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**THE SURVEY OF LABOUR AND INCOME DYNAMICS:
VISIBLE MINORITIES AND ABORIGINAL PEOPLES**

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A study prepared for the
Interdepartmental Working Group on Employment Equity Data

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EXECUTIVE SUMMARY

In general, employment equity research focuses upon the characteristics of members of four designated groups: women, visible minorities, Aboriginal peoples and persons with disabilities. This report looks at the data available from the Survey of Labour and Income Dynamics (SLID) for members of two employment equity designated groups, visible minorities and Aboriginal peoples. The purpose of this report is to evaluate the extent to which SLID data may be used for employment equity purposes.

SLID's method for collecting employment equity data was based on the approach used by the 1991 Census. The resulting estimates were 1.7 million people who were in a visible minority and 539,000 off-reserve Aboriginal peoples in the ten provinces. SLID's estimate was slightly lower for visible minorities and higher for Aboriginal peoples than the 1991 Census. Some differences between the counts obtained by the two sources can be expected. The census relies on self-enumeration, whereas SLID preliminary data came from an interviewer-administered questionnaire (mainly telephone interviews). Other reasons for the discrepancies may lie in the size and design of the SLID sample.

Despite some differences in the counts, the characteristics of members of the two designated groups are comparable for SLID and the Census. To set the stage for future analysis, Canada-level results from SLID are reported for selected variables: age, labour force status, highest level of education, and immigrant status for visible minorities. Below are some highlights from the report:

- Both visible minorities and Aboriginal peoples have a much lower age profile than the total population, with more in the 15 to 34 age group and fewer 55 and older.

- In January 1993, the unemployment rate was 16% for visible minorities and 18% for off-reserve Aboriginal peoples, compared to 11% for the population as a whole.
- Overall, when considering individuals over 20 years of age, visible minorities were more likely to attend university or graduate from a post-secondary program (52%) than the total population (46%) or Aboriginal peoples (40%).
- Of visible minority immigrants over 15 years of age at the time of the survey, 80% obtained most of their elementary and high school education outside Canada.
- The SLID interview only identifies persons in visible minority who are 15 and over. Of these, 82% were immigrants and they tended to have come to Canada at an older age than immigrants who are not visible minorities.

The design of SLID allows this early look at some data that was gathered in the preliminary interview. However, the special value of SLID data will be for longitudinal analysis; focusing on the same individuals over time can help to identify what factors help or hinder an improvement in the position of the members of the designated groups. The experience of other longitudinal surveys has been that it takes time to identify the issues and techniques to use in analysis. To encourage some thinking ahead, the final section of this report discusses some potential questions that may be addressed in the future. The use of SLID longitudinal data should lead to a better understanding of the determinants of labour market inequalities and the mechanisms of change for the employment equity designated groups.

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1.0 INTRODUCTION

In 1986, the federal government enacted the Employment Equity Act to achieve equality of employment opportunity in areas under federal jurisdiction for four groups: women, visible minorities (“persons, who are, because of their race or colour in a visible minority in Canada”), Aboriginal peoples and persons with disabilities. The aim of the Act is to ensure that ability and qualifications are the sole criteria for employment opportunities, benefits and advancement (Cardillo, 1993). To implement and monitor this objective, reliable statistics are needed on the counts and qualifications of the designated groups at national, provincial and sub-provincial levels.

This report looks at the data available from the Survey of Labour and Income Dynamics (SLID) for the members of two employment equity designated groups, visible minorities and Aboriginal peoples. SLID is a new longitudinal survey developed by Statistics Canada to support research on changes through time in the labour market experience and well-being of Canadians. Information on labour market activity, education, geographic moves, and demographic, family and income changes is collected from the same respondents each year, for six years.

Prepared for the Interdepartmental Working Group on Employment Equity Data, this report evaluates the extent to which SLID data may be used for employment equity purposes. The report begins by providing an overview of SLID. This is followed by a look at selected Statistics Canada surveys, past and present, in order to compare the various approaches for collecting employment equity data, as well as to assess the usefulness of the data provided by these surveys for employment equity purposes. The next two sections focus upon and analyze the data that can be provided by SLID with regards to visible minorities and Aboriginal peoples. Finally, the last section of this report outlines the special value of SLID – its

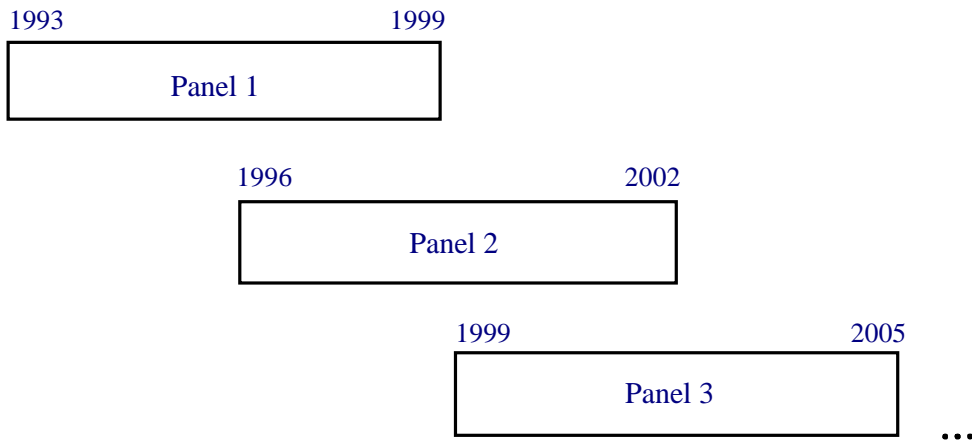
longitudinal design – and provides some examples of the types of the questions that may be addressed by the longitudinal nature of SLID.

2.0 OVERVIEW OF THE SURVEY OF LABOUR AND INCOME DYNAMICS

SLID's first panel of 15,000 households, a subsample of two Labour Force Survey rotation groups, was first contacted in January 1993. Background information, including ethnocultural information to identify the two designated groups, was collected for persons aged 15 and over; about 31,000 individuals in all. The LFS sample is based on a multi-stage area sample selected from the ten provinces. It excludes the population on Indian reserves, residents of institutions, and the military, although for SLID, persons in the armed forces who were not living in barracks were included.

All household members who were in the selected LFS dwellings in January 1993 are considered longitudinal respondents and will be followed for six years—1994 to 1999. As well, people who move in with longitudinal respondents during the six years are also included and will answer the same questions as longitudinal respondents. Over time, the number of households in the panel will grow as household splits occur; this will be offset by reductions due to attrition. Every three years, a new panel will be introduced and will remain in the survey for six years. Plans are under way to introduce the second panel in January 1996. This design of overlapping panels means there will be six years of longitudinal data for about 15,000 households and three years of longitudinal data for double this number from a common set of respondents from two panels (Figure 1).

Figure 1: Overlapping Design of SLID Panels



In 1993, the background information on the first panel was collected using a paper questionnaire, as a supplement to the LFS. All subsequent data collection will be by decentralized computer-assisted interviewing (CAI). The capabilities of this new technology have facilitated the operations of a longitudinal survey.

Beginning in 1994, SLID retrospective annual data are collected in two waves; labour activity information at the beginning of the year, and income information in May, after the deadline for filing income tax returns when most respondents have summary income information available. In both cases the reference period is the previous year.

