

Colour My World: Have Earnings Gaps for Ethnic Minorities Changed Over Time?¹

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Abstract:

We estimate earnings equations for Canadian-born female and male workers to assess the size of the white-Aboriginal and white-visible minority earnings differentials in Canada over the period 1971 to 1996. We use the main bases of the 1971, 1981, 1986, 1991 and 1996 Censuses of Canada, yielding millions of observations in each year, which allow us to focus on the relatively small populations of Canadian-born visible minorities and Aboriginals. The large samples for allow several extensions to previous research: (1) we treat ten large Canadian metropolitan areas as local labour markets with separate regression equations; (2) we assess differences in age-earnings relationships across groups, and do quasi-cohort analysis of earnings differentials; and (3) we examine differences across 26 ethnic groups within the white and visible minority categories.

Generally, we find a pattern of stable or narrowing earnings differentials through the seventies, stability through the eighties and enlargement of the earnings differentials between 1991 and 1996. This is the case among both men and women, for most birth cohorts, and for most of the ethnic groups constituting the white and visible minority categories.

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1. Introduction:

The 1990s witnessed a growing flow of research devoted to examining the degree to which ethnic minorities are subject to labour market discrimination in Canada (see for example, Akbari, 1992; Howland and Sakellariou, 1993; Stelcner and Kyriazis, 1995; Christofides and Swidinsky, 1994; Baker and Benjamin, 1997; Hum and Simpson, 1998; Pendakur and Pendakur, 1998; Lian and Matthews, 1998). While these authors have generally concluded that immigrant groups often face significant and substantial labour market disadvantage, there is debate over the degree to which minorities born in Canada are subject to similar disadvantage (see Stelcner, 2000). This debate is frustrated somewhat by the use of a variety of empirical approaches, data sets and time periods used in the attempts to evaluate whether or not visible minorities and Aboriginals born in Canada are at a disadvantage in labour markets compared to white workers. In this paper, we evaluate the scope of labour market disadvantage with five specially created micro datasets which contain all the ‘long form’ records collected by Statistics Canada for the 1971, 1981, 1986, 1991 and 1996 Censuses of Canada. These datasets are very large and allow consistent definitions of variables over the period 1971 to 1996, and allow the assessment of earnings differentials facing ethnic minorities in the Canadian-born. We concentrate on the Canadian-born population because while immigrants may face earnings differentials related such things as language or accent penalties, non-recognition of credentials or loss of work related networks, these issues do not face ethnic minorities born in Canada.

Specifically, we estimate log-earnings equations for Canadian born workers conditional on a variety of personal characteristics including age and education to assess the size of white-Aboriginal and white-visible minority earnings differentials in Canada as a whole and in ten large Canadian cities across five census years. The novelty of our empirical work lies in two extensions to the literature, both of which are made possible by the very large size of the census micro-databases. The long form data used are from 33% of Canadian households in 1971, and 20% of Canadian households in 1981, 1986, 1991, and 1996. These yield usable samples of several hundred thousand Canadian-born working-age labour force participants in each sample year, and in each usable sample there are at least 6,000 aboriginal and visible minority persons. The first extension is that we are able to look at Canadian-born minority workers back as far as 1971 and examine the change over the five census periods. Thus, direct immigration effects do not ‘pollute’ our results on ethnicity effects. The second extension is that we are able to treat each of ten large Canadian metropolitan areas as a local labour market—and therefore as separate regression equations—with different white-Aboriginal and white-visible minority earnings differentials in each city. We then go on to look at differences among 26 ethnic groups within the white and visible minority categories in order to examine heterogeneity of earnings differentials

within the aggregate categories. This level of analysis is conducted for Canada as a whole, and for Montreal, Toronto and Vancouver.

Generally, we find a pattern of stable or narrowing earnings differentials through the seventies, stability through the eighties and enlargement of the earnings differentials between 1991 and 1996. This is the case among both men and women, for most birth cohorts, and for most of the ethnic groups constituting the white and visible minority categories.

