

USING CENSUS DATA TO EXAMINE ABORIGINAL ISSUES: A METHODOLOGICAL NOTE

Robert E. Wright
Department of Political Economy
Adam Smith Building
University of Glasgow
Glasgow, Scotland
United Kingdom, G12 8RT

Abstract/Résumé

There are numerous problems associated with using census data pertaining to Aboriginal Canadians. This paper describes some of these problems in the context of using census data contained in what are called *Public Use Sample Tapes*. It is hoped that this paper will convince researchers that census data has a very important role to play in research aimed at understanding the various socio-economic circumstances of the Aboriginal population.

Il y a de nombreux problèmes, associés avec l'usage d'un recensement, relatif aux aborigènes canadiens. Cet article décrit quelques-uns de ces problèmes dans le contexte de l'usage des données d'un recensement, contenues dans ce qu'on appelle *Public Use Sample tapes*. On espère que cet article convaincra les chercheurs que les données d'un recensement ont un rôle très important à jouer dans les recherches, dirigées à la compréhension des circonstances socio-économiques des aborigènes.

Introduction

There are numerous surveys carried out by the Canadian government that may be used to examine issues relating to Aboriginal people.¹ For example, the *Survey of Consumer Finances*, the *Labour Force Survey* and the *Labour Market Activity Survey* all collect detailed socio-economic, demographic and labour market related information about Aboriginal Canadians (see Statistics Canada, 1989b). However, not all Aboriginals are equally represented in these surveys. More specifically, in most of these surveys, individuals residing on Indian Reserves (or in Indian Settlements) are not included in the sampling frames. That is, information is usually not collected for those whom we shall refer to as “on-Reserve Aboriginals.” This, of course, is not problematic if one is only interested in examining issues pertaining to “off-Reserve Aboriginals.” However, if the focus is on on-Reserve Aboriginals (or on making comparisons between on-Reserve and off-Reserve Aboriginals), then most of these surveys are of very limited use.

Another problem with using many of the above mentioned surveys relates to sample size. Because Aboriginal people make up such a small percentage of the total Canadian population, the sub-sample of Aboriginal people included in these surveys is usually very small, often only numbering a few hundred. Such small sample sizes cause large sampling errors, which reduces confidence in any empirical analysis, regardless of the level of statistical sophistication employed.

These “data problems” have undoubtedly hampered the empirical investigation of issues relating to Aboriginal Canadians. However, this is not to say that such empirical research is a fruitless and valueless endeavor. On the contrary, one important and widely used source of individual-level information on Aboriginal Canadians is the Census. In fact, the Census is one of the few “surveys” that collects information for both on-Reserve and off-Reserve Aboriginal people. Census data have proved to be a major source of information on the Aboriginal population and form the basis of many of the “official” estimates of Aboriginal characteristics (see for example, Hagey *et al.*, 1989a, 1989b, 1989c; Murray, 1980).

There are numerous problems associated with using Census data relating to Aboriginal people. The purpose of this paper is to describe some of these problems in the context of using Census data contained in the so-called *Public Use Sample Tapes*. These data sets are publicly-available extracts of the full Census. They allow researchers to process directly the base unit of the Census (e.g. individual, family or household). Therefore, researchers can group and process data to suit their specific requirements.

By processing micro-level records, very detailed analyses can be carried out, using a vast array of powerful statistical techniques. Despite the fact that these data-sets are available at low cost, are easy to process and are widely used in applied social science, they have not been utilised with much rigor to examine issues relating to Aboriginal Canadians. The underlying hope of this paper is to convince researchers that Census data has a very important role to play in research aimed at understanding the socio-economic circumstances of the Aboriginal population.