The content of SLID is extensive. Date of birth, gender and family relationships are collected for all household members. In the first interview, background data on work experience, educational attainment, parents' level of education, family background and ethnocultural data are collected for persons 15 and over. Yearly, for six years, detailed information on a wide range of variables will be collected for the same respondents. This includes data on work and unemployment spells, job

and employer information, time spent in schooling, family changes and geographic moves. As well, each year detailed sources of income such as earnings, investments, unemployment insurance, social assistance and pensions will be obtained.

SLID data will permit analysis of the dynamic aspects of economic well-being—information which may be particularly valuable in understanding the situation of visible minorities and Aboriginal peoples. For example, do members of the designated groups experience higher job turnover rates? Do they experience longer periods of unemployment than the general population, or lower promotion rates? How many persons contribute to family income and how does this income change over time?

3.0 EMPLOYMENT EQUITY DATA

In 1986, the Employment Equity Act was established in order to ensure that the sole criteria for employment opportunities, benefits and advancement are an individual's ability and qualifications (Cardillo, 1993). The aim of employment equity legislation is to achieve equality of employment opportunity in areas under federal jurisdiction for four groups: women, visible minorities, Aboriginal peoples and persons with disabilities.

Traditionally, the primary sources of employment equity data have been the Census of Population and Housing, and the post-censal Health and Activity Limitation Survey (HALS). These, however, have not been the only sources of employment equity data. In this section, selected Statistics Canada surveys, past and present, will be discussed in order to illustrate the various approaches for collecting employment equity data, as well as to assess the usefulness of the data provided by these surveys for employment equity purposes.

3.1 Statistics Canada Surveys

Over the years, defining individuals who are in a visible minority has not been straightforward, and, as a result, more than one approach has been used by Statistics Canada. The Employment Equity Act states that visible minorities are persons who “are non-white in colour or non-Caucasian in race”, and specifies in regulations that these are individuals who can be identified as Blacks, South Asians, Chinese, Koreans, Japanese, South East Asians, Filipinos, Other Pacific Islanders, West Asians and Arabs, and Latin Americans.

Within Statistics Canada, one of three methods has generally been applied when collecting visible minority data:

- direct questions on being in a visible minority (or race/colour questions);
- indirect ethnocultural questions from which minority status is derived;
- a mix of both direct and indirect questions (Boxhill, 1991).

The ethnic origin/ancestry questions asked by Statistics Canada have also varied. They refer to either: ethnic or cultural background; ethnic or cultural background and racial background; or self-identification with an ethnic group.

3.2 The Census of Population and Housing

The census has traditionally been the primary source of employment equity data. The benchmark counts of visible minorities and Aboriginal persons have been derived from census ethnocultural data which are collected from persons of all ages in one out of five private households. However, census data on ethnic or cultural origins, even when supplemented by place of birth and mother tongue may leave some ambiguity in defining visible minorities. For example, is a person born

in Trinidad, who reports an ethnic origin of “English” white or non-white? What about Hispanics born in the United States? Because of these and other uncertainties in using indirect questions to identify the visible minorities, the census has considered and tested more direct ways in which to obtain the data. The Overcoverage Survey, conducted shortly after the 1986 Census, asked individuals whether they considered themselves to belong to a visible or racial minority. The results showed problems of misreporting and misconception with this “perceptual” question.

Leading up to the 1991 Census, The National Census Test (NCT) in November 1988, included a race/colour question, in addition to questions on ethnic ancestry and identity. Modifications were made to these questions and tested in the second National Census Test (NCT II) in September 1989. Problems were found with the new approach and the questions that were finally decided upon for the 1991 Census made no reference to race or colour. As in 1986, visible minority status would be derived from the data on ethnic origin, country of birth, language and with the addition of a question on religion.

Two identifying questions, considered for the 1996 Census, were tested in the National Census Test in November 1993. One was an open question “To which ethnic or cultural group(s) did this person’s ancestors belong?” with boxes for three write-in responses. The other was a direct visible minority question, asking “Is this person . . .?” with mark circles for White, the ten visible minority groups, and an “Other, specify” box with instructions to mark or specify more than one group, if applicable. The results of this test have not been released to the public.

Although the census is the only source of information at the geographic detail required by the Employment Equity Act, Statistics Canada has conducted a number of surveys that collected information on employment equity issues. These

include the National Graduate Survey (NGS), the General Social Survey (GSS), the Labour Market Activity Survey (LMAS) and starting in 1993, the Survey of Labour and Income Dynamics. These surveys have also had different approaches to identifying visible minorities.

3.3 National Graduates Survey

The census collects detailed information on level of education and field of study—at one point in time. It lacks, however, direct links between educational attainment and career paths. The National Graduate Study (NGS), and NGS Follow-up Survey focus upon such links over a somewhat longer perspective. It surveys graduates from Canadian universities and community colleges two years and again five years after graduation. The NGS, which started in 1978, is an important source of input data for the “Student Flow Model” of the Canadian Occupational Projections System (COPS) at Human Resources Development Canada. Until 1988 there were no questions to identify the designated groups. That year an Aboriginal identification question was added (but nothing to identify visible minorities). In the 1991 re-interview (Follow-up Survey) a single ethnic ancestry question listed categories which could identify both designated groups, with the expectation that this information would address employment equity issues as they pertained to recent graduates. The surveys drew respondents from a systematic sample of 1986 graduates, (from files of the educational institutions), stratified by province, level of education and field of study. More than 40,000 respondents participated in telephone interviews in 1988.

A study assessing the ability of the 1988 NGS and the 1991 Follow-up Survey to provide data for producing national and provincial level estimates of the number of designated group members with a post-secondary education was conducted for the Employment Equity Data Program (Lalonde, 1993). It was hoped that the

estimates, if found to be reliable, could be used to better understand the labour force participation, skills and experience of members of designated groups. This study indicated that reliable estimates could be obtained at the Canada level. However, when the data were desegregated by variables such as province and occupation, estimates diminished in reliability. Aboriginal peoples and visible minorities made up a relatively small part of the NGS sample. Oversampling was not seen as a solution, as there were simply not enough recent designated group graduates to include in the sample. Although expanding the NGS survey base to graduates over more than one year would yield more designated group members, it was not seen as feasible as it would also increase collection and production costs.

Lalonde concluded that for COPS purposes, the 1988 NGS results had proved unreliable for Aboriginal peoples. For the 1991 Follow-up survey there was concern with visible minority counts when it came to disaggregating the data by province, highest level of schooling, field of study, and by combinations of variables such as field of study and province. Statistics Canada's data release policy prevents publication of estimates with a coefficient of variation greater than 25%. A coefficient of variation between 16.6% and 25% will require a cautionary note. Most provincial distributions had high proportions of unreliable or qualified cells for Aboriginal peoples and visible minority groups. While some data were releasable with qualification, only a small amount was releasable without a cautionary note (most often for Ontario, Alberta, and British Columbia).

However, a recent study with a different objective and using different analytic techniques, has used results from the 1992 Graduates Survey to evaluate the earnings and employment rates for visible minorities and Aboriginal peoples who graduated in 1990 from Canadian universities and community colleges (Wannell and Caron, 1994).