2. The Literature

In the past few years, there has been a surge of interest in labour market discrimination against Aboriginals and visible minorities in Canada among both economists and sociologists. Researchers have used a variety of empirical approaches and public-use data from 1981, 1986, 1989, 1991, 1993 and 1996 to assess the existence and magnitude of wage and earnings differentials facing ethnic minorities in Canada. Much of this literature has also been focussed on immigration effects, but here we will limit our discussion to material relating to Canadian-born ethnic minorities. In particular, we focus on a three-way classification of ethnic origin for the Canadian-born population: Aboriginal persons, visible minority persons and whites. Aboriginal persons are defined as people who report at least one Aboriginal ethnic origin in their ancestry. Visible minorities are defined as non-Aboriginals who report at least one non-European ethnic origin in their ancestry. Whites are defined as non-Aboriginals who report only European ethnic origins in their ancestry.

Previous research on data from the 1980s suggests that during this period, Aboriginals and visible minorities faced substantial earnings differentials at the Canada-wide level. For example, Stelcner and Kyriazis (1995) use 1981 Census data to examine earnings differentials across two visible-minority and fourteen white ethnic groups, Howland and Sakellariou (1993) use 1986 Census data to examine earnings differentials across three visible-minority ethnic groups, and Akbari (1992b) uses 1986 census data to examine earnings differentials among a variety of white and visible minority ethnic groups. These three papers find that earnings gaps exist for a number of ethnic groups in Canada, especially visible minority ethnic groups.

Research which uses data from the 1990s shows less unanimity. Three papers which use 1991 Census public use micro data (Pendakur and Pendakur 1998; Lian and Matthews 1998; and Baker and Benjamin 1997) find substantial and significant differences between British origin workers and workers in a number of visible minority ethnic groups. Similarly, Christofides and Swidinsky (1994) use the 1989 Labour Market Activity Survey (LMAS) and find that visible minority workers face a large wage gap compared to their white counterparts.

In contrast to these results, de Silva and Dougherty (1996) and Hum and Simpson (1998) use the 1993 Survey of Labour and Income Dynamics (SLID), and find that while a gap exists for Canadian-born Black men, it does not exist for other visible minority ethnic groups. Similarly, Kelly (1995) studies the occupation distribution of workers using 1991 Census data

and argues that visible minorities are well represented in managerial occupations and thus not subject to labour market disadvantage.

Work on the earnings of Aboriginals in Canada has been sparse, but George and Kuhn (1994) use 1986 Census data and find that Aboriginal men and women have wages 8% and 6% lower, respectively, than white men and women with similar characteristics. However, de Silva (1999) uses 1991 Census data and concludes that Aboriginal-white wage differentials are mainly attributable to differences in personal characteristics rather than to labour market discrimination.

In the context of visible minority-white earnings differentials, some of the variation in findings of various researchers can be explained by differences in the data used. The public use databases for the Censuses of Canada are comparatively large, but have comparatively short variable lists. In contrast, the 1989 LMAS and 1993 SLID offer far smaller samples, but more and better control variables. For example, the SLID and LMAS both offer measures of job tenure and the SLID offers information on full- and part-time labour market experience. The Census databases offers little information related to these important control variables but does offer sample size. Since visible minorities born in Canada and aboriginals each make up at most 3% of the Canadian-born population, small samples are problematic because the associated large confidence bands around parameter estimates may lead researchers to not reject false hypotheses. Similarly, since labour market experience has an important effect on earnings independent of age, better control lists are important because missing variable bias will cause the effects of left-out correlates of ethnic origin to be attributed to ethnic origin. We are agnostic as to which data problem is more damaging, but since non-Census data sources with high quality control variables and consistent ethnic origin variables are not available prior to 1986 (the first wave of the LMAS), we use five Census datasets to investigate the pattern over time of earnings differentials across ethnic groups.

There is at least one additional argument in favour of using Census data for this type of investigation. The public-use LMAS and SLID datasets do not provide information on the name or size of the city of residence. Since visible minorities are over-represented and Aboriginals under-represented in Canada's large cities, and since earnings are on average higher in large cities than in smaller cities and towns, leaving out information on the city of residence—at least its size—potentially biases estimates in favour of smaller earnings differentials for visible minorities and larger earnings differentials for Aboriginals. Thus, the fact that Census data include city of residence is good for estimating Canada-wide earnings differentials. Since our datasets are so large, and since Pendakur and Pendakur (1998) show evidence that earnings differentials are quite different in different Canadian cities, we go one step further. We estimate earnings differentials across ethnic groups separately for the ten largest cities in Canada, thus effectively treating them as ten separate labour markets.