This paper proceeds as follows. In the first section, the structure of the 1986 Individual *Public Use Sample Tape* is described and some of the weaknesses and strengths associated with its use are outlined. The second section considers the way in which the Census defines and identifies an "Aboriginal Canadian." As an "on-Reserve/off-Reserve" indicator variable was not included on the *Public Use Sample Tape*—a variable that is central to most discussions of Aboriginal issues—the third section outlines procedures for constructing one, using information on household type, household class and housing tenure. As Census enumerators were refused entry to some Indian Reserves and Settlements, the fourth section addresses the statistical problems that emerge due to the resulting under-enumeration of this population.

1. Public Use Sample Tapes

The Canadian Census is carried out every five years. Since 1971, extracts of Census data have been available to researchers in the form of "Public Use Sample Tapes"—commonly referred to as the "PUST data sets." These data sets contain a wide range of individual-level data on the population of Canada. Variables relating to demography, education, income, earnings, labour market status, residence, migration, ethnicity, language, housing and a host of other socio-economic factors are included. The data sets are in machine-readable form and are easy to process with the computing resources and software available to most researchers (e.g. SPSSX, SAS, GLIM, etc.). Documentation is very good and the data sets are well supported by Statistics Canada.

The practical focus in this paper is on PUST data derived from the 1986 Census, which at the time of writing was the most recently available. However, it is my impression that the PUST data sets being created from the 1991 Census will be very similar in structure. Therefore, the issues addressed below will likely be relevant to these data sets also. Furthermore, the specific data set that we focus on is the "Public Use Microdata File on Individuals" (see Statistics Canada, 1990). In this data set, the unit of

analysis is the individual, not the household or family. Other PUST data sets, where the unit of analysis is the household or family, are also available. Even though our discussion is couched in terms of this specific data set, similar problems are encountered with these other data sets.

One problem with PUST data sets, from a user's point of view, are the procedures that are used to preserve individual confidentiality under Canadian law. Confidentiality is maintained through two main mechanisms. The first is by "data suppression"—categories of variables which contain only a few individuals are suppressed or certain "sensitive" variables are simply not included on the PUST. The second is by a "reduced level of detail"—information on certain characteristics is aggregated into less detailed categories. The end result of these procedures is that much of the initial "richness" of the information collected in the Census is lost. This, of course, often limits (and some time severely limits) the types of analysis that can be performed.

The 1986 individual-level PUST consists of information on 500,434 individuals. It is a 2% or 1-in-50 random sample of the Canadian population. Clearly, one of the advantages of the PUST is the very large sample size. In addition, the individual-level PUST also includes information on many household-family-level characteristics. This information can be easily combined with individual-level characteristics, in order to perform analyses with a multi-level dimension.

2. Census Definition of an Aboriginal Person

On the 1986 PUST, there is an Aboriginal ethnic origin variable, ABETHNIC. This variable was derived from the self-assessed "ethnic origin" question (i.e., Census question #17, see Statistics Canada, 1988). There are no missing values on this variable in the sense that all individuals are included in the classification. This question is reproduced in Figure 1. Separate mark-in-boxes for the key categories North American Indian, Métis and Inuit were included.

The Census definition of an "Aboriginal" includes all individuals who report any of these three single Aboriginal responses. However, unlike in the 1981 Census, where only the respondent's paternal ethnicity was to be reported (i.e., one ethnic origin per respondent), in the 1986 Census this restriction was removed. The 1986 Census allowed respondents to indicate up to four separate ethnic origins, thereby encouraging multiple responses. Those individuals who reported any non-Aboriginal origin in conjunction with an Aboriginal ethnic origin (i.e., North American Indian, Métis or Inuit) are also classified by the Census as being Aboriginal. As is shown in Table

17. To which ethnic or cultural group(s) do you or did your ancestors belong? (See Guide)
 Mark or specify as many as applicable

25 French
 26 English
 27 Irish
 28 Scottish
 29 German
 30 Italian
 31 Ukrainian
 32 Dutch (Netherlands)
 33 Chinese
 34 Jewish
 35 Polish
 36 Black
 37 Inuit
 38 North American Indian
 39 Métis

Other ethnic or cultural group(s). For example, Portuguese, Greek, Indian (India), Pakistani, Filipino, Japanese, Vietnamese, (specify below)

40 Other (specify)

41 Other (specify)

42 Other (specify)

Figure 1: Census Question 17 - Ethnic Origin

1, individuals with “multiple ethnic origins” make up a large share of the total Aboriginal population in Canada.

