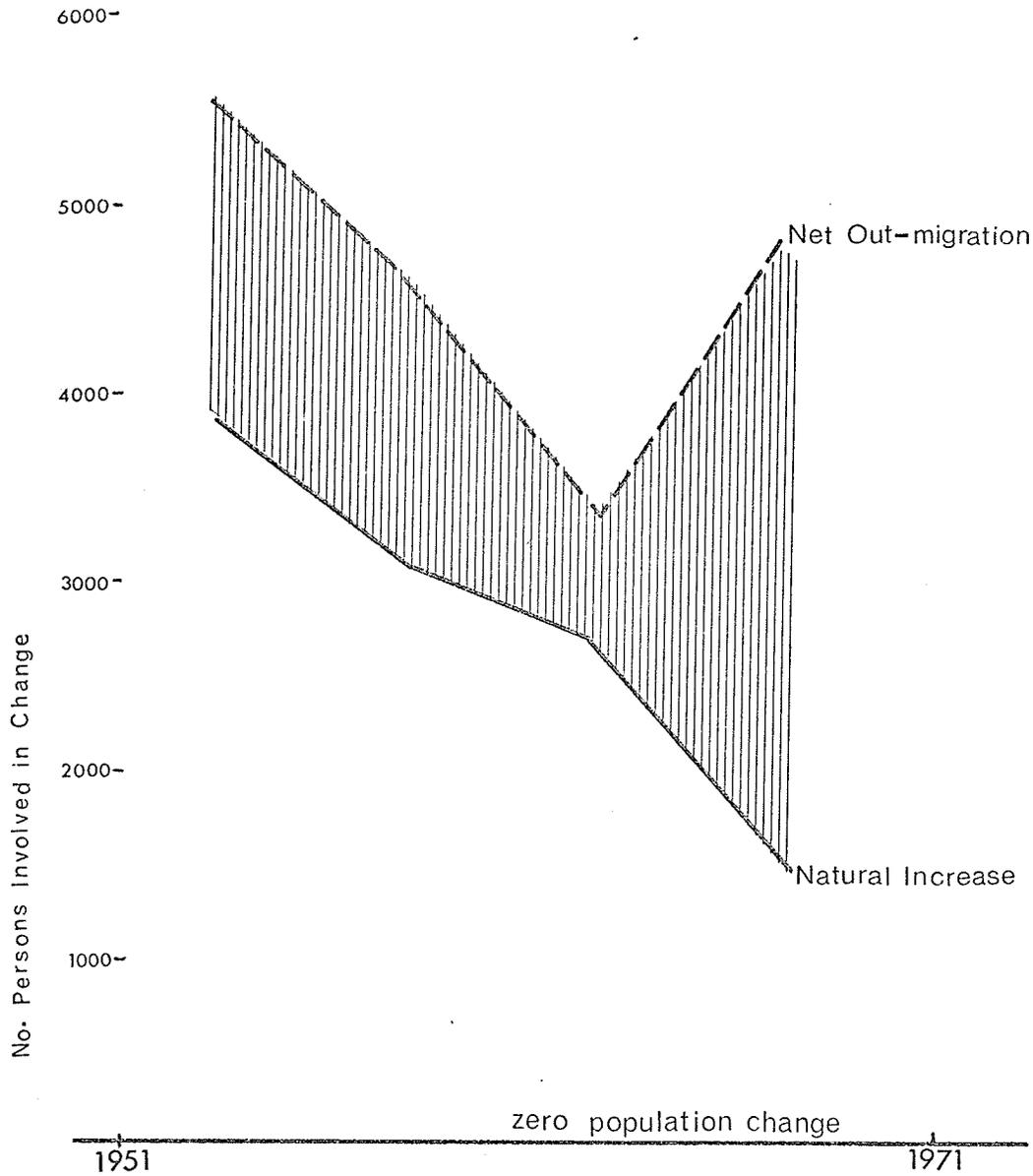
out-migration (Figure 5, page 59). The volume of out-migration from the Functional Area continued to decrease in size during the 1951-1961 period, with the rate of natural increase declining more slowly; this produced a relatively small population loss of 734 persons during the 1961-1966 period. Had the trends continued, it is possible that net population loss would have ceased during the 1971-1976 period. After 1966, however, there was an increase in out-migration to 96% of its 1951-1956 level, while the five-year natural increase fell off sharply to 54% of its 1961-1966 level. The net effect was the change in population decrease from 734 persons (in 1961-1966) to 3,406 persons (in 1966-1971). Thirty-six percent of the population decrease may be considered due to the drop in the natural increase after 1966.

Portage la Prairie and its Sphere of Influence

During the 1951-1956 period, natural increase and in-migration effected a total increase in the population, as shown in Figure 6, page 60). In the following period, out-migration occurred, but the natural increase remained high enough to produce a continued, but smaller population increase.

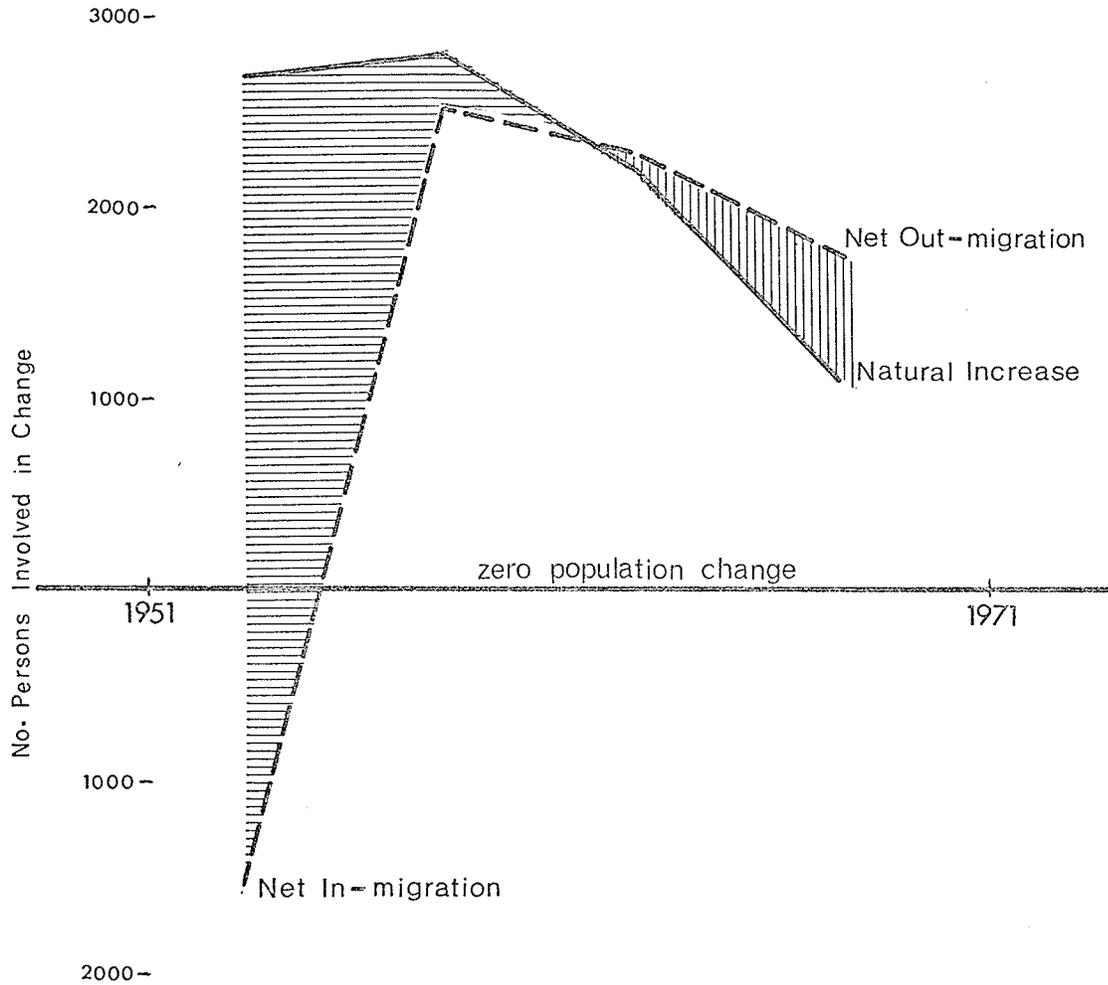
After 1961, out-migration began to decline, but the natural increase also dropped to the point where it was unable to compensate for the out-flow of population. During the 1966-1971 period, the natural increase was less than half of its level in the previous five-year period. Because the rate of out-migration was declining, the drop in natural increase figured largely in the population decrease in the Functional Area since 1961.