3.4 General Social Survey

The General Social Survey (GSS) was introduced by Statistics Canada to gather information on socio-economic trends in Canada. The survey has two objectives: to gather data on social trends in order to monitor the social conditions of Canadians over time, and to provide information on relevant social policy issues. Each year, for five years, the survey addresses a different issue, called the core content, starting with health in 1985, time use in 1986, personal risk in 1988, education and work in 1989 and the family in 1990. In order to monitor trends over time, the core topics are repeated at the end of the fifth cycle.

The GSS is a telephone survey of the non-institutionalized population 15 years and older, living in the ten provinces. Each survey cycle collects information from approximately 10,000 persons. “This sample size is sufficient to allow extensive analysis at the national level, some analysis at the regional level and limited analysis at the provincial level.” (Saveland, 1993).

In addition to the core content, each survey contains classification content, basic demographic and socio-economic variables that are used in the analysis of information from the core cycle. Data are collected on four ethno-cultural areas: immigration, ethnicity, language and religion. These data permit the definition of ethno-cultural populations and the study of the interrelationships between these subpopulations, social conditions and policy issues.

An examination of the GSS was conducted in order to establish whether the GSS was adequate for (i) delineating ethnic subpopulations, and (ii) furthering research on issues having an ethno-cultural component. It also looked at what initiatives might be undertaken to enhance the collection and analysis of ethno-cultural areas and issues. (Boyd, 1990).

Although the GSS does collect information on ethnicity, data for the employment equity designated groups are not available (with the exception of women). With a sample size of approximately 10,000 persons, there are small numbers of non-European ethnic origins and of person from some birthplaces, particularly the more recent source countries of immigration in Asia, the Caribbean and Africa. When cross-tabulated with sex, age and other variables, the numbers in cells will be even lower and may produce unreliable estimates and require suppression because of confidentiality concerns.

Boyd suggested that a visible minority status variable be created from the classification content section of the GSS to be included in their masterfile and microdata files. While confidentiality and small number concerns would prevent the release of data of specific subgroups, the inclusion of the status variable in the microdata file would still enhance the analysis of various core and content issues.

3.5 Labour Market Activity Survey

The Labour Market Activity Survey (LMAS), which was conducted from 1987 to 1991 collected extensive information on the patterns of work and types of jobs held by Canadians. It supplemented the point-in-time data from the census by collecting information on as many as five jobs, time spent between jobs, as well as job searches. This made it possible to produce flow statistics, such as job hires, promotions and terminations. The same group of respondents were interviewed in 1987 and 1988, while a new sample was selected in 1989 and followed up in 1990 and 1991 (providing two-year and three-year longitudinal files).

The LMAS began as a supplement to the LFS, with the sample drawn according to a multi-staged, stratified selection of areas and of dwellings within those areas.

The survey was administered to individuals between 15 and 69 years of age, in the

ten provinces. It began with a very large sample of about 40,000 dwellings and increased as the follow-up procedures added more new respondents than those that were lost through attrition.

The LFS sample design creates a limitation with regard to Aboriginal peoples and visible minorities. As these groups often cluster in residential neighbourhoods, these individuals may or may not have fallen within the sampling frame. In addition, the survey did not cover the territories or Indian reserves and settlements. As a result, an important portion of Aboriginal peoples were not covered. The sampling strategy did not permit accurate sub-provincial estimates of the aboriginal and visible-minority populations (Foy, Hofmann, Satin and Murray, 1989). Thus, the LMAS was best suited to “compliment the geographical detail of the census with analytical insights into the labour-market experiences of designated groups” (Saveland, 1993).

At the request of Employment and Immigration Canada, questions identifying Aboriginal peoples and visible minorities were first included in the 1988 survey. The main question was similar to that used in the NGS, asking the groups from which the respondent’s parents or grandparents had descended. The question listed the visible minority groups, North American Indian, Metis and Inuit, British, French, other European, Canadian and two mark boxes for ‘other’ groups. The LMAS also included a question asking respondents whether, by virtue of their race or colour, they belonged to visible minority, and if so, to which group they belonged. Finally, to help identify persons in this designated group, respondents were asked questions about their mother tongue and place of birth.

While this range of questions appeared to capture all the necessary information, there was, in fact, potential to confuse the issue (Mohan, 1990). For example, while individuals of Latin American, Arab or West Asian descent, to name a few,

are considered visible minorities under the Employment Equity Act, they may not have identified themselves as such in the perceptual question. In addition, Aboriginal peoples may have considered themselves visible minorities based on race or colour. With the additional question on race/colour, data users would have to choose one of the identifiers. In a recent paper on wage rates by gender and visible minority status, the authors used the ethnic origin question to define their population (Christofides and Swidinsky, 1994) .

The wealth of job information available from the LMAS and the large sample size have made it an excellent source for detailed examination of labour market dynamics. However, there has been little in the way of published analysis of the data that exploits the longitudinal possibilities of the data set.

4.0 EMPLOYMENT EQUITY ESTIMATES USING SLID DATA

As SLID was developed partly as a replacement for LMAS, there are many similarities in the general sample design and content of the two. While the LMAS had the larger sample, SLID has a longer time frame and more variables (see Appendix D for organization of SLID content). The additional content includes useful education data such as major field of study, as in the NGS, and family and demographic information like the GSS. SLID also collects detailed sources of income, modelled on the Survey of Consumer Finances. The income data permit the creation of important analytic variables such as family income flows and whether the family is below the poverty line.¹

¹ Because SLID has been developed for computer-assisted collection, there is no paper questionnaire to serve as a reference to the questions that are asked. Refer instead to SLID research papers No. 94-05, 94-08, 94-09, 94-10 for the questions and flows used in the labour and income interviews.

4.1 Identifying the Designated Groups²

As outlined in the earlier sections, there still is no wholly satisfactory method of identifying visible minorities. Therefore, it was decided to make SLID's data as comparable as possible to the benchmark of the 1991 Census. Ethnicity, mother tongue and country of birth questions were included in the preliminary interview in January 1993 to identify visible minorities. The ethnic background question, shown below, was based on the census question with some changes to reflect the SLID interview collection method.

SLID's Ethnicity Question

Interviewers read only the text in capital letters (i.e., categories were not read to respondents.)

CANADIANS COME FROM MANY ETHNIC, CULTURAL AND RACIAL BACKGROUNDS, FOR EXAMPLE; ENGLISH, FRENCH, NORTH AMERICAN INDIAN, CHINESE, BLACK, FILIPINO OR LEBANESE. WHAT IS ...'S BACKGROUND? (*If Indian, probe for North American or East.*)

Mark all that apply:

English	Dutch (Netherlands)
French	Jewish
German	Polish
Scottish	Black
Italian	Métis
Irish	Inuit/Eskimo
Ukrainian	North American Indian
Chinese	East Indian
Canadian (<i>Probe for any other background</i>)	
Other - <i>Specify</i>	(space for two write-ins)

The pre-coded categories mainly reflected those in the 1991 Census. On the recommendation of LMAS staff, "East Indian" was included to clarify the

² For the first time in 1994, questions to identify persons with disabilities were asked, and will continue to be asked for each year of the panel.

difference between that response and North American Indian, and “Canadian” was added to minimize interviewer write-ins. Also, following the 1991 Census model, a question asked, “Is this person a registered Indian as defined by the Indian Act of Canada?”. This was included in order to identify Aboriginal persons who may not have reported an Aboriginal ethnic background, for example, women who were married to a registered Indian. SLID also included a country of birth and mother tongue question. Write-in responses to the ethnocultural questions were coded to the categories of the 1991 Census. They have been collapsed based on confidentiality and reliability considerations, but the original codes have been maintained on the master database.