In addition to the ethnic origin question, an “Aboriginal status” Census question was also included on the 1986 Census (i.e., Census question #7). This question is reproduced in Figure 2. This question was intended to encourage “self-perception.” It was believed that this question, in conjunction with the ethnic origin question, would lead to a more precise identification of the Aboriginal population. Unfortunately, there was considerable mis-reporting on this question, with a substantial number of non-Aboriginal people reporting Aboriginal status. Apparently, the term “aboriginal” was poorly understood! This resulted in significant data errors:

Data quality problems arising from these response errors were sufficiently severe to make the results misleading; hence they will not be published. Instead, 1986 Census data on Canada's aboriginal people will be limited to what can be derived from the sample question on ethnic origin (Statistics Canada, 1987a, p.89).

Table 1: Distribution of Aboriginal and Non-Aboriginal Ethnic Origins: Canada, 1986 (Based on 5% PUST)

(a) Ontario, Quebec, Manitoba, Saskatchewan, Alberta and British ColumbiaN	% of Total Population	% of Aboriginal Population	
Single Aboriginal Origins:			
1. North American Indian	5,293	1.1	37.0
2. Métis or Inuit	1,332	0.3	9.3
Multiple Aboriginal Responses:			
3. North American Indian and Non-Aboriginal Origins	4,445	0.9	31.3
4. All other multiple Aboriginal Origins	1,779	0.4	12.4
Non-Aboriginal Origins:			
5. All responses	486,135	97.1	—
(b) Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Yukon Territory and North West Territories			
Single Aboriginal Origins:			
6. North American Indian, Métis or Inuit	978	0.2	6.8
Multiple Aboriginal Response:			
7. All multiple Aboriginal responses	472	0.1	3.3
Source: 1986 Canadian Census Individual Public Use Sample Tape			
Notes: Percentages do not sum to 100 due to rounding.			

The failure of this poorly conceived question is discussed in detail in Hagey (1987).

It is well known that there are problems with using self-reported ethnicity to identify the Aboriginal population. Past Censuses have undercounted this Aboriginal population by a significant amount (see Hull, 1984; Murray, 1980). It appears that this also occurred in the 1986 Census. According to published Census estimates, the Aboriginal population numbered 711,720 in 1986. This is a 45% increase since 1981, when the Census identified 491,460 Aboriginal Canadians. Clearly, the fact that multiple ethnic responses were allowed “increased” the Aboriginal popula-

7. Do you consider yourself an aboriginal person or a native Indian of North America, that is, Inuit, North American Indian or Métis? (See Guide)	
33	<input type="checkbox"/> No, I do not consider myself Inuit, North American Indian or Métis
34	<input type="checkbox"/> Yes, Inuit
35	<input type="checkbox"/> Yes, status or registered Indian
36	<input type="checkbox"/> Yes, non-status Indian
37	<input type="checkbox"/> Yes, Métis
	38 <input type="checkbox"/>

Figure 2: Census Question 7 - Aboriginal Status

tion more than what would be expected given known demographic parameters.

In addition, the Census estimates differ substantially from the estimates generated by *Indian and Northern Affairs Canada* (INAC) (see Hagey *et al.*, 1989a:22). According to these estimates, which combine information from the Census with information from the *Indian Register* (adjusted for the late reporting of births and deaths), the size of the Aboriginal population in 1981 was 735,481 and 845,381 in 1986. This is an increase of only about 15% between 1981 and 1986, which is much lower than what is suggested by the 1981 and 1986 Censuses.