MIGRATION and NATURAL INCREASE, 1951 - 1971



Dauphin's
Functional Area
fig. 5

MIGRATION and NATURAL INCREASE, 1951-1971



Portage la Prairie's
Functional Area
fig. 6

Steinbach and its Sphere of Influence

Between 1951 and 1971, the natural increase in the Functional Area declined by 41%, but remained sufficiently large to compensate for out-migration and to produce a continued population increase in the Area. (Figure 7, page 62).

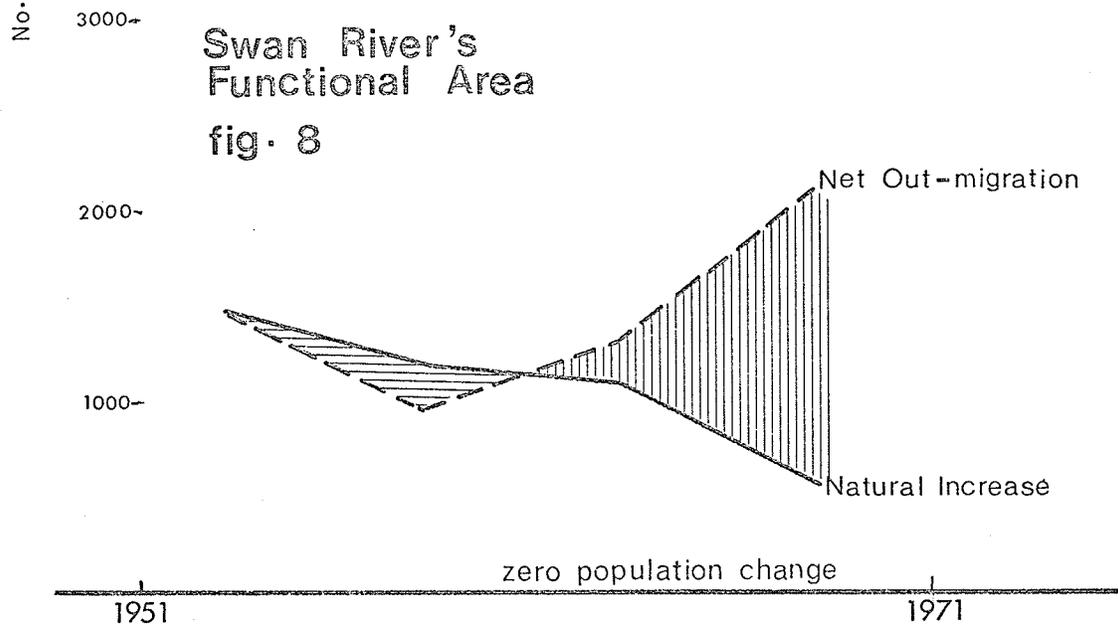
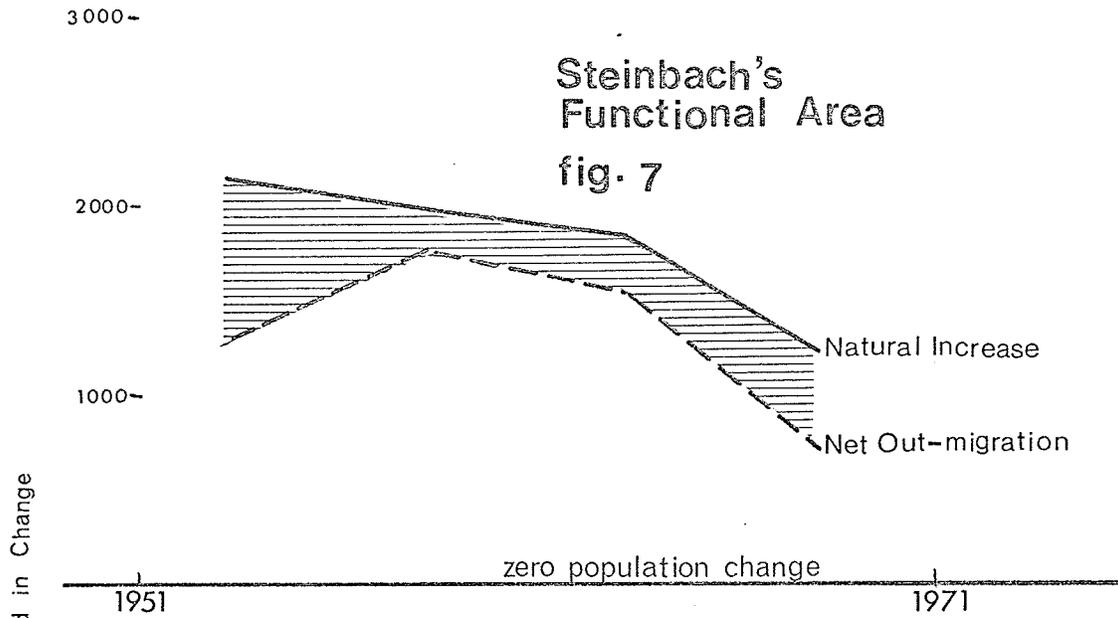
Swan River and its Sphere of Influence

In the 1951-1956 period, the size of the natural increase in the Functional Area and the volume of out-migration coincided, resulting in the maintenance of the population size in the Area. (Figure 8, page 62). During the following ten years out-migration declined and natural increase dropped from the 1951-1956 levels, with the net effect on population change balancing out over the ten-year period. In 1961, natural increase fell below the level necessary to maintain population size in the Area, and continued to drop to 40% of its 1951-1956 level. Out-migration increased by 46% of its 1951-1956 volume, the total result being a substantial population decrease in the 1966-1971 period, 36% of which may be attributed to the decline in natural increase during the final five-year period.