The basic approach to deriving the visible minority and Aboriginal peoples populations followed that developed by the Interdepartmental Working Group on Employment Equity Data. Respondents were assigned to the ten visible minority sub-groups specified by the Act. SLID used a slightly simplified algorithm to distinguish these groups because, unlike the census, there was no question on religion. Also, because of the small sample size, SLID did not create a ‘Multiples’ group, e.g. for persons who reported a combination such as Chinese and Korean. The ethnic background question identified most of the persons in a visible minority (91%). Another 7% were identified by their country of birth, while the mother tongue question (1%) and ethnic background and country of birth questions combined accounted for the remainder (1%). These percentages were very close to census results.

Most Aboriginal peoples (94%) were identified by the ethnic background question and 6% solely through the question about registration under the Indian Act. In the ethnicity question, 29% reported a single Aboriginal background, whereas 71% had multiple responses of Aboriginal and non-Aboriginal origins.

4.2 Global Estimates

SLID estimated that 7.7% of the population aged 15 and over in the 10 provinces, 1.7 million people, are in a visible minority group, compared with the 8.8% obtained by the 1991 Census. SLID's estimates, which refer to January 1993, are lower than the census data for Ontario and British Columbia, as well as for the Chinese subgroup (because of sampling variability, these subgroup estimates are less reliable than the Canada total). The SLID estimate of off-reserve Aboriginal peoples, aged 15 and over, in the 10 provinces was 539,000, compared with 509,000 for the Census. Some differences between the counts can be expected. The census relies on self-enumeration, whereas SLID data come from an interviewer-administered questionnaire (mainly telephone interviews). Other reasons for the discrepancies may lie in the size and design of the SLID sample.

4.3 Quality Issues

Because visible minorities and Aboriginal peoples represent fairly small proportions of the total Canadian population, the absolute numbers in the SLID sample of 15,000 households are small. Those with visible minority origins numbered 1,106, while Aboriginal peoples totalled 859. Moreover, the Labour Force Survey sample, which is the base for SLID, is designed to optimize labour force, not ethnic characteristics. Analyses using cross-tabulations of characteristics should generally be done at the Canada level only. As a rough guide, the unweighted cell counts in a cross-tabulation should be at least 50.³ Multivariate analysis is recommended to study the effect of designated group membership on labour market status and transitions.

³ A conservative approach is recommended due to the greater sampling variability associated with ethno-cultural characteristics.

The values for the designated groups include an unknown category of 2.6 % for visible minorities and 4% for Aboriginal persons. These resulted mainly from non-response to all ethno-cultural questions (there was no imputation of these characteristics). There are no unknown values on the SLID database for age and gender and very few for labour force status. Most other variables have varying proportions of unknown values which have been excluded.

The cases with unknown values for designated group status have been analyzed in terms of age group, gender, labour force status, country of birth and highest level of education. The 'unknowns' were disproportionately males. The ratio of males to females for visible minorities is 0.96 (the same as for the total population), whereas it is 0.80 for Aboriginal peoples suggesting that some of the unknown cases are Aboriginal males. For age and labour force status, the values for the unknown cases are very close to the proportions of the general population and there were many missing values for the other variables. Except for Aboriginal males, it is reasonable to assume that the 'unknowns' were distributed in the same proportions as the total population, and there would not have a large impact on the total counts for the two designated groups.

4.4 Employment Equity Characteristics

Traditionally, employment equity data has included such variables as participation rate, employment/unemployment rate, occupation and education. This section focuses on selected variables from SLID's 1993 preliminary interview, including the labour market activity and education of the two designated groups. It also looks at two other variables, age and immigrant status, in order to illustrate some of the descriptive characteristics that are available from SLID in order to supplement the employment equity data. First, to give an indication of the quality of SLID data, age and labour market activity are compared to the 1991 Census.

4.4.1 Age

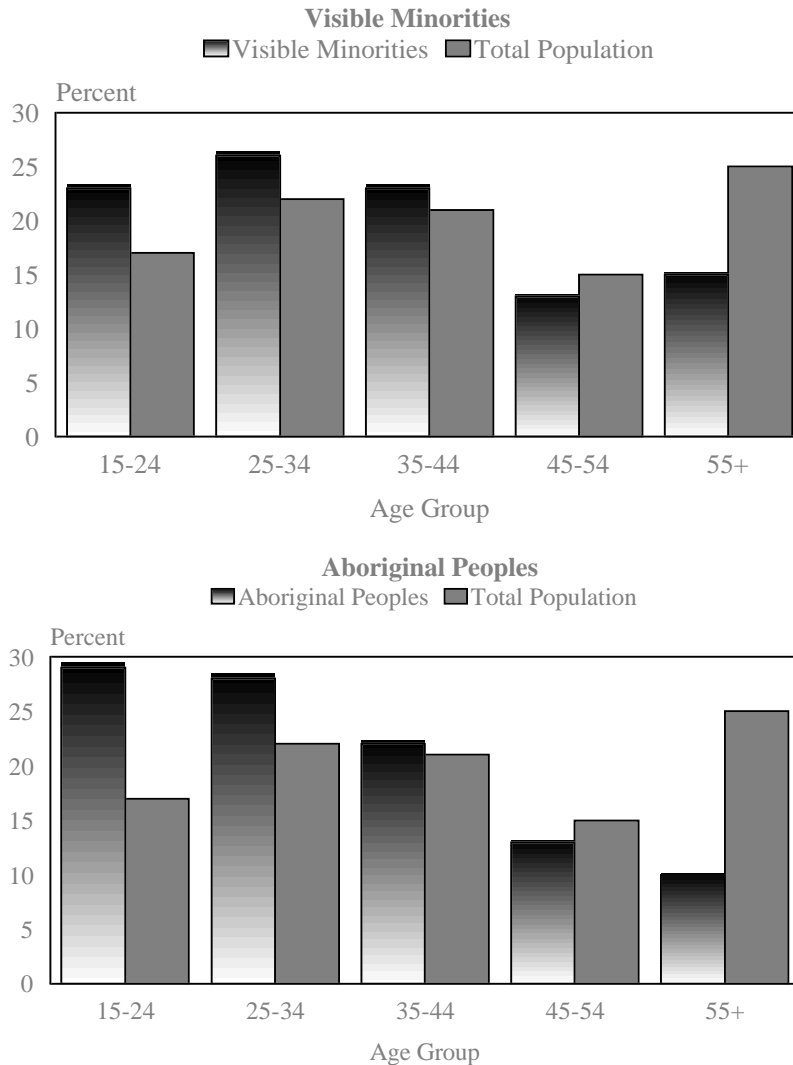
Despite some differences in the counts, the results for SLID and the Census are comparable for several characteristics. For example, the two sources yield a very similar age structure for the two employment equity designated groups (Table 1).