If we take the INAC estimates as being the “true” estimates, the degree of discrepancy between Census estimates and INAC estimates decreased between 1981 and 1986. While in 1981 the size of the Census-estimated population was only 69% of the INAC-estimated population (i.e. 491,460/735,481) by 1986 the difference had narrowed, with the size of the Census-estimated population being 85% of the INAC-estimated population (i.e. 711,720/845,381). This convergence suggests that the 1986 Census (despite the failure of the Aboriginal status question) was more successful at

identifying Aboriginal people compared to the 1981 Census. Needless, to say however, there is much room for improvement.

Table 1 reports the distribution of the *ABETHNIC* variable. As can be seen from this Table, for the provinces of Quebec, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia, it is possible to identify North American Indians separately (about 37% of the Aboriginal population included on the PUST). It is not possible to identify Métis and Inuit separately, since they are grouped into a single category (about 9.3% of the total). In addition, individuals who report multiple Aboriginal origins are placed in one of two categories. The first is the combination of North American Indian with any other ethnic origin (31.1% of the total). The second is Métis or Inuit combined with any other ethnic origin. However, also included in this category are individuals with "other" multiple Aboriginal origins with or without a non-Aboriginal origin (12.4% of the total).

For the Maritime provinces, the Yukon Territory and the North West Territories, there is a "reduced level of detail" on this variable. In these provinces/territories, it is not possible to identify Métis, Inuit and North American Indians separately, as they are grouped together in a single category (6.8% of the total). Likewise, all individuals who report multiple Aboriginal origins have been placed in a single category (3.3% of the total, see Table 1).

Based on the Census definition, and using the *ABETHNIC* variable, it is a straightforward task to divide the total PUST sample of 500,434 individuals into Aboriginal (i.e., categories 1,2,3,4,6 and 7) and non-Aboriginal (i.e., category 5) sub-samples. Using this criteria, 14,299 individuals report single or multiple Aboriginal ethnic origins, which is about 2.9% of the total PUST sample (see Table 2).

Unfortunately it is not possible to distinguish "status" and "non-status" Indians in the PUST. Even though this information was collected in the

**Table 2: Distribution of Aboriginal Ethnic Origins: Canada, 1986
(Based on 5% PUST)**

Group	N	%
Aboriginal	14,299	2.9
Non-Aboriginal	486,135	97.1
Total	500,434	100.0

Source: 1986 Canadian Census Individual Public Use Sample Tape

Census (i.e., Census question #7), a corresponding indicator variable was not included on the PUST. As discussed above, even though the main reason for not including this variable on the PUST was the unreliability of the information collected, issues relating to confidentiality were likely also a factor.

3. Distinguishing On-Reserve and Off-Reserve Aboriginal Residents

As mentioned above, information about whether an Aboriginal person resides on an Indian Reserve or Settlement was collected in the 1986 Census. However, an “on-Reserve/off-Reserve” indicator variable was not included on the PUST. Despite this exclusion, it is possible to construct an on-Reserve/off-Reserve indicator variable for 98.8% of the Aboriginal people included on the PUST, by combining the Aboriginal ethnic origin, household class, household type and housing tenure variables. Since the exclusion of a on-Reserve/off-Reserve indicator variable has led some researchers to conclude that the PUST is of limited use in examining Aboriginal issues, the procedure for and logic behind constructing this variable is described in detail.

The Census defines two “classes” of households. The corresponding PUST variable is *HHCLASS*. They are: (1) “Private households,” and (2) “Other households.” More specifically:

Private households — “Refers to a person or group of persons (other than foreign residents) who occupy a private dwelling and do not have a usual residence elsewhere in Canada.”

and

Other households — “Refers to persons who occupy a collective dwelling and do not have a usual place of residence elsewhere in Canada and to persons residing together outside of Canada on government, military or diplomatic postings (Statistics Canada, 1990:19).”