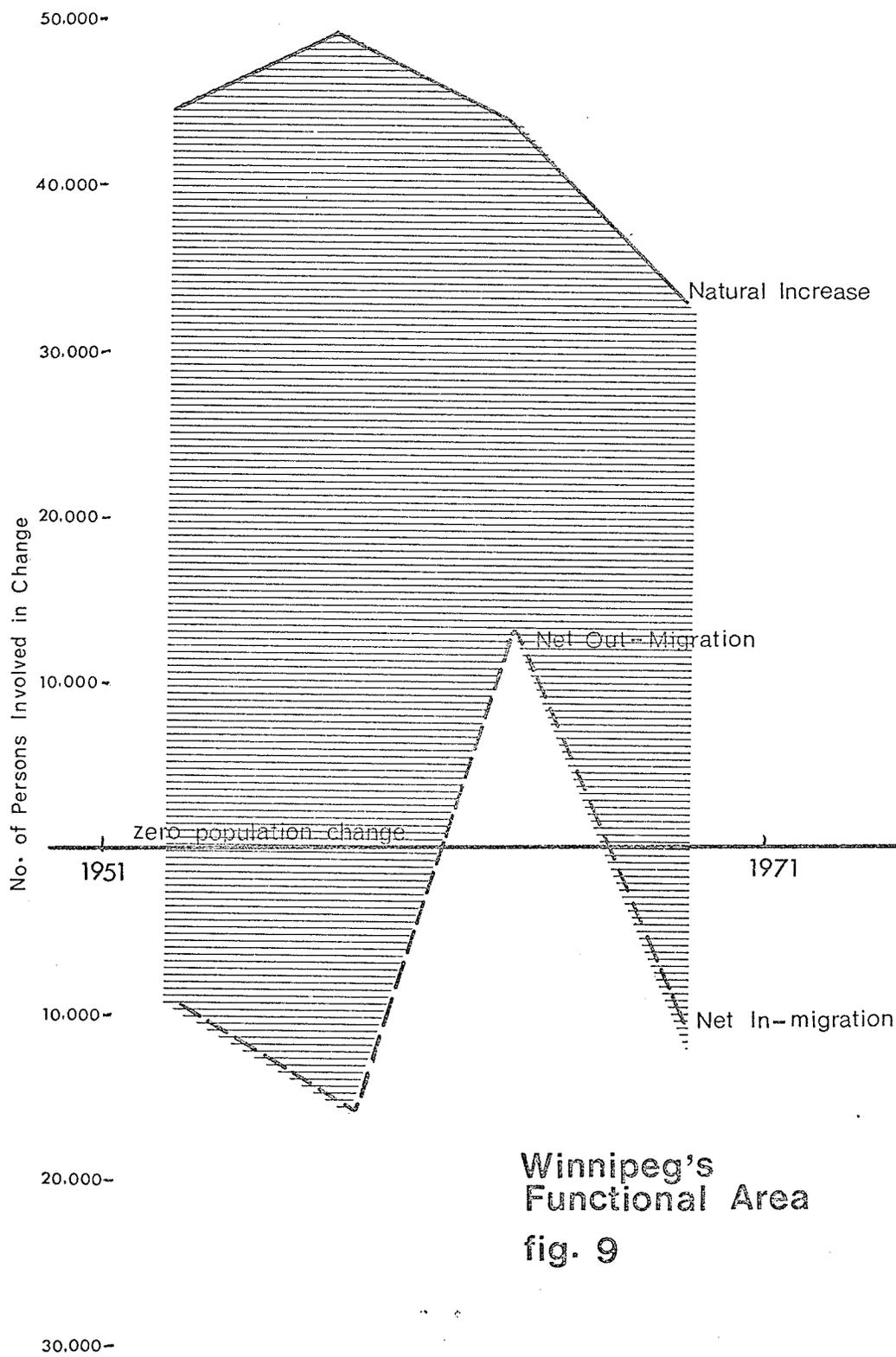
Winnipeg and its Sphere of Influence

Throughout the 20-year period, the level of natural increase in the Functional Area (including Winnipeg City) declined by 19% from its 1951-1956 level. The Area, however, experienced net in-migration in all periods, excepting 1961-1966, so that the total population size continued to increase. (Figure 9, page 63). Considering the urban sector without Winnipeg City, the natural increase rose over the first

MIGRATION and NATURAL INCREASE, 1951-1971



MIGRATION and NATURAL INCREASE, 1951-1971



15 years, and net in-migration occurred until 1966. While the level of natural increase dropped sharply in the final period (1966-1971), it remained high enough to sustain a net population increase in the urban sector; the increment was, however, much smaller (35% of the previous five-year increase). In the rural sector of Winnipeg's Functional Area, net out-migration declined during the 20-year period but the rate of natural increase fell off more sharply, resulting in a continued decrease in population size. The drop in natural increase from its 1961-1966 level is estimated to account for 67% of the net population decline during the 1966-1971 period.

3(c) Natural Increase, Migration, and Population Change in the Cities and Centres of Southern Manitoba

The purpose of the following discussion is to investigate the relative importance of natural increase and migration in contributing to population growth in the Cities, Regional, Market and Local Centres. For each of the Centres, the portions of the total population growth attributable to natural increase and migration were identified and compared, on a percentage basis, for each five-year period between 1951 and 1971. Because the incidence of natural decrease (more deaths than births) was rare for any five-year period, 100% of the net population losses were, in most cases, attributable to migration. In general, it was observed that over the latter part of the 1951-1971 period, natural increase had assumed major importance in changing population growth in the Cities and Centres of Southern Manitoba. (Table 5, page 65).

TABLE 5

THE CONTRIBUTIONS OF NATURAL INCREASE AND MIGRATION TO POPULATION CHANGE
IN THE FUNCTIONAL AREAS OF SOUTHERN MANITOBA, 1951-1971

ABBREVIATIONS: Net Change - Net change in population size
N.I. - Natural Increase
M. - Net Migration

		1951-1956			1956-1961			1961-1966			1966-1971 ⁽¹⁾			
		NET CHANGE	GAIN DUE TO N.I. (%)	GAIN DUE TO M. (%)	NET CHANGE	GAIN DUE TO N.I. (%)	GAIN DUE TO M. (%)	NET CHANGE	GAIN DUE TO N.I. (%)	GAIN DUE TO M. (%)	NET CHANGE	GAIN DUE TO N.I. (%)	GAIN DUE TO M. (%)	LOSS DUE TO M. (%)
<u>Brandon's Functional Area</u>														
City	Brandon	+4,198	42.4	57.6	+3,370	67.4	32.6	+1,815	100.0	-	+1,169	98.2	1.8	
Market Centres	Boissevain	+100	96.0	4.0	+188	64.4	35.6	+170	45.3	54.7	+33	-	100.0	
	Killarney	+172	31.4	68.6	+295	9.5	90.5	+107	-	100.0	+238	-	100.0	
	Minnedosa	+221	75.6	24.4	-95	-	-	+94	100.0	-	+316	12.0	88.0	
	Neepawa	+214	76.6	23.4	+88	100.0	-	+32	100.0	-	-14	-	-	0
	Russell	+127	73.2	26.8	+36	100.0	-	+248	35.5	64.5	+15	100.0	-	
	Souris	+175	57.7	42.3	+82	91.5	8.5	-12	-	-	-155	-	-	62.6
	Virден	+1,479	18.4	81.6	-517	-	-	+225	55.6	44.4	-110	-	-	100.0
Local Centres	Carberry	+153	20.3	79.7	+48	22.9	77.1	+152	22.4	77.6	+40	-	100.0	
	Rivers	+213	67.1	32.9	+152	100.0	-	+111	100.0	-	-510	-	-	100.0
Market and Local Centres		+2,854	39.3	60.7	+277	100.0	-	+1,127	64.2	35.8	-147	-	-	0
Urban Sector		+7,052	41.2	58.8	+3,647	96.5	3.5	+2,942	86.7	13.3	+1,022	100.0	-	
Rural Sector		-1,153	-	-	-3,378	-	-	-2,448	-	-	+10,407	-	-	100.0
<u>Dauphin's Functional Area</u>														
Regional Centre	Dauphin	+183	100.0	-	+1,184	37.7	62.3	+1,281	33.2	66.8	+236	100.0	-	
Market Centre	Roblin	+118	98.3	1.7	+195	50.3	49.7	+249	28.5	71.5	+136	27.2	72.8	
Urban Sector		+301	100.0	-	+1,379	39.4	60.6	+1,530	32.4	67.6	+372	81.5	18.5	
Rural Sector		-1,486	-	-	-2,925	-	-	-2,264	-	-	-3,778	-	-	100.0
<u>Portage la Prairie's Functional Area</u>														
Regional Centre	Portage la Prairie	+2,014	42.3	57.7	+1,863	72.7	27.3	+624	100.0	-	-62	-	-	100.0
Rural Sector		+2,317	72.3	20.7	-1,605	-	-	-718	-	-	-621	-	-	100.0

THE CONTRIBUTIONS OF NATURAL INCREASE AND MIGRATION TO POPULATION CHANGE
IN THE FUNCTIONAL AREAS OF SOUTHERN MANITOBA, 1951-1971