Table 1: Age Structure, SLID 1993 and 1991 Census

Age Groups	Visible Minorities		Aboriginal Peoples	
	SLID	Census	SLID	Census
Total	100%	100%	100%	100%
15-24 years	23	22	28	29
25-34 years	26	27	28	30
35-44 years	23	23	21	21
45-54 years	13	13	13	10
55 and over	15	15	10	9

According to both SLID and the Census, 49% of visible minorities were under the age of 35; for Aboriginal peoples, SLID's estimate of the proportion in this age group was 56%, compared with 59% from the Census. Both employment equity designated groups have a much younger age profile than the total adult population as shown for SLID in Figure 2.

Figure 2: Distribution of Designated Groups and Total Population by Selected Age Groups, SLID



4.4.2 Labour Market Activity

Labour force data from SLID's 1993 preliminary interview and the 1991 Census were compared using the reference period of reported activity in the week before the Census or Survey.⁴ Because the labour force data from SLID and the 1991 Census were collected in different periods (January 1993 and June 1991) reflecting seasonal variations and changing economic conditions, the findings of the two

⁴ The Employment Equity data program, Housing Family and Social Statistics division, Statistics Canada provided special tabulations from the 1991 Census.

sources differ slightly (Table 2). For instance, there are discrepancies in the participation rates of the total population and Aboriginal peoples, and in the unemployment rates for visible minorities. On the other hand, the participation rate of visible minorities is very close in the two sources, as is the unemployment rate of off-reserve Aboriginal peoples. Overall, the labour market characteristics from SLID in 1993 provide a good starting point for measuring change over the next six years.

Table 2: Participation and Unemployment Rates, SLID 1993 and 1991

Census

		Participation Rate %	Unemployment Rate* %
Total Population	SLID, January 1993	69.9	11.2
	Census, June 1991	67.9	10.1
Visible Minorities	SLID, January 1993	70.3	16.4
	Census, June 1991	70.5	13.1
Off-Reserve Aboriginal Peoples	SLID, January 1993	65.6	17.7
	Census, June 1991	68.4	17.4

* Not seasonally adjusted

4.4.3 Education

This section presents SLID results, by age and gender, on the highest level of education reached by members of the two designated groups. The highest level of education variable has been grouped into three categories: those who did not graduate from high school; those who graduated from high school or participated in some non-university, post-secondary schooling; and finally, those who either attended or graduated from university, or graduated from another type of post-secondary institution.

Although not highlighted in this section, SLID does provide some other interesting and important education variables. For example, SLID collects the year in which an individual's diploma or degree was received. This information can be used for, among other things, ascertaining whether or not an individual's education was obtained in Canada. In addition, SLID provides information on other education variables such as, major field of study, which is valuable for studying the labour market participation of members of the designated groups.

Highest Level of Education

When comparing the highest level of education for 15 to 19 year olds, approximately 70% of individuals for both designated groups and the total population had not graduated from high school. As it is probable that many of individuals in this age group may still be in high school, determining their highest level of education may not be of much value at this point. As a result, they have been eliminated from the analysis of this variable.

Table 3: Highest Level of Education by Designated Group Status

Highest Level of Education	Total Population	Visible Minorities	Aboriginal Peoples
Total*	100%	100%	100%
High School Not Completed	29	22	35
Graduated High School/ Non-University Post-Secondary	25	27	25
University Post-Secondary/ Graduate All Post-Secondary	46	52	40

* Due to rounding, figures may not total 100%.

Overall, visible minorities group members, over 20 years of age, were more likely to attend university or graduate from a post-secondary program (52%) than Aboriginal peoples (40%) or the total population (46%) (Table 3).

By Age

From Table 4, one can see that the highest level of schooling of visible minorities between the ages of 20 and 44 years is comparable to that of the total population. A higher proportion of visible minorities over the age of 45, however, graduated from high school and went on to participate in, or graduate from, some post-secondary program (66% for visible minorities as compared to 55% for the total population).

Table 4: Highest Level of Education by Designated Group Status and Age

Highest Level Education	Total Population			Visible Minorities			Aboriginal Peoples		
	20-24	25-44	45+	20-24	25-44	45+	20-24	25-44	45+
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
High School Not Completed	17	18	45	17	16	34	32	29	49
Graduated High School / Non-University Post-Secondary	34	27	20	30	27	26	27	29	16
University Post-Secondary/ Graduate All Post-Secondary	50	55	35	53	57	40	41	42	34

Conversely, for all age groups, a higher proportion of Aboriginal peoples than the total population did not finish high school (Table 4). As compared to the total population, Aboriginal peoples between 20 and 24 years of age were

almost twice as likely to have left high school before graduating (32% versus 17%). Consequently, a smaller proportion of Aboriginal peoples attended university or graduated from some post-secondary program.

By Gender

As indicated in Table 5, the highest level of education for visible minority females was close to that of the total population. Aboriginal females, on the other hand, were less likely to finish high school, and hence a smaller proportion attended university or graduated from some post-secondary program.

Table 5: Highest Level of Education by Designated Group Status and Gender

Highest Level of Education	Total Population		Visible Minorities		Aboriginal Peoples	
	Male	Female	Male	Female	Male	Female
Total	100%	100%	100%	100%	100%	100%
High School Not Completed	30	29	17	26	34	35
Graduated High School / Non-University Post-Secondary	23	27	26	28	23	28
University Post-Secondary/ Graduate All Post-Secondary	47	44	57	46	44	37

According to SLID data, a smaller proportion of visible minority males (17%), as compared to the total male population (30%), left high school before graduating, and a higher proportion attended university or graduated from a post-secondary program (Table 4). Aboriginal males, on the other hand, were more likely than the total male population to leave high school before finishing, and consequently, less likely to attend university or graduate from a post-secondary program.

4.4.4 Immigrant Status of Visible Minorities

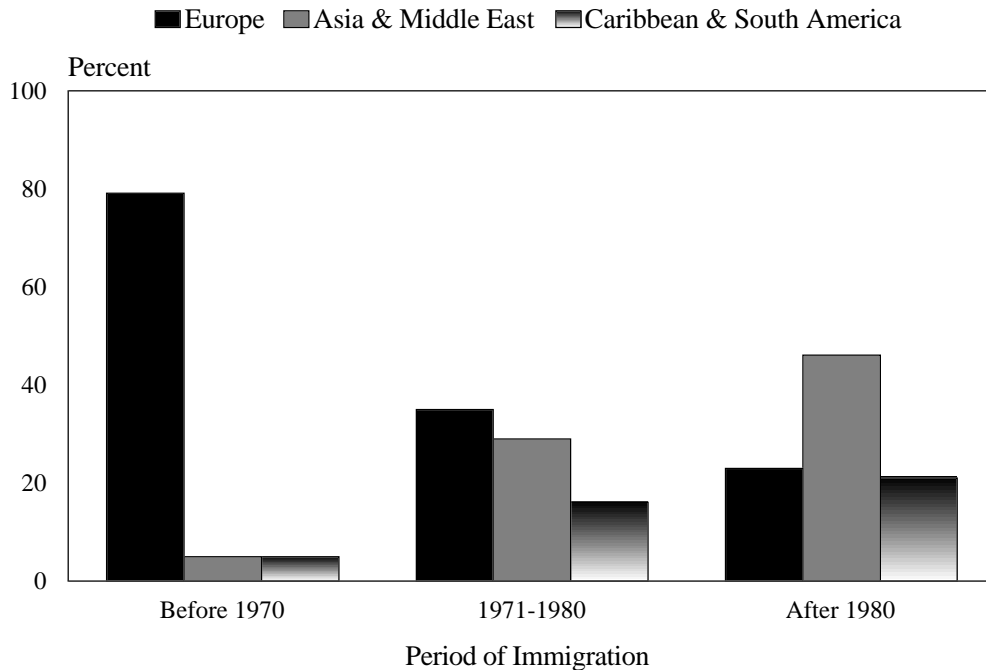
According to SLID data in 1993, 82% of the visible minority population aged 15 and over were immigrants. It is important to remember that SLID only collects detailed data from respondents 15 years of age and over. Children are included as family members, but there is no information to identify them as being immigrants or visible minorities.