The bulk of these “other households” are “collectives.” That is:

Collective dwellings refer to living quarters occupied by 10 or more people unrelated to the reference person, or any other living quarters that are clearly identified communal (rooming-houses), institutional (jails, hospitals) or commercial (hotels), regardless of the number of occupants (Statistics Canada, 1988:66).

Of the 14,299 Aboriginals included in the PUST, only 111 reside in “other

**Table 3: Distribution of Household Classes: Canada, 1986
(Based on 5% PUST)**

Household Class	Aboriginals		Non-Aboriginals	
	N	%	N	%
Private households	14,188	99.2	482,467	99.2
Other households	111	0.8	3,668	0.8
Total	14,299	100.0	486,135	100.0

Source: 1986 Canadian Census Individual Public Use Sample Tape

households" (see Table 3). This is about 0.8% of the total. The corresponding figure for non-Aboriginals is also 0.8%.

The Census defines 13 household "types" (in addition to the already mentioned two household "classes"). The corresponding PUST variable is *HTYPE*. There is a single "not applicable" category (category 0) and 12 other "applicable" categories (categories 1 through 12). These categories are shown in Table 4. This variable is reported for all individuals in private households. Therefore, individuals who live in "collectives" or "reside outside Canada" are coded "not applicable" (i.e., do not reside in "private households"). In addition, individuals who are "temporary residents" are also coded "not applicable." Note, therefore, that temporary residents, according to the Census, reside in private households.

Of the 14,299 Aboriginals included in the PUST, 173 reside in "not applicable" household types (see Table 3). This is 1.2% of the total. Since all "other household" classes are also "not applicable" household types, there are 62 Aboriginals (i.e., 173-111) who reside in private households but reside in "not applicable" household types. Since the difference is "temporary residents," it follows that these 62 Aboriginals must be temporary residents. Therefore, excluding individuals who reside in "not applicable" household types leaves 14,126 individuals (i.e., 14,299-111-62). Put slightly differently, on the PUST there are 14,126 Aboriginals who reside in private households who are permanent residents.

The Census also collects information on housing tenure. This question was reported for all individuals in private households. The corresponding PUST variable is *TENURP*. The variable consists of three categories:

- (0) Not applicable
- (1) Owned
- (2) Rented

The “not applicable” category includes:

- (1) Persons in collectives
- (2) Persons in households outside of Canada
- (3) Temporary residents
- (4) Persons on Reserve

It is important to stress that all Aboriginal people residing on Reserves were coded “not applicable” on this tenure variable. That is:

**Table 4: Distribution of Household Types:
Aboriginal Canadians, 1986
(Based on 5% PUST)**

Household Types	N	%
I. Not applicable	173	1.2
II. Family Households		
One-Family Households:		
Without children		
1. Without additional persons	895	6.3
2. With additional persons	236	1.7
With children		
3. Without additional persons	6,514	45.6
4. With additional persons	1,687	11.8
Lone Parent Families:		
5. Without additional persons	1,671	11.7
6. With additional persons	888	6.2
Secondary Family Households		
7. Without children	31	0.2
8. With children	182	1.3
9. Lone parent family	177	1.2
10. Multiple-family households	631	4.4
III. Non-Family Households		
11. One person only	654	4.6
12. Two or more persons	560	3.9
Total	14,299	100.0

For historical and statutory reasons, shelter occupancy on reserves does not lend itself to the usual classification by standard tenure categories. Therefore, a special category on reserve has been created for the 1986 Census products to apply to all occupied private dwellings on reserves whether originally reported as owned or rented. Thus, tenure categories owned or rented refer to occupied private non-reserve dwelling only (Statistics Canada, 1988:29).

All Aboriginal people living on Reserves were coded “not applicable” on the tenure variable, regardless of whether or not they actually reported owning or renting their residence. Since the variable was collected for all individuals in private households, all off-Reserve Aboriginal people were required to answer the question—they had to indicate whether their residence was rented or owned—and this information determined their housing tenure. In this sense, therefore, *the housing tenure variable is also an indicator of on-Reserve or off-Reserve status* for Aboriginal persons who reside in private households and are permanent residents.