		1951-1956			1956-1961			1961-1966			1966-1971			
		NET CHANGE	GAIN DUE TO N.I. (%)	GAIN DUE TO M. (%)	NET CHANGE	GAIN DUE TO N.I. (%)	GAIN DUE TO M. (%)	NET CHANGE	GAIN DUE TO N.I. (%)	GAIN DUE TO M. (%)	NET CHANGE	GAIN DUE TO N.I. (%)	GAIN DUE TO M. (%)	LOSS DUE TO M. (%) (1)
<u>Steinbach's Functional Area</u>														
Regional Centre	Steinbach	+533	75.8	24.2	+1,051	45.3	54.7	+909	42.9	57.1	+549	55.0	45.0	
Rural Sector		+214	100.0	-	-867	-	-	-644	-	-	-18	-	-	
<u>Swan River's Functional Area</u>														
Regional Centre	Swan River	+354	63.3	36.7	+519	65.5	34.5	+307	100.0	-	+52	100.0	-	
Rural Sector		-353	-	-	-320	-	-	-478	-	-	-1,594	-	-	100.0
<u>Winnipeg's Functional Area</u>														
City	Winnipeg	+55,435	55.0	45.0	+63,741	55.4	44.6	+32,770	100.0	-	+31,503	94.5	5.5	
Regional Centre	Selkirk	+1,195	55.3	44.7	+1,163	57.6	42.4	+581	100.0	-	+174	100.0	-	
Market Centres	Altona	+260	83.5	16.5	+328	66.2	33.8	+103	100.0	-	-7	-	-	100.0
	Beausejour	+147	90.5	9.5	+247	82.2	17.8	+444	43.2	56.8	+22	100.0	-	
	Carman	+17	100.0	-	+46	80.4	19.6	-8	-	-	+108	56.5	43.5	
	Gimli	+336	67.3	32.7	+181	100.0	-	+421	58.7	41.3	-221	-	-	100.0
	Morden	+375	51.2	48.8	+556	29.5	70.5	+304	59.5	40.5	+169	52.7	47.3	
	Morris	+67	100.0	-	+110	100.0	-	-31	-	-	+60	100.0	-	
	Stonewall	+70	98.6	1.4	+310	15.8	84.2	+157	65.6	34.4	+6	100.0	-	
	Winkler	+303	47.5	52.5	+89	16.9	83.1	+41	100.0	-	+413	22.8	77.2	
Market Centres		+1,575	74.0	26.0	+2,673	46.5	53.5	+1,431	80.9	19.1	+550	100.0	-	
Urban Centres														
	Including Winnipeg	+58,205	55.5	44.5	+67,577	55.1	44.9	+34,782	100.0	-	+32,227	95.9	4.1	
	Excluding Winnipeg	+2,770	65.9	34.1	+3,836	49.9	50.1	+2,012	91.8	8.2	+724	100.0	-	
Rural Sector		-3,591	-	-	-3,248	-	-	-1,557	-	-	-6,396	-	-	100.0

(1) The percent net loss due to migration has been calculated for the 1966-1971 period because of the occurrence, in some cases, of natural decrease in the population; that is, the number of births during the interval dropping below the number of deaths.

Brandon and its Market and Local Centres

During the first period (1951-1956), in-migration to Brandon was the more important component of change, and accounted for 57.6% of the City's growth; the remaining 42.4% of the population increase was attributable to natural increase. The roles of the components were switched during the following period, with 67.4% of Brandon's growth due to the natural increase. By 1971, 98.2% of the City's population change was attributable to natural increase, while in-migration accounted for 1.8% of the growth during the five-year period.

The case was similar for the Market and Local Centres, where in-migration was the largest contributor to growth (58.8% of the Centres' growth) only in the first period (1951-1956). After 1966, 100% of growth in the Centres was attributable to natural increase. Throughout the 20-year period, however, in-migration has continued as a relatively important factor in population growth in Boissevain, Killarney, Russell, and Carberry.

Dauphin and its Market Centre

During the first and final five-year periods (1951-1956 and 1966-1971) all population growth in Dauphin was due to natural increase. In-migration was the major growth component in the Regional Centre between 1956 and 1966, accounting for over 60% of Dauphin's population increase. The Market Centre, Roblin, provided an exception to the general case, relying more heavily for its growth upon in-migration during each successive five-year periods. In the 1951-1956 period, in-migration accounted for only 1.7% of Roblin's population increase. By 1971, 72.8% of the growth in Roblin was attributable to in-migration and

27.2% to natural increase.

Portage la Prairie, Steinbach, and Swan River Regional Centres

During the 1951-1956 period, over half the population increase in the Portage la Prairie Regional Centre was due to in-migration. Thereafter, Portage la Prairie was largely dependent upon natural increase for its growth.

In-migration made a relatively minor contribution to population increase (24.2%) in the Steinbach Regional Centre during the 1951-1956 period, but assumed increasing importance over the following ten years accounting for over 50% of the Centre's growth. In-migration continued to be a significant growth factor during the 1966-1971 period, comprising 45% of the population increase in Steinbach.

Generally, the Swan River Regional Centre has relied upon natural increase for population growth. In-migration accounted for over a third of Swan River's population growth until 1961, but made no measurable contribution thereafter.

Winnipeg, Selkirk and their Market Centres

Until 1961, in-migration accounted for about 45% of Winnipeg's population growth. After that time, population increase in the City was almost totally dependent upon natural increase which comprised 100% of the population growth during the 1961-1966 period and 94.5% of the increase in the final period (1966-1971). Over 40% of the population increase in the Selkirk Regional Centre was attributable to in-migration until 1961. After this point, natural increase was responsible for 100% of the population growth in the Regional Centre. In-migration and

natural increase have varied in their significance in the growth of the Market Centres. During the 1951-1956 period 74% of the population increase in the Market Centres was ascribed to natural increase, but in the following period, in-migration accounted for over half of the total growth. After 1961, natural increase re-emerged as the dominant factor, contributing 80.9% of the total population increase, and 100% of the increase during the 1966-1971 period. Throughout the 20-year period, Winkler has been relatively dependent upon in-migration for its growth. In-migration has also been a significant factor in Morden's population increase, and seems to be increasing in importance in Carman's growth.

The foregoing provides evidence on the nature of the rural-urban shift in the Southern Manitoba Region, during the 1951-1971 period. From 1951 to 1956, the rural areas suffered population loss due to out-migration while the urban population increased, owing a substantial portion of its growth to in-migration. For this period, it is feasible to assume that rural out-migrants were settling in the Cities, Regional, Market, and Local Centres in the Region. An examination of the total net migration estimates for the Region revealed that 31,896 persons left the rural area between 1951 and 1956, while 6,263 persons migrated into the Regional, Market, and Local Centres, and 24,979 entered Winnipeg City. Assuming the rural-urban shift, it appeared that, of the total rural out-migrants in Southern Manitoba, 78% went to Winnipeg, and 20% to the Region's Centres, leaving 654 persons (2%) of the rural out-migrants, who either migrated to Northern Manitoba or left the Province.

The pattern of population growth in the Cities and Centres during 1956-1961 indicated a diminishing, but still a significant tendency for population increase to occur as a result of in-migration. Assuming again, that the 35,519 rural out-migrants entered the urban sector of the Region, 80% of them were estimated to have gone to Winnipeg City, 12% to the remaining Centres, and 8% to the northern part of the Province, or elsewhere.

After 1961, the rural-urban shift explanation becomes unsatisfactory in its application to migration within Southern Manitoba. Between 1961 and 1966, 28,136 persons are estimated to have left the rural sector, but Winnipeg City also experienced net out-migration during the period, and the remaining Centres appear to have retained only 6% of the rural out-flow. In the 1966-1971 period, 33,878 persons migrated from the rural areas, 5% of whom could have gone to Winnipeg City, but none to the remaining Centres, which experienced small net out-migration during the period. One of two alternative conclusions may be drawn here:

- 1) that the rural out-migrants, as well as the out-migrants from Winnipeg and the Urban Centres, went to Northern Manitoba and other provinces. Possibly, the rural out-migrants went to cities outside the Region, in which case the rural-urban shift was still operating, but on an inter-provincial level.
- 2) that the rural out-migration into the urban sector of the Region was accompanied by urban out-migration to places outside the Region, and that the rural migrants replaced persons who were leaving Winnipeg and the Centres. The assumption of the rural-urban shift is still possible, but, as in the above case, there are no data to support it.

If the Regional migration estimates are compared with those for the Province, it would appear that the 8% of rural out-migrants, between 1951 and 1961, who cannot be accounted for, left Manitoba. After 1961, the out-migration from Southern Manitoba exceeds the Provincial out-migration by 1,631 persons; it may be presumed that these went to Northern Manitoba, while the remaining 59,819 persons left the Province.