While this data, by definition, is not considered employment equity data, it does provide interesting insight into specific characteristics of the selected designated group members. In addition, it provides readers with an example of some of the additional information SLID provides in order to supplement the employment equity data.

Within the sample, the majority of visible minority immigrants have come to Canada from Asia or the Middle East (59%), followed by the Caribbean or South America (29%), Africa (6%), Oceania (2%), the United States (1%) and Europe (1%). This section looks at the changing face of Canadian immigration with respect to visible minorities.

In 1993, immigrants comprised 18% of the SLID adult survey population; half (49%) of which arrived before 1970, one quarter (25%) between 1971 and 1980 and another quarter after 1980 (26%). Almost two-thirds (64%) of these immigrants were not visible minorities. This is due to the fact that, of the immigrants who arrived in Canada prior to 1980, the majority were not visible minorities, primarily from Europe. In more recent years, however, the composition of Canada's immigrant population has changed.

Figure 3: Immigrants by Place of Birth and Period of Immigration



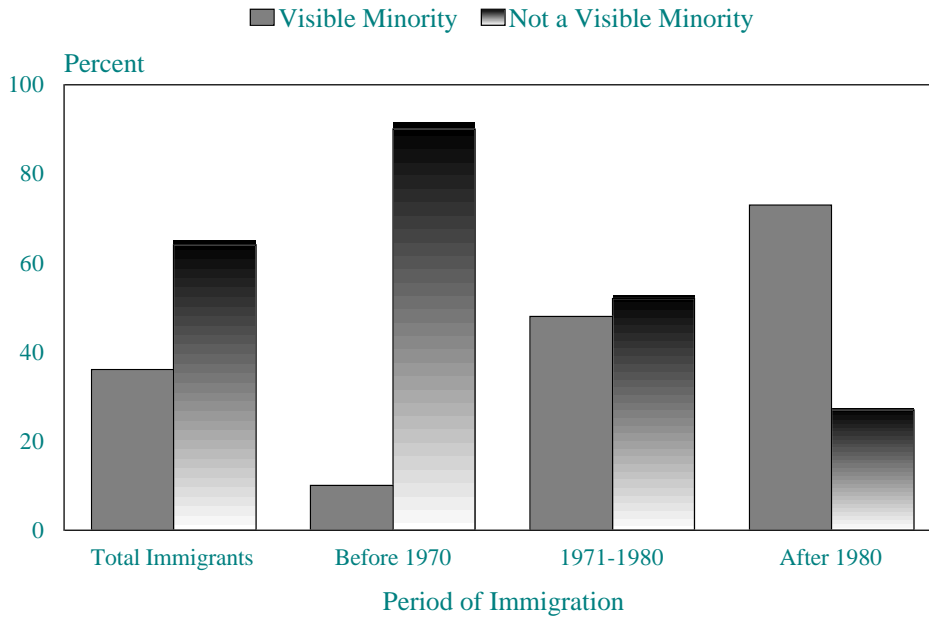
(1) Due to small numbers, the United States, Africa and Oceania have been excluded.

One way to assess this change is by looking at the country in which Canada's immigrants are born. Of all immigrants who entered Canada prior to 1970, 79% were European-born, while only 5% were born in Asia and the Middle East and 5% born in the Caribbean and South America (Figure 3). Almost all European-born immigrants in Canada are non-visible minorities (99%), while most immigrants born in Asia and the Middle East (98%), as well as the Caribbean and South America (86%) are visible minorities.

Of those immigrating between 1981 and 1992, the proportion of European-born dropped to less than one-quarter (23%) of all immigrants, while the proportion born in both Asia and the Middle East (46%), as well as the Caribbean and South America (21%) increased substantially (Figure 3).

This increase in the proportion of non-European born immigrants indicates an increase in the proportion of visible minorities entering Canada in more recent years. For example, of all the immigrants who came to Canada before 1970, only 10% were visible minorities. Of those immigrants who entered between 1981 and 1992, however, 73% were members of a visible minority (Figure 4).

Figure 4: Immigrants by Visible Minority Status and Period of Immigration, Canada, 1993



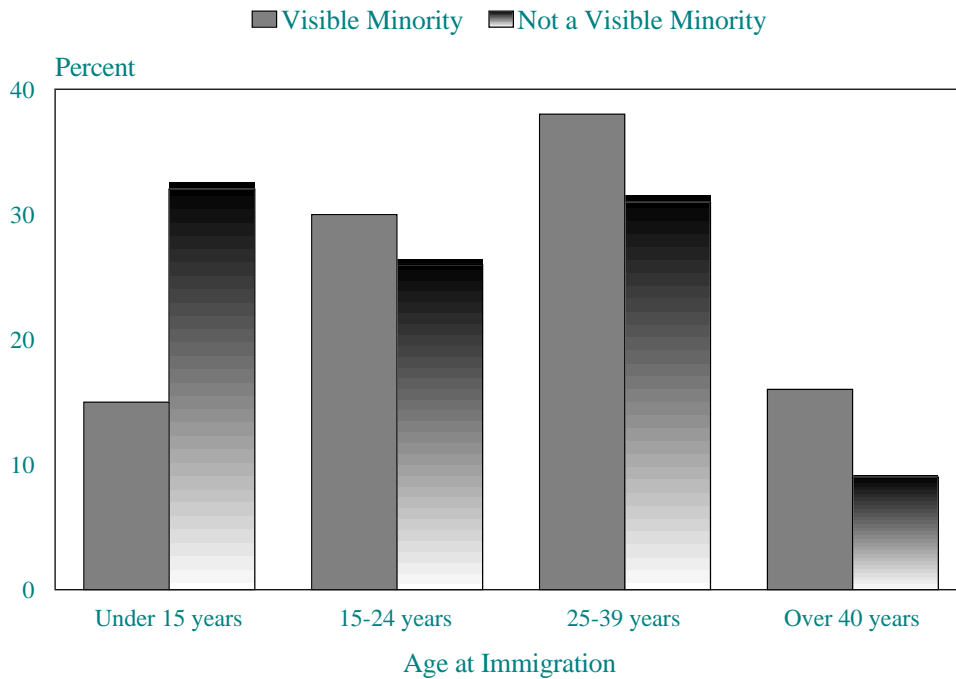
Age at Immigration

Again, when looking at this variable, it is important to remember that SLID only collects complete data from individuals over 15 years of age. As most of the immigrants who are not visible minorities arrived in Canada before 1980, those who came as children would now be old enough (over 15 years) to answer the full range of SLID questions. However, as many visible minority immigrants have arrived in Canada in more recent years, i.e. since 1980, there will be a group of

young visible minority immigrants who are not old enough to report on the SLID survey. As a result, we do not know age of immigration for these individuals and the discussion of this variable must be interpreted in light of this fact.