The distribution on the housing tenure variable for Aboriginal people is given in Table 5. Table 6 shows the distribution of the on-Reserve/off-Reserve indicator variable (or alternatively the re-coded tenure variable) excluding those individuals who do not reside in private households or who are temporary residents (i.e., N=173). As the table shows, of the 14,126 Aboriginal people who meet the above criteria (98.8% of the total), 22.3% live on-Reserves and 77.7% do not. According to Statistics Canada Census-based estimates, 22.5% of the Aboriginal population resided on Reserves. Since the 95% confidence interval for the PUST-based estimate is

**Table 5: Distribution of Household Tenures:
Aboriginal Canadians, 1986
(Based on 5% PUST)**

Tenure	N	%
0. Not applicable	3,327	23.3
1. Owned	5,118	35.8
2. Rented	5,854	40.9
Total	14,299	100.0

Source: 1986 Canadian Census Individual Public Use Sample Tape

**Table 6: Distribution of On-/Off-Reserve Residence:
Aboriginal Canadians, 1986
(Based on 5% PUST)**

Residence	N	%
On-Reserve	3,154	22.3
Off-Reserve	10,972	77.7
Total	14,126	100.0

Source: 1986 Canadian Census Individual Public Use Sample Tape

21.6 to 23.0%, this similarity is encouraging.

To examine further the reliability of the on-Reserve/off-Reserve indicator, Table 7 shows the percentage of Aboriginal persons who live on Reserves broken down by province. The first column shows Statistics Canada's Census-based estimates. The second column are the estimates based on the 1986 PUST using the indirectly constructed indicator of on-Reserve/off-Reserve residence. The last two columns show the lower and upper bounds of the 95% confidence interval. As can be seen from the Table, the Statistics Canada estimates lay well within the PUST-based confidence intervals. However, the small sample sizes, especially for the Maritime provinces, indicate that great care must be exerted when using the PUST data to perform analysis at these lower levels of geographic aggregation (see Column 3). In my view, such analyses should not be carried out. It is also interesting to note that the Census suggests that no Aboriginal people live on Reserves in Newfoundland, an observation confirmed with the PUST data.

4. Under-Enumeration of the On-Reserve Aboriginal Population

In 1986, Census enumerators were refused entry to 136 Indian Reserves and Settlements. Statistics Canada has estimated the population missed was about 45,000 individuals. This under-enumeration of Reserves is sizable and represents about 6.3% of the total Aboriginal population. Because of this exclusion, off-Reserve Aboriginals are over-represented in Census estimates. For example, mean values of characteristics (e.g., mean

**Table 7: Distribution of On-/Off-Reserve Residence:
Aboriginal Canadians, 1986
(Based on 5% PUST and Published Census Totals)**

Province:	Statistics ¹ Canada	PUST ²			
		%	N	Upper bound	Lower bound
Newfoundland0.0	0.0	192	—	—	
P.E.I.	26.7	44.8	29	26.3	63.3
Nova Scotia32.4	30.2	242	24.3	36.1	
New Brunswick33.5	33.9	171	26.7	41.1	
Quebec26.7	28.6	1,590	26.3	30.9	
Ontario15.6	14.4	3,278	13.2	15.6	
Manitoba32.1	31.7	1,720	29.5	33.9	
Saskatchewan34.8	34.1	1,556	31.7	36.5	
Alberta18.2	18.7	2,105	17.0	20.4	
British Columbia24.0	24.4	2,455	22.7	26.1	
Yukon/N.W.T.1.7	1.8	788	0.9	2.7	
All	22.5	22.3	14,126	21.6	23.0

Sources: ¹ Table 4, Statistics Canada (1987b).

² 1986 Canadian Census Individual Public Use Sample Tape.

income) for the total Aboriginal population will be biased towards the mean value of the off-Reserve population. It is interesting to note that "official" Census-based tabulations of Aboriginal characteristics make no attempt to adjust totals to reflect this under-enumeration (see for example, Statistics Canada, 1989a).