The evidence suggests that, until 1961, the rural-urban shift was a contributing factor to the population growth of the Cities and Centres in Southern Manitoba. After 1961, the rural-urban shift was no longer operating to the benefit of the urban sector generally, although there are exceptions. Expansion of the urban population during the latter ten years was largely due to natural increase, and the rural migrants, if they did, in fact, go to urban places within the Region, merely compensated for the urban out-migration from the Province.

4. SOME IMPLICATIONS FOR PLANNING

While data on population changes in the Region distinguish centres that are growing, declining, or stable, the information is not very helpful unless the relative importance of natural increase and migration is also identified. A community that owes most of its decline to out-migration is likely to have a set of needs quite different from those of a community in which the drop in natural increase has played a significant role. Similarly, the centre whose growth has been derived chiefly from in-migration is probably experiencing a type of development unlike that of a community in which natural increase has been the dominant factor. In each case, changes in the age structure, the rate of household formation, family characteristics, and the accompanying alterations in the communities' economic and social activity are indicated.

A presenting problem of planning for communities in transition is found in the set of values and attitudes which underly the planning process itself and has been a determining factor in structuring the technical apparatus of the discipline. The difficulty in coping constructively with stable and declining communities may be attributed to the belief, engendered by the historical development of North America, that growth is the only acceptable condition and that "boom" periods are natural, healthy phenomena. When planning is undertaken then, it is often done with the assurance that growth will continue, or that it should occur as a result of the planning effort. (Witness, for example, the optimism evident in many community zoning maps.)

The problems of the growing community are, therefore, more readily answerable from the planner's repertory of alternatives, and the difficulties are better tolerated within the community because of the notion that progress consists of "things getting bigger and better." The same value operates in the negative for stable and declining communities, to exacerbate the problems of transition.

While the planning function is reasonably well-equipped to deal with problems created by population increase, this is true only of sustained increase over a long period. Both planner and politician may be comforted by the fact that each newcomer to the community will eventually help to pay for the rising level of services that will have to be provided. Growth in many of the Centres of Southern Manitoba, however, has been erratic. Of the 22 urban Centres that experienced population increase between 1951 and 1961, only 13 continued to expand during the 1961 - 1971 period. One Centre (Virden) underwent trend reversals of substantial magnitude in every five-year period, and the diminishing increment in the "sustained increase" Centres indicates that a number of these may reach a state of stability or decline in the 1980's.

While the planner and municipal council are faced with the necessity of planning for facilities that are commensurate with the living standards of society, at large, and consistent with rising expectations in the community, problems arise out of the fact that infrastructural development occurs in "discrete bundles or quanta". If the water supply system were

to become inadequate for the size of the demand placed upon it, the expansion of the facility could require the switch over to a sophisticated distribution system involving large capital expenditure, and capable at its minimum size, of serving a much larger population. Similarly, the step up from a nursing station to a small hospital is a gigantic leap in investment and operating costs. The situation is parallel where the community finds that it must add a high school to its educational facilities. For the Centre that is growing continually, the facility will eventually become economically efficient. In many Southern Manitoba communities, however, the new equipment may never operate at capacity, and could continue indefinitely burdensome to the taxpayers.

Where growth results from in-migration, the community is confronted with an array of immediate needs: for jobs, housing, and places in schools. The planner may also find that the socio-demographic milieu in which he is planning, is undergoing subtle changes because the migrants differ, at least temporarily, from the long-term residents. Communities that attract rural families may need to offer housing suitable for larger families, and jobs for adults who have had little, or no work experience outside agriculture. There may, as well, be an increase in the number of married women looking for work and requiring day-care facilities for pre-school children. The situation would be considerably altered if the migration stream were composed largely of young, single adults with rural or urban backgrounds. Differences in the socio-demographic

composition of the in-migrant population will be reflected by differences in the demand for houses, apartments, types of recreational facilities, and the degree of pressure upon medical and educational institutions. In addition, the business community may need to anticipate a change in the demand for various types of goods, services, and entertainment.

While population change in the growing Centres of Southern Manitoba dictates cautious planning for expansion, population stability and decrease imply planning for consolidation, in accordance with the changing character of the community. Unlike growing communities, in which disruptions may be considered to be temporary, the impacts of reduced natural increase and out-migration are likely to have a lasting effect upon the demographic structure of the community.³⁰ It should be noted that the urban Centres in the Region, whose population has declined, or remained relatively stationary, have experienced out-migration which has skimmed off the population increment that would have been expected as a result of natural increase. The effect is magnified by the selectivity of migration which, according to preliminary investigation, has had its greatest influence upon the distribution of persons in their teens and early twenties. As mentioned previously, when these people migrate, their future offspring are also re-distributed. The shrinkage of the base population in the

30. While declining birth rates are also characteristic of growing communities, continued in-migration effects an expansion of the base population, so that the natural increase may be expected to decline at a slower, more manageable pace.

reproductive age groups has a significant influence, in turn, upon the natural increase; this, together with the declining birth rate of the remaining base population, reduces the number of possible parents in the next generation. The consequences are significant for those Centres in which the maintenance of population size depends primarily upon natural increase, as is found to be the case in over half of the communities examined.

The cessation of population growth affects, as well, the local business community. Where population remains stable, those proprietors who depend upon the local market are faced with a stagnant situation and the more energetic among them are likely to move elsewhere, taking with them, the employment opportunities in their firms. While the re-location of firms could conceivably result in a more staid and conservative business climate in the Centres involved, it certainly reinforces the tendency to out-migration among the members of the labour force, as a reverse employment multiplier begins to operate. The problem is critical in Centres with declining populations, where firms may be forced to re-locate or go out of business. The phenomenon of self-reinforcing imbalance in the system is described by Gunnar Myrdal as "circular cumulative causation," where disequilibrium, such as decline, provides the condition and stimulus for further decline.

As stated elsewhere in this paper, the loss of population constitutes a loss of the community's investment in the out-migrants' education; it also results in a contraction of the tax base, particularly where the re-location of business occurs.

While expectations of the local people rise in conjunction with the living standards prevalent in society, the community is confronted with a diminishing ability to provide an adequate standard of infrastructural facilities.

The social and institutional life of the Centre is also endangered, as it becomes increasingly difficult for the remaining population to support churches, cultural events, and recreational organizations. Out-migration and the drop in natural increase carry serious implications for the community's educational facilities. As the size of the school-age population diminishes over the years, so do the community's chances of improving or expanding educational opportunities. At the regional level, it is the stable or declining community that bears the heaviest obligation with respect to the provision of education, since it must equip its young population with sufficient education to ensure successful migration.

Planning for those Centres that have been referred to here as "stable" communities, would be a relatively simple maintenance and upgrading operation if the communities did, in fact, remain unchanged in attributes other than population size. They share, however, a number of characteristics with declining communities: aging populations, decreasing financial resources, and due to migration selectivity, alterations in the quality of the labour force, all of which, reduce the probability of future growth.

The communities are confronted with the necessity of choosing between: continued upgrading of local services, but

at an increasingly larger per capita cost than that borne by growing Centres; maintaining the present level of services and facilities; or permitting the discontinuance of a portion of these. Unless the community is large, the first option may not be feasible. An examination of infrastructural development in declining communities, however, revealed that the people of Southern Manitoba appeared capable of sacrificing more of their disposable incomes in order to choose the first alternative.³¹ Infrastructural development had continued despite decline. Changes in the pattern of family consumption could alter the preferences of the local people. Should this happen, three alternatives appear:

- 1) consolidation at the present level of community functions with curtailment of services, where necessary;
- 2) increasing Government intervention in the maintenance of community functions. It is noted that rural population decline has had an observable effect upon the direction of Government policy, as witnessed in Guidelines for the Seventies. At present, Government involvement may be expected to operate in a manner to alleviate the unfortunate

31. In 1969, the author made an investigation of infrastructural development, since 1946, in Manitoba communities that had experienced continued decline in population size. It was observed that improvement had been the general case with respect to educational facilities, teacher-student ratios, the expansion of medical facilities, road building, and the installation or upgrading of plants for water treatment and the collection and treatment of sewage. While little or no infrastructural improvement could have been expected in the 1946 base year, the results indicated that investment at the Provincial and Municipal levels, was still proceeding in the 1960's.

side-effects of population decline and stability; that is, the implementation of the "stay option" would entail changes in taxation, increased Government spending on the development of local infrastructure, as well as measures to stimulate local industry and to expand employment opportunities. Given the effectiveness of the methods of implementation, the impact upon the communities would depend upon whether the "stay option" were applied to the entire rural area, or to a number of selected rural centres. If the latter were the case, the total effect might be the occurrence of growth in the selected communities and the hastening of decline in the others.