3. Discrimination in Labour Markets

In what sense can the presence of a significant earnings differential between white and visible minority workers or between white and Aboriginal workers point to discrimination against minorities in labour markets? The differentials we report control for a variety of personal characteristics including age and education, but do not control for any job characteristics, such as occupation, industry, or work hours. Thus, even if all workers in the same occupation and industry groupings get the same earnings regardless of their ethnicity, our empirical strategy might find earnings differentials due to the concentration of white workers in higher paying occupations and industries compared to non-white workers.

We believe that the job characteristics of workers — such as occupation and industry — are at least as susceptible to ethnic discrimination as the wages paid to workers. In fact, the case is made by Becker (1996) and others that in competitive labour markets, ethnic discrimination by employers, workers or customers results not in wage differentials for workers in identical jobs but in segregation of workers into different jobs by ethnicity. With competitive product and labour markets, this segregation results in a ‘separate-but-equal’ type of world where ethnic discrimination results in dividing the economy into sub-economies composed of single ethnic groups with identical wage and earnings outcomes across sub-economies.

If either of these competitive assumptions are relaxed, the ‘separate-but-equal’ conclusions do not follow. For example, if product markets are not competitive so that some firms make excess profits which are partially shared with (possibly unionized) workers, then workers in those firms make more money than seemingly identical workers in other firms with less excess profits (see, e.g., Dickens and Lang 1986). If ethnic discrimination on the part of employers, workers or customers results in white workers ending up in the high-profit firms and non-white workers ending up in the low-profit firms, then the segregation of workers across firms by ethnicity results in differential outcomes. An alternative example may be seen by relaxing the restriction that labour markets are competitive (see, e.g., Shapiro and Stiglitz 1984). For example, consider the occupation of investment banker. This job might pay a lot because investment bankers must have something to lose if their investors are to trust them. Since these jobs perform well relative to the alternatives, there are more workers who want the job than there are jobs. If white workers have a better chance of getting these ‘good jobs’ than nonwhite workers, then occupation segregation results in earnings differentials between white and nonwhite workers. However, these earnings differentials will only be observed if the researcher does NOT control for job characteristics such as occupation and industry, because these are the very factors affected by ethnic discrimination.

Thus, to the extent that ethnic discrimination may manifest *both* in the allocation of workers to jobs and the remuneration commensurate with those jobs, it seems to us prudent to estimate models that do not control for job characteristics.³ A second reason to exclude job

³. For the same reason, we do not include hours of work, weeks of work and full-time / part-time status.

characteristics is that the occupational coding in the Census main bases changed dramatically between 1981 and 1996. A consistent occupational coding structure useable across all the census periods would capture only about 40% of workers—the other 60% would be in a category called ‘other occupations’. Pendakur and Pendakur (1998) provide evidence from the 1991 Census public-use sample that controlling for job characteristics shrinks but does not eliminate earnings differentials across ethnic groups in Canada. This finding reassures us that our estimation results are meaningful.

4. Data and Method

Our data consist of five customized micro data files which initially contained information from all the long form records collected for the 1971, 1981, 1986, 1991 and 1996 Censuses of Canada.⁴ The population examined consists of all Canadian-born residents of Canada, 25 to 64 years of age, whose primary source of income is from wages and salaries. People without any schooling were dropped from the sample as were those who did not report any income.

Table 1 shows weighted counts for our sample by geographic area, sex and ethnic origin. As per Statistics Canada guidelines, we are unable to release exact counts, but we note that weighted counts are approximately 5 times the actual numbers of observations for 1981 to 1996 and 3 1/3 times the actual numbers of observations for 1971. The key feature of Table 1 is that it shows the very large size of the data sets at our disposal.

Our analysis is divided into three parts. The first part uses a Canada-wide sample and then looks at ten Census Metropolitan Areas (CMAs)⁵ separately as well as a residual category of anyone not living in one of the ten CMAs in each of the five census periods. The second part pools all the data for the 10 CMAs and interacts aboriginal / visible minority status with the CMA. The ten cities studied are: Halifax, Montreal, Ottawa, Toronto, Hamilton, Winnipeg, Calgary, Edmonton, Vancouver and Victoria. The third part breaks the three groups into 26 ethnic subgroups (six visible minority, 19 white groups plus 1 aboriginal category). The differentials as compared to British origin men and women are examined for Canada as a whole and the three largest CMAs (Montreal, Toronto and Vancouver).

The dependent variable in all regressions is the natural logarithm of earnings from wages and salaries. We use a variety of independent variables to control for the personal characteristics of workers in our samples:

⁴. The 1971 long form was given to 33 percent of all households. In subsequent census periods, the long form data was collected from 20 percent of households.