In general, visible minorities within the SLID sample immigrated to Canada at an older age than those who are not visible minorities. Approximately one-third (32%) of the latter arrived in Canada before they turned 15 years of age compared to only 15% of visible minority immigrants (Figure 5). On the other hand, a higher proportion of visible minorities (54%) entered Canada after the age of twenty-five than immigrants who are not visible minorities (40%).

Figure 5: Visible Minority Status and Age at Immigration for Immigrants, 15 Years and Over, 1993



As many of the visible minorities that can be identified by SLID have entered Canada after 16 years of age, as would be expected, a large majority received their formative schooling elsewhere. According to SLID data, 80% of visible minority immigrants, over 15 years of age, obtained most of their elementary and high school education outside of Canada. This factor can be important in comparing their labour force status with others.

5.0 LONGITUDINAL RESEARCH

One of the most important aspects of SLID is its longitudinal design. This feature will allow researchers to focus upon the same individuals over time, identifying what factors help or hinder an improvement in the position of the members of a designated group. This final section looks at some of the issues and techniques associated with longitudinal research, as well as presents some potential questions that may be addressed with SLID data.

5.1 Cross Sectional and Longitudinal Research

There has been a wealth of research over the years on labour market behaviour and experiences. Studies have also addressed the labour market issues pertaining to employment equity designated groups, namely women, visible minorities, Aboriginal peoples and persons with disabilities. Much of this research has been cross-sectional in nature; analyzing data that pertain to a group of individuals at one particular point in time.

Cross-sectional analysis is very important for describing variables and patterns of relationships as they exist at a particular time. It can tell, for example, what proportion of the labour force is unemployed, or give wage rates or family income at one point in time. In addition, a time series of aggregated cross-sectional data is

useful as an indicator of general trends or cyclical patterns in unemployment, wages, income and so forth. These cross-sectional “snapshots”, however, cannot tell how wage rates and unemployment spells change over time. For the description and analysis of dynamic change processes, longitudinal tracking of the same individuals over time is a necessity.

In Canada, there has been an increasing demand for longitudinal data. For example, Judge Abella, in her 1984 report on employment equity, recommended that “more longitudinal studies should be undertaken by Statistics Canada to measure the integration [into the labour force] of designated groups.” Data can be collected either by survey, computerized matching of existing administrative records or a combination of both. While the expense of cross-sectional surveys has been relatively less than longitudinal ones, as a result of advances in computerized data management systems, particularly with respect to administrative data sources, the cost of developing useful longitudinal data sets has become less prohibitive (Ashenfelter and Solon, 1982).

5.2 Longitudinal Data Sources

A number of longitudinal labour and income databases have existed for years in the United States. For example, one prominent panel survey is the Panel Study of Income Dynamics (PSID). This study, initiated by the Department of Health, Education and Welfare, and conducted by the University of Michigan's Survey Research Center, has collected, since 1968, a wide variety of information on a national sample of families that over-represents low income families. PSID's original sample included 4,800 families. Over the years, however, families have split and rearranged into new family units. In addition to the original families, PSID has interviewed these new units, and despite sample attrition, the sample has actually grown over time.

Another important American survey is the Survey of Income and Program Participation (SIPP), which emerged as one of the nation's key social and economic indicators. Instituted by the Census Bureau in 1983, SIPP data are intended to provide a better understanding of the distribution of income, wealth and poverty in the United States, as well as the effects of Federal and state transfer and service programs on the well-being of families and individuals. Although the design of SIPP is undergoing change, historically, it is a multi-panel, longitudinal survey of individuals over 15 years of age. Beginning in October 1983, the respondents from each panel were obtained from a multi-staged, stratified sample of the civilian, non-institutionalized population of the United States, and interviewed once every four months over the 2½ year panel life. A new panel, measuring the economic and demographic characteristics of respondents, was conducted in February of each calendar year.

As mentioned in an earlier section of this report (Section 2.5), one source of longitudinal labour market data in Canada has been the Labour Market Activity Survey (LMAS). The LMAS collected information on the patterns of work and types of jobs held by Canadians between 1986 and 1990. One shortcoming of the LMAS however, was its lack of family history and detailed income data. The Survey of Labour and Income Dynamics (SLID) was intended to be a follow up to the LMAS. Modelled partly on the LMAS, SLID collects data on the labour market experiences of Canadians as well as education, family history and income data.

5.3 Questions That May be Addressed Using SLID Data

One of the most important and central features of SLID's longitudinal data with respect to the designated groups is for the analysis of change, particularly at the

level of the individual. Contained within SLID's dataset are three types of variables: fixed; annual; and, dynamic. Fixed variables, such as date of birth, sex, visible minority status are collected only once from a respondent and do not change over time. Annual variables, such as number of weeks employed during the year, refer to a specific reference year and only one value is collected for each year of the panel. Finally, dynamic variables reflect a state, such as a marital status, which may change never, once or several times during the panel. While the fixed variables will allow researchers to identify and analyze the designated group members, the annual and dynamic variables will allow researchers to study the labour market characteristics associated with these individuals.

While some studies may focus upon the individual, SLID also offers other units of analysis, such as spells (completed periods), transitions and person-jobs (Webber, 1994). Throughout the duration of a panel, an individual may experience a number of spells of, for example, unemployment. Start and end dates are attached to these spells, and, as a result, spell durations can be derived. Researchers may also be interested in examining transitions of individuals and the impact on personal and family economic well-being. A transition occurs when an individual changes from one state to another, as from work to unemployment, student to worker, single to married. Finally, researchers may want to analyze the wages, hours, etc., for different jobs held by an individual. With SLID data, this can be done on a job-by-job basis.

It is expected that the longitudinal nature of SLID will be useful in addressing a number of important public policy research issues. It would, in fact, seem that some research issues could not be addressed without longitudinal data. For example, effective public policy towards relevant issues such as poverty and unemployment hinges partly upon whether the experiences of an individual are typically transitory or chronic in nature. With respect to unemployment, the

longitudinal nature of SLID will be very useful for determining what groups within society repeatedly face unemployment, and to what extent.

Another potential use of SLID data will be for research that examines the incidence and duration of low income spells. Important questions regarding the determinants of flows into and out of low income can be addressed with SLID data. For example, what labour market events tend to trigger movement into or out of low income for members of a designated group? Or, over time, to what degree do members of a designated group depend upon Unemployment Insurance and Social Assistance? Research on the economic dependence of individuals upon social assistance programs (Plant, 1982) has been important for public policy purposes, and may be addressed with SLID data.

The quality of working life for members of a designated group, as measured by wage gap studies, can show inequalities in the work place. Data on years of work experience are gathered in SLID's preliminary interview. In addition, detailed information on schooling, including completion of secondary school (an important labour market activity determinant), years of schooling, major field of study, and highest level of education are collected annually. This type of information should allow wage comparison studies that control for human capital variables. Often this type of research is done cross-sectionally, however, the longitudinal nature of SLID will allow researchers to follow members of a designated group over time to analyze whether there is progress or discrimination in the workplace.