- 3) Increasing dependency of the smaller communities upon large Centres for services and facilities. This option, if aligned with Government policy, would demand substantial development in the transportation and communications systems, linking communities together around a larger urban centre and changing the nature of the rural area to a network of large suburban units. The satellite configuration would be unique in that, the economic justification for the system would reside in the outlying area, instead of emanating from the Centre. The realization of this option would require an entire re-organization of concepts about the community as an independent social entity.

GLOSSARY

For a more complete description of the Centres of Southern Manitoba, the reader is referred to the Regional Analysis Working Paper #2, Community Functions and Relationships.

- City** The most dominant urban place, in terms of the variety of outlets and services provided, and the size of the sphere of influence served, is called a City. There are two Cities in the Southern Manitoba Region: Brandon and Winnipeg.
- Regional Centre** Next to the City, the Regional Centre is the most important trade and service Centre in Southern Manitoba, providing its Functional Area with an almost complete range of services. It does not have local post-secondary educational institutions. The Regional Centres have population sizes ranging from 3,300 to 15,000. Five Regional Centres have been identified in Southern Manitoba: Dauphin, Portage la Prairie, Selkirk, Steinbach, and Swan River.
- Market Centre** The Market Centre serves a lower order of commercial functions than the Regional Centre, and provides, in general, twice as many retail and service outlets than the Local Centre, (about 100), offering, as well, a wider range of services. The population size of the Market Centre ranges from about 1000 to 3300 persons. There are 17 Market Centres distributed over the larger Functional Areas. They do not appear in the more geographically compact Functional Areas with small population sizes.

- Local Centre** A Local Centre offers a more limited range of retail and service outlets than the Market Centre, and usually has a smaller population (500-1000 persons). While there are 53 Local Centres in Southern Manitoba, the data used in this report has restricted the analysis to communities of population size 1000 and over. Therefore, only the two largest Local Centres, Carberry and Rivers, have been dealt with here. All reference to Local Centres in the text applies only to these two Centres, and for purposes of describing population trends, they are frequently grouped with the Market Centres. (The population of all Local Centres is, however, represented in Figure 2, page 17). The remaining Local Centres have, like the Convenience Centres, been included in the rural sectors of the Region.
- Convenience Centre** This is a small commercial Centre with about 25 service outlets, and generally of population size 100-500. Because of data limitations, their demographic trends cannot be analyzed separately, and they have been handled as part of the rural sectors in which they are located. There are 83 of these Centres scattered throughout the rural area of the Southern Manitoba Region.
- Single Enterprise Community** This is a community whose economic activity is dominated by a single industry. In general, it provides no significant commercial function in its surrounding area and depends upon the nearest Local, Market, or Regional Centre for retail and service requirements. For the purpose of this analysis, the Single Enterprise Communities have been included in the rural sectors in which they are located.
- Rural Sector** Each Functional Area has a rural sector which includes farming area, open country, communities with population sizes less than 1000, (although

- Rural Sector
(cont'd) the Market Centre of Melita is included with the rural sector of Brandon's Functional Area), and Single Enterprise Communities, where they exist.
- Functional Area The Functional Area is the trade area served by a City or Regional Centre. It contains, besides the City or Regional Centre, a constellation of smaller urban places, serving smaller surrounding districts, and a rural sector. (See Appendix A, The Composition of Functional Areas).
- Sphere of Influence The term has been used interchangeably with "Functional Area".

Although each Centre in the Region serves a sphere of influence, the term has been applied here only to the spheres of influence of the Cities and Regional Centres. These latter include the spheres of influence served by the smaller Centres surrounding the Regional Centres, and in this way, the outer limits of the spheres of influence are co-terminous with the Functional Areas.

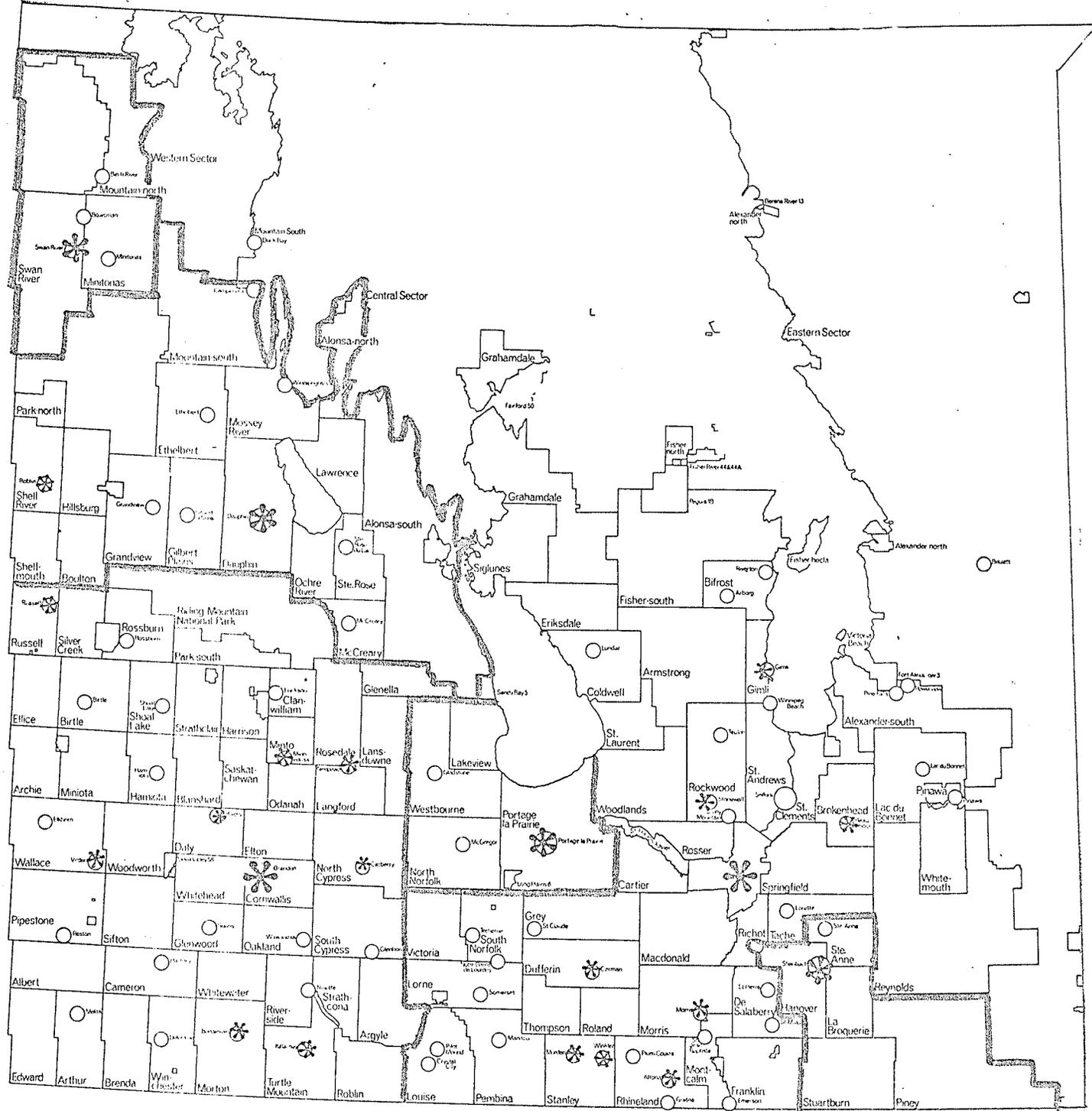
FUNCTIONAL AREAS of Southern Manitoba

fig. 10

- Cities 
- Regional Centres 
- Market Centres 
- Local Centres 
- Boundaries of Functional Areas 