⁵. A census metropolitan area (CMA) is a very large urban area (known as the urban core) together with adjacent urban and rural areas (known as urban and rural fringes) that have a high degree of social and economic integration with the urban core. A CMA has an urban core population of at least 100,000, based on the previous census (Statistics Canada, 1996).

Age:	Eight age cohorts as dummy variables (age 25 to 29, 30 to 34, 35 to 39, 40 to 44, 45 to 49, 50 to 54, 55 to 59 and 60 to 64). Age 25 to 29 is the left-out dummy variable.
Schooling:	Twelve levels of schooling as dummy variables (less than 5 years of school, 5 to 8 years of school, nine to ten years of high school, more than 10 years of high school (includes high school graduates), some post secondary schooling without a certificate, post secondary certificate, trades certificate, some university without a certificate, some university with a trades or other certificate, a university diploma below the BA level, bachelors degree, first professional degree, masters degree or PhD). ⁶ Less than 5 years of schooling is the left-out dummy variable.
Marital Status:	Five dummy variables indicating marital status (Single– never married, married, separated, divorced, widowed). Single is the left-out dummy variable.
Household size:	a dummy variable indicating a single person household and a continuous variable indicating the number of family members for other households.
Official Language:	three dummy variables (English, French, bilingual– English and French). English is the left-out dummy variable. We note that because our sample is entirely Canadian-born, every observation reports speaking either English or French.
CMA:	In regressions which pool all the cities together, we use 11 dummy variables indicating the Census Metropolitan Area / Region (Halifax, Montreal, Ottawa, Toronto, Hamilton, Winnipeg, Calgary, Edmonton, Vancouver, Victoria , not in one of the 10 listed CMAs). Toronto is the left-out dummy variable.
Group Status:	three dummy variables indicating group status (White, Visible Minority, Aboriginal person). White is the left-out dummy variable.

5. Discussion

Table 2 shows results from 120 separate regressions. A separate model was run for Canada as a whole and for each of 11 CMAs/regions in each of 5 census periods for each of 2 genders. The coefficients are approximately equal to the percentage difference in annual wages and salaries between Canadian-born white and Aboriginal or visible minority persons, holding personal characteristics constant. For large coefficients (especially those larger in absolute value than 0.10) this approximation will overestimate the percentage difference for negative coefficients and underestimate the percentage difference for positive coefficients.

⁶. The 1971 census question on schooling does not include a flag for high school. We therefore combine the categories for 10 years of high school or more for 1971 through to 1996.

5.1 Results for Females:

5.1.1 Aboriginal Women:

Looking first at the results for Aboriginal women (top panel of Table 2), the coefficient for the Canada-wide regression in 1971 is $-.20$. This suggests that on average, an Aboriginal female may expect to receive annual earnings from wages and salaries 20% lower than a white female who has similar age, official language ability, schooling and marital status characteristics⁷. By 1996, this differential had shrunk marginally (but significantly) to about 16%. We see that the gap decreased greatly between 1971 and 1986, but then reversed direction after 1986, almost reaching its 1971 high point. In the urban areas, the picture is somewhat different. Regardless of census period, the confidence intervals are substantially wider, suggesting that the point estimate is not tight. Further, in 1971, only in the western CMAs are the estimates significantly different from zero (ranging from -32% in Edmonton to -18% in Winnipeg). In the period between 1971 and 1996, the point estimates for all the CMAs held at about the same magnitude, but the confidence intervals tighten up over time. By 1996, the gaps are large and statistically significant in all regions (ranging from -14% in Ottawa-Hull to -41% in Edmonton).

5.1.2 Visible Minority Women:

The picture for visible minority women is very different. At the Canada-wide level (Table 2, lower panel of females) in 1971, among Canadian-born women, visible minorities earn about 9% *more* than white women with similar age, marital status, official language and education characteristics. This pattern of positive (or at least non-negative) earnings differentials also holds for all of the CMAs examined except Halifax.

By 1981, however, much of the earnings advantage for visible minority women disappeared. Although the point estimates are still positive, in about half the cases, they are insignificant, which implies that for many cities, we cannot reject the hypothesis that white and visible minority women earn the same amount. Only in Calgary and Vancouver do visible minority women enjoy a significant earnings advantage in comparison to white women.