Individuals who are interested in the occupational mobility and career paths of designated groups will also be able to take advantage of SLID's longitudinal design. Information on employers (up to six each year) is collected for each respondent. In addition, information on occupational changes, number of hours worked and wage rates, as well as managerial and supervisory responsibilities are

tracked for the respondent's attachment to each employer. This will allow researchers to define a population that has experienced a wage change over a given period, as well as some determinants of this change.

In addition, researchers will be able to examine what proportion of a designated group are low-wage earners, and study the characteristics of these individuals over time. For example, what are the longer term effects of accepting a low-wage job? Do individuals acquire marketable skills from accepting such jobs, or is this actually a barrier to advancement? These are but a few examples of research questions that may be addressed by the longitudinal data from SLID.

5.4 Longitudinal Data Analysis

Longitudinal research has been heralded as being particularly advantageous in two areas: describing patterns of change, and the analysis of correlated relationships. Various methods may be used for the analysis of longitudinal data. In fact, many of the methods used for cross-sectional data analysis may be used in the analysis of longitudinal data. For example, methods such as simple frequencies; measures of association, dispersion, and central tendency; contingency tables; parametric and non-parametric tests for statistical significance; and, multivariate analysis are all applicable to longitudinal data.⁵ The main difference with longitudinal analysis is that these methods may be used on time-ordered data, as well as used to analyze variation in a single variable at two or more points in time, rather than two or more variables measured at one point in time (Menard, 1991).

⁵ It is not the purpose of this report to give a detailed explanation of the methods and limitations of longitudinal data analysis, but rather to provide an introduction to SLID and the types of research questions that may be addressed by the longitudinal nature of the data. A list of sources providing different methods and approaches to longitudinal analysis is supplied for the reader in Appendix A.

The techniques and methods of longitudinal data analysis, however, are not without their problems. As with cross-sectional analysis, when using any method on longitudinal data, careful concern for the underlying assumptions and limitations of the method must be addressed.

One possible limitation of longitudinal data sources is the potential for reporting error in any of the waves. This creates a well-known problem in a longitudinal survey—the seam effect of overreporting transitions between two collection periods. SLID, through the use of Computer Assisted Interviewing (CAI), has found a way to reduce this problem. CAI provides the capacity to carry information from the previous wave or year to the next interview. This capability is being used for dependent interviewing in the collection of several labour market variables that will be used to derive spells, for example, spells of employment, absences from work, and educational activity. By providing information to respondents on their status at the time of the previous labour interview—that is, one year earlier—effects like telescoping and under-reporting of activity early in the reference period should be reduced.

6.0 CONCLUSION

This report has pointed to the wide range of variables and units of analysis in SLID that can be used to compare the position of the designated groups as compared to the rest of the population. The main limitation of SLID for studying employment equity issues is the sample size. When members of visible minorities represent less than 10% of the total population, and off-reserve Aboriginal population about 2%, the absolute numbers identified in a sample of 15,000 households is small, giving concerns about reliability and confidentiality. Added to this is the heterogeneity within the visible minority group in terms of immigrants and native born Canadians, period of immigration and age at immigration, education and mother

tongue. However, being a member of a designated group can be used as an explanatory variable in multivariate models. Moreover, with the introduction of the second panel in 1996, the survey sample size is expected to double providing larger numbers in the designated groups.

In these early days of SLID, we are fortunate to have a survey design (i.e., preliminary interview) that allows a look at certain employment equity data. SLID has released its first data publication which highlights the information collected in the preliminary interview in January 1993. The first wave of labour and income data, for the 1993 reference year was collected in 1994. The linked microdata file of the preliminary interview and 1993 data will be released in the summer of 1995. Although the reference period is only one year, it will be of interest for employment equity analysis because of the different reference period from the census. The 1991 Census occurred before the complete effects of the 1990-92 recession could be seen and SLID results begin as the country moved out of the recession. In the longer term, although SLID's sample size may constrain analysis to some extent, its longitudinal design should allow new insights for those interested in studying equity issues.

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Appendices

Appendix A Longitudinal Data Analysis: Selected Sources

As mentioned in Section 5.4, longitudinal analysis is particularly useful for the description of change, as well as for the analysis of correlated relationships. It was not the purpose of this report, however, to demonstrate the different methods of longitudinal data analysis. The following list has been included in order to provide the reader with some sources regarding the various analytical methods that may be applied in longitudinal analysis.

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**Appendix B
Data Tables**

**Table 1A:
Designated Group Members, 15 Years of Age and Over, by Province, 1993**

Province	Total Population	Aboriginal Peoples		Visible Minorities	
	Number	Number	% of Province	Number	% of Province
Newfoundland	445,809	8,438*	1.9*	--	--
Prince Edward Island	99,160	--	--	--	--
Nova Scotia	710,326	--	--	18,688	2.6
New Brunswick	577,720	--	--	--	--
Québec	5,619,484	123,856	2.2	283,288*	5.0*
Ontario	8,364,435	167,663	2.0	837,690	10.0
Manitoba	822,245	49,825*	6.1*	43,608*	5.3*
Saskatchewan	733,102	26,352	3.6	--	--
Alberta	1,986,388	66,605	3.4	179,171	9.0
British Columbia	2,682,992	77,845	2.9	313,718	11.7
Canada (1)	22,041,661	538,774	2.4	1,701,068	7.7

(1) Canada total excludes the Territories as well as the on-reserve Aboriginal population.

* Estimate qualified: coefficient of variation 16.6 - 25.0.

-- Estimate restricted: coefficient of variation > 25.1.

**Table 1B:
Designated Group Members, 15 Years of Age and Over, by Region, 1993**

Region	Total Population	Aboriginal Peoples		Visible Minorities	
	Number	Number	% of Region	Number	% of Region
Atlantic	1,833,015	26,628	1.5	26,889	1.5
Québec	5,619,484	123,856	2.2	283,288*	5.0*
Ontario	8,364,435	167,663	2.0	837,690	10.0
Prairie	3,541,735	142,782	4.0	239,483	6.8
British Columbia	2,682,992	77,845	2.9	313,718	11.7
Canada (1)	22,041,661	538,774	2.4	1,701,068	7.7

(1) Canada total excludes the Territories as well as the on-reserve Aboriginal population.

* Estimate qualified: coefficient of variation 16.6 - 25.0.

-- Estimate restricted: coefficient of variation > 25.1.

**Table 2:
Designated Group Members, 15 Years of Age and Over, by Gender,
SLID (1) and Census Counts, 1993**

	SLID					
	Total Population		Visible Minorities		Aboriginal Peoples	
	Number	%	Number	%	Number	%
Men	10,827,575	49.1	833,155	49.0	239,053	44.4
Women	11,214,086	50.9	867,914	51.0	299,721	55.6
Total	22,041,661	100.0	1,701,069	100.0	538,774	100.0

	Census					
	Total Population		Visible Minorities		Aboriginal Peoples	
	Number	%	Number	%	Number	%
Men	10,391,015	48.9	924,480	49.2	234,500	46.1
Women	10,854,310	51.1	955,265	50.8	274,175	53.9
Total	21,245,325	100.0	1,879,745	100.0	508,675	100.0

(1) Estimates exclude the Territories as well as the on-reserve Aboriginal population.

Appendix C
SLID Content

SURVEY OF LABOUR AND INCOME DYNAMICS: ORGANIZATION OF CONTENT