REPRODUCED FROM THE
REGIONAL ANALYSIS
PROGRAM
SOUTHERN MANITOBA

Scale 0 5 10 20
Kilometres



APPENDIX A

THE COMPOSITION OF FUNCTIONAL AREAS

Brandon's Functional AreaURBAN SECTOR

City: Brandon

Market Centres:

Boissevain
Killarney
Minnedosa
Neepawa
Russell
Souris
Virden

Local Centres:

Carberry
Rivers

RURAL SECTORMarket Centre:
Melita

Local Centres:

Baldur	Birtle
Deloraine	Elkhorn
Erickson	Glenboro
Hamiota	Hartney
Ninette	Reston
Rossburn	Shoal Lake
Wawanesa	

All Area within boundaries of Rural
Municipalities and LDG's of:

Albert	Archie	Argyle
Arthur	Birtle	Blanshard
Brenda	Cameron	Clanwilliam
Cornwallis	Daly	Edward
Ellice	Elton	Glenella
Glenwood	Hamiota	Harrison
Langford	Lansdowne	Miniota
Minto	Morton	North Cypress
Oakland	Odanah	Park (South)
Pipestone	Riverside	Roblin
Rosedale	Rossburn	Russell
Saskatchewan	Shoal Lake	Sifton
Silver Creek	South Cypress	Strathclair
Strathcona	Turtle Mountain	Wallace
Whitehead	Whitewater	Winchester
Woodworth		

Dauphin's Functional AreaURBAN SECTOR

Regional Centre:
Dauphin

Market Centre:
Roblin

RURAL SECTOR

Local Centres:

Ethelbert
Grandview
Pine River
Winnipegosis

Gilbert Plains
McCreary
Ste. Rose du Lac

All area within the boundaries of Rural
Municipalities and LDG's of:

Alonsa	Boulton
Dauphin	Ethelbert
Gilbert Plains	Grandview
Hillsburg	Lawrence
McCreary	Mossey
Mountain (South)	Ochre River
Park (North)	Ste. Rose
Shellmouth	Shell River

Portage la Prairie's Functional AreaURBAN SECTOR

Regional Centre:
Portage la Prairie

Market Centre:
none identified

RURAL SECTOR

Local Centres:

Gladstone
MacGregor

All area within the boundaries of Rural
Municipalities of:

Lakeview	North Norfolk
Portage la Prairie	Westbourne

Steinbach's Functional AreaURBAN SECTOR

Regional Centre:
Steinbach

Market Centre:
none identified

RURAL SECTOR

Local Centres:

Niverville
Ste. Anne

All area located within the Rural
Municipalities and LDG's of:

Hanover	La Broquerie	Piney
Ste. Anne	Stuartburn	

Swan River's Functional AreaURBAN SECTORRURAL SECTOR

Regional Centre:
Swan River

Local Centres:
Benito Birch River
Bowsman Minitonas

Market Centre:
none identified

All areas located within the Rural
Municipalities and LDG's of:

Minitonas Mountain (North)
Swan River

Winnipeg's Functional AreaURBAN SECTORRURAL SECTOR

City:
Winnipeg

Local Centres:
Arborg Ashern
Crystal City Emerson
Fisher Branch Gretna
Lac du Bonnet Lorette
Lundar Manitou
Notre Dame de Lourdes Pilot Mound
Plum Coulee Riverton
St. Claude St. Jean-Baptiste
St. Malo St. Pierre
Somerset Teulon
Whitemouth Winnipeg Beach

Regional Centre:
Selkirk

Market Centres:
Altona
Beausejour
Carman
Gimli
Morden
Morris
Stonewall
Winkler

All area within the Rural Municipalities
and LDG's of:

Alexander	Armstrong	Bifrost
Brokenhead	Cartier	Coldwell
De Salaberry	Dufferin	Ericksdale
Fisher	Franklin	Gimli
Grahamdale	Grey	Lac du Bonnet
Lorne	Louise	Macdonald
Montcalm	Morris	Pembina
Pinawa	Reynolds	Rhineland
Ritchot	Rockwood	Roland
Rosser	St. Andrews	St. Clements
St. Francois-Xavier	St. Laurent	Siglunes
South Norfolk	Springfield	Stanley
Tache	Thompson	Victoria
Victoria Beach	Whitemouth	Woodlands

APPENDIX B

THE CALCULATION OF MIGRATION ESTIMATES

Migration for the Cities, Centres, and rural sectors was estimated for five-year periods by obtaining the population size at the beginning of the period and adding the five-year natural increase (births minus deaths) to determine the population size that would be expected in the area at the end of the period. This latter figure was then compared with the number of persons found in the area at the end of the period. Where the anticipated population size exceeded the actual population size, the loss was attributed to out-migration. Similarly, if the population increase during the period was greater than the natural increase, in-migration was considered to have occurred.

$$M_i = P_{t+5} - [P_t + (B_i - D_i)]$$

- where M_i = estimated migration during the i^{th} 5-year period.
- P_{t+5} = the population size at the end of the i^{th} 5-year period.
- P_t = the population size at the beginning of the i^{th} 5-year period, and
- $B_i - D_i$ = the natural increase during the i^{th} 5-year period,
- B_i = number of births during the period, and
- D_i = the number of deaths during the period.

TABLE 6

ESTIMATED NET MIGRATION FOR
FUNCTIONAL AREAS, 1951-1971

	1951-1956	1956-1961	1961-1966	1966-1971
<u>Brandon's Functional Area</u>	-4,154	-8,997	-6,630	-12,895
City: Brandon	+2,416	+1,097	-13	+21
Market Centres: Boissevain	+4	+67	+93	+62
Killarney	+118	+267	+109	+260
Minnedosa	+54	-273	-8	+278
Neepawa	+50	-29	-67	+24
Russell	+34	-38	+160	-28
Souris	+74	+7	-70	-97
Virden	+1,207	-950	+100	-148
Local Centres: Carberry	+122	+37	+118	+46
Rivers	+70	-59	-31	-563
Market and Local Centres	+1,733	-971	+404	-166
Urban Sector	+4,149	+126	+391	-145
Rural Sector	-8,303	-9,123	-7,021	-12,750
<u>Dauphin's Functional Area</u>	-5,058	-4,636	-3,394	-4,842
Regional Centre: Dauphin	-254	+738	+856	-30
Market Centre: Roblin	+2	+97	+178	+99
Urban Sector	-252	+835	+1,034	+69
Rural Sector	-4,806	-5,471	-4,428	-4,911
<u>Portage la Prairie's Functional Area</u>	+1,642	-2,503	-2,313	-1,751
Regional Centre: Portage la Prairie	+1,163	+509	-418	-478
Rural Sector	+479	-3,012	-1,895	-1,273
<u>Steinbach's Functional Area</u>	-1,376	-1,783	-1,563	-721
Regional Centre: Steinbach	+129	+575	+519	+247
Rural Sector	-1,505	-2,358	-2,082	-968

TABLE 6

ESTIMATED NET MIGRATION FOR
FUNCTIONAL AREAS, 1951-1971

	1951-1956	1956-1961	1961-1966	1966-1971
<u>Swan River's Functional Area</u>	-1,451	-1,016	-1,313	-2,123
Regional Centre: Swan River	+130	+179	-23	-113
Rural Sector	-1,581	-1,195	-1,290	-2,010
<u>Winnipeg's Functional Area</u>	+9,743	+15,970	-13,268	-10,637
City: Winnipeg	+24,979	+28,408	-2,012	+1,734
Regional Centre: Selkirk	+534	+493	-110	-300
Market Centres: Altona	+43	+111	-16	-90
Beausejour	+14	+44	+252	-19
Carman	-41	+9	-22	+47
Gimli	+110	-129	+174	-367
Morden	+183	+392	+123	+80
Morris	-59	-3	-164	-7
Stonewall	+1	+261	+54	-68
Winkler	+159	+744	-127	+319
Market Centres	+410	+1,429	+274	-105
Urban Sector				
(including Winnipeg)	+25,923	+30,330	-1,848	+1,329
(excluding Winnipeg)	+944	+1,922	+164	-405
Rural Sector	-16,180	-14,360	-11,420	-11,966