From 1986 to 1996 we see a pattern for visible minority women that can be described as 'losing ground'. In 1996, only in Vancouver do visible minority women enjoy a statistically significant earnings advantage. In all other CMAs, visible minority women have earnings either insignificantly different from or significantly less than the earnings of white women. For

⁷. We note that in 1971, only about 42% of the women in our sample were labour force participants. This rate rose greatly over the 25 year period studied. Unfortunately, adequate treatment of the participation decision is not possible with these data. In Appendix I, we present relative labour force participation rates across ethnic groups and offer a (very) simple interpretation of these in tandem with our results on earnings differentials.

example, in Montreal and Toronto, visible minority women earn 19% and 12% less, respectively, than white women with identical personal characteristics.

Patterns over time for specific cities are illuminating. In Halifax, the negative earnings differential faced by visible minority women in comparison with white women was fairly stable over the later years, equal to about 15% in 1986, 1991 and 1996. In contrast, in Montreal, this earnings differential changed fairly smoothly from an earnings advantage of 11% in 1971 to insignificantly different from 0% in 1986 to an earnings disadvantage of 19% less in 1996. Toronto shows a pattern similar to that of Montreal, but Vancouver stands out as different. In Vancouver, visible minority women earn significantly more than white women in each of the census years, varying from a 9% earnings advantage in 1991 to a 19% earnings advantage in 1981.

Overall, for nonwhite women, the period 1971 through to 1996 has been one of worsening relative earnings outcomes. Aboriginal women have seen their fortunes going from bad to worse, while visible minority women have seen their position decline from one of earnings advantage or parity to one of overall earnings disadvantage.

5.2 Results for Men:

5.2.1 Aboriginal Men:

For Canada as a whole, the results for Aboriginal men are similar to those for Aboriginal women (see Table 2). However, the negative earnings differentials are much larger for men than for women. At the Canada-wide level in all of the census years, Aboriginal men receive about half the earnings of white men with similar characteristics.

Because Aboriginals are concentrated outside the CMAs and in a few of Canada's large CMAs, the situation in most of Canada's largest CMAs is not quite as bleak. The negative earnings differentials are neither as large nor as tightly estimated. In 1971, Aboriginal men living in Montreal, Toronto or Vancouver, earn substantially less than white men with similar attributes. The coefficients for these three cities are -0.13, -0.24 and -0.40, respectively. In 1981, the earnings differentials shrink in these three large CMAs. However, by 1996, the negative earnings differentials faced by Aboriginal men in these three CMAs had grown to be even larger than they were in 1971. The coefficients for Montreal, Toronto and Vancouver in 1996 are -0.27, -0.49 and -0.52, respectively.

In the smaller CMAs a similar pattern of decline can be seen, however, the pattern is different across CMAs with Aboriginal men facing relatively smaller negative earnings differentials in Ottawa-Hull and Halifax through the 1970s and 1980s, but then increasing through the 1990s. In the other CMAs, the negative earnings differentials are more consistent and remain lower. The pattern over time for Aboriginal men in Canada's labour markets is depressing. Although there was some improvement in their relative position between 1971 and

1981, this was entirely undone by declining relative performance in the 1980s and 1990s. By 1996, Aboriginal men again faced huge negative earnings differentials, earning as little as half of what white workers earn in some cities.

5.2.2 Visible Minority Men:

Table 2 shows the pattern of earnings differentials among Canadian-born men between whites and visible minorities with similar characteristics in different geographic areas from 1971 to 1996. In 1971 for Canada as a whole, visible minority workers faced a significant negative earnings differential of 5 percent in comparison with white workers. This differential was between 3% and 7% through 1991. However, the relative position of visible minority men worsened in the early 1990s. By 1996, that negative earnings differential has grown to about 15%. As we found in previous work using the 1991 census public use sample (Pendakur and Pendakur 1998), visible minority men not living in the large CMAs fare somewhat better with estimated negative earnings differentials ranging from -3% in 1971 to -11% in 1996.

In the large CMAs of Canada where visible minorities are concentrated, we see different patterns. Looking first at the large cities of Montreal, Toronto and Vancouver, we see that the 1970s and 1980s might be characterised by stability or improvement in the relative labour market performance of visible minority men in comparison with white men. In Montreal and Toronto, the negative earnings differentials were approximately -10% in 1971, 1981 and 1986. In Vancouver, there was some improvement: the negative earnings differential shrank from 10% in 1971 to insignificantly different from zero in 1986. In contrast, the period after 1986 is one of decline in