The bias resulting from this under-enumeration is unknown. However, a recent Statistics Canada report suggests that it may not be as severe as it might first seem, especially if one is interested in information at higher levels of geographic aggregation. More specifically:

While for higher level geographic areas (Canada, provinces, census metropolitan areas and census agglomerations) the impact of the missing data is very small, the impact can increase for smaller areas containing a larger proportion of the affected reserves and settlements (Statistics Canada, 1989a).

In other words, according to Statistics Canada, Aboriginal people included in the Census (both on-Reserve and off-Reserve), are likely a representative sample of all Aboriginals. If this is the case, then analyses at higher levels of geographic aggregation should not be problematic.

Table 8: Estimates of the Aboriginal Population Living on Incompletely Enumerated Reserves and Indian Settlements, 1986

Province	On-Reserve	Population		Population Under-Enumerated	As a % of	
		Off-Reserve	Total		On-Reserve Pop.	Off-Reserve Pop.
Newfoundland	0	9,555	9,555	0	0	0
P.E.I.	345	945	1,290	0	0	0
Nova Scotia	4,610	9,615	14,225	23	0.5	0.2
New Brunswick	3,145	6,240	9,385	980	31.2	10.4
Quebec	21,615	59,330	80,945	7,815	36.2	9.7
Ontario	26,150	141,220	167,370	11,821	45.3	7.1
Manitoba	27,390	57,845	85,235	8,216	30.0	9.6
Saskatchewan	27,030	50,615	77,645	585	2.2	0.8
Alberta	18,860	85,065	103,925	9,453	50.1	9.1
British Columbia	30,365	92,260	126,625	5,840	19.2	4.6
Yukon	420	4,575	4,995	0	0	0
N.W.T.	185	30,345	30,530	0	0	0
All	160,120	551,615	711,720	44,733	27.9	6.3

Sources: Table 4 and Appendix Table 1, Statistics Canada (1987b).

A provincial breakdown of the Reserves and size of the excluded populations is shown in Table 8. As can be seen from this table, under-enumeration is not a problem in Newfoundland, Prince Edward Island and the Yukon and North West Territories, where enumeration was complete. Likewise, under-enumeration was only 0.5 percent of the on-Reserve population in Nova Scotia and 2.2 percent in Saskatchewan. However, at the other extreme, under-enumeration in Alberta was a serious problem, with 50.1% of the on-Reserve population being missed. While in total, the under-enumerated population represents only 6.3 percent of the total Aboriginal population, it represents 27.9 percent of the on-Reserve population—a large share by any standard. This suggests that one must be very careful when analysing data pertaining to on-Reserve Aboriginal people residing in Alberta, Ontario, Quebec, New Brunswick and Manitoba—provinces where the under-enumeration is 30 percent or more of the target population. A detailed listing of the Reserves and Indian Settlements where under-enumeration occurred can be found in Statistics Canada (1987b).

Conclusions

The purpose of this paper was to bring to the attention of researchers the important role that Census data can play in the detailed empirical analysis of Aboriginal issues. Such data have been severely under-utilised in the past for this purpose. Some of the problems associated with using Census data in the form of the *Public Use Sample Tapes* were considered and specific procedures for constructing and processing key variables were outlined. At the very least, we hope that this paper will convince researchers that Census data has a very important role in Aboriginal research.

It should be stressed that the *Public Use Sample Tapes* are not the only way in which researchers can access the richness of Census data. Facilities exist within Statistics Canada to retrieve much unpublished data by ordering custom-made tabulations on Aboriginal Canadians based on most of the characteristics contained in the Census. Such tables can be obtained, subject to confidentiality considerations, on a cost-recovery basis. However, this costing mechanism makes such requests generally very expensive. In addition, the waiting time between request and receipt is usually very long.

Note

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