APPENDIX C

NOTE ON STABILITY AND MIGRATION SELECTIVITY

Despite the relatively constant flow of out-migrants from the rural sector, a detailed examination of the data reveals that out-migration has been decreasing in parts of the Region. This, together with the drop in natural increase, may indicate a trend toward population stability in some areas, notably in the Rural Municipalities of: Minitonas, Ethelbert, Hillsburg, Dauphin, Ochre River, Minto, Whitehead, Lakeview, Siglunes, Eriksdale, Bifrost, Macdonald, La Broquerie, and the rural sector of the Portage la Prairie Functional Area. These comprise lands in agricultural use, most have some unimproved wooded areas or grassland, and with four exceptions, they include some land with low to moderate capability for agriculture. There does not appear to be a correspondence between the migration trend and gross farm revenues, but incomes (by tax return 1969) were less than \$3500 per year, and all but two Municipalities had 1969 average incomes of less than \$2500 per year. With two exceptions, Macdonald and Eriksdale, all have had average incomes consistently lower than the average for Southern Manitoba. Those Rural Municipalities with reasonably high gross farm revenues have not usually undergone large changes in average farm size since 1951, indicating that agricultural adjustment has been underway for a longer period and may be nearing completion. In over a third of the Municipalities, substantial consolidation seems to have occurred but gross farm revenues per farm have remained in the lower range. Again, the data suggest that adjustment is either in an earlier stage, or has been made but has not yielded satisfactory results. Diminishing

out-migration would tend to suggest the latter alternative to be the case.

The above pattern, consisting of decreasing out-migration, agricultural adjustment, and low incomes, cast some light on that aspect of migration, referred to by demographers, as 'selectivity'. The term infers that migration streams 'select' individuals with particular characteristics. Relating 'selectivity' to the notion of migratory 'pull' in the Southern Manitoba Region, it may be suggested that voluntary migration will not be undertaken unless the migrant foresees a substantial improvement in his circumstances when he arrives at his intended destination. That is, he is unlikely to migrate unless he possesses those characteristics that will enable him to succeed in another environment. An examination of the 1956-1961 migration pattern in Canada revealed that rural farm out-migrants were better educated than those remaining in rural areas and that migration was heaviest among the younger members of the labour force.³² Preliminary estimates of age-specific migration in Southern Manitoba indicate that from 1956 to 1966, the 15-24 age group was dominant among out-migrants from rural areas and small centres. While questions have been raised previously concerning the motives underlying migration, there is, as well, a need to investigate the circumstances of those individuals who remain in the rural areas. Undoubtedly, there are rural residents who are satisfied with their opportunities and living standards, but studies of rural 'out-migration' in North America also cite the negative side of the picture: the shrinkage of the tax base, the withdrawal of services and facilities

32. Leroy O. Stone, Migration in Canada (Ottawa: Dominion Bureau of Statistics, 1969), pp. 203-240.

and the erosion of social life. Contingent upon the process is the increasing unattractiveness of the area and the diminution of the 'go option'. That is, over a period of time the pressures upon the rural dweller to migrate increase while his opportunities to do so become less favourable. He may, for example, be unable to sell his property and unable as well, to afford the financial loss of abandoning it.

In another case, the rural resident might wish to migrate but consider himself to be inadequately skilled in urban-oriented occupations to benefit from migration.³³ In view of the 'selectivity' aspect, it would be unrealistic to interpret diminishing out-migration in itself as an indicator of increasing attractiveness in the rural area, nor can it be assumed that the situation of those presently opting to stay can be viewed with complacency.

33. Niles M. Hansen, Rural Poverty and the Urban Crisis: A Strategy for Regional Development. (Bloomington: Indiana University Press, 1970).

BIBLIOGRAPHY

- Abramson, Jane A. Rural to Urban Adjustment. ARDA Project #37003. Ottawa: Dept. of Forestry and Rural Development, 1968.
- Bogue, Donald J. Principles of Demography. New York: John Wiley and Sons, Inc., 1969.
- Canada. Consumer Price Indexes, Regional Cities, 1962 - 1971. Ottawa: Statistics Canada.
- Department of National Revenue, Taxation Branch. "Size of Income by Tax Return, 1966 - 1971." Unpublished data.
- Dominion Bureau of Statistics. Census material for 1951, 1956, 1961, 1966.
- Statistics Canada. 1971 Census.
- Ehrlich, Paul R. and Anne H. Ehrlich. Population Resources Environment: Issues in Human Ecology. 2nd ed. San Francisco: W.H. Freeman and Company, 1972.
- Framingham, Charles F., James A. MacMillan, and Paul E. Nickel. Guidelines for Community Planning. Extension Bulletin 73-1. Winnipeg: Department of Agricultural Economics and Farm Management, University of Manitoba, 1973.
- Hansen, Niles M. Rural Poverty and the Urban Crisis: A Strategy for Regional Development. Bloomington: Indiana University Press, 1970.
- Hauser, Philip M. and Otis Dudley Duncan, eds. The Study of Population: An Inventory and Appraisal. Chicago: University of Chicago Press, 1959.
- Hutchinson, E.P. The Population Debate. Boston: Houghton Mifflin Company, 1967.
- Iowa State University Centre for Agricultural and Economic Development. Family Mobility in our Dynamic Society. Ames: Iowa State University Press, 1965.
- Isard, Walter. Methods of Regional Analysis: an Introduction to Regional Science. Cambridge: The M.I.T. Press, 1960.
- Lee, Everett S. "A Theory of Migration," Demography, 3 (1966), 47-57.
- Myrdal, Gunnar. Economic Theory and Underdeveloped Regions. London: G. Duckworth, 1957.
- Petersen, William. Population. 2nd ed. New York: The Macmillan Company, 1969.

- Politics of Population. New York: Doubleday & Company, Inc., 1965.
- Province of Manitoba. Guidelines for the Seventies. vol. 3. Manitoba: March, 1973.
- Regional Analysis Program. Descriptive Data, Part 1A. Winnipeg: Dept. of Industry and Commerce, Regional Development Branch, 1971.
- Regional Analysis Program. Community Functions and Relationships: Working Paper #2. Winnipeg: Dept. of Industry and Commerce, Regional Development Branch, 1973.
- Department of Health and Social Development, Vital Statistics Branch. Unpublished vital statistics, 1951 to 1971.
- Ravenstein, E.G. "The Laws of Migration," Journal of the Royal Statistical Society, 48.2 (June, 1885), 167-277.
- Rohrer, Wayne C. and Louis H. Douglas. The Agrarian Transition in America: Dualism and Change. Indianapolis: The Bobbs-Merrill Company, Inc., 1969.
- Smith, P.J., ed. Studies in Canadian Geography: The Prairie Provinces. Toronto: University of Toronto Press, 1972.
- Spencer, Byron G. and Dennis C. Featherstone. Married Female Labour Force Participation: A Micro Study. Special Labour Force Studies, Series B, No. 4. Ottawa: Queen's Printer, 1970.
- Stone, Leroy O. Migration in Canada: Regional Aspects. 1961 Census Monograph. Ottawa: Dominion Bureau of Statistics, 1969.
- Tremblay, Marc-Adelard and Walton J. Anderson, eds. Rural Canada in Transition. Ottawa: Agricultural Economics Research Council of Canada, 1965.
- Trewartha, Glenn T. A Geography of Population: World Patterns. New York: John Wiley & Sons, Inc., 1969.
- Wrong, Dennis H. Population and Society. 3rd ed. New York: Random House, 1967.
- Zelinsky, Wilbur. A Prologue to Population Geography. New Jersey: Prentice-Hall, Inc., 1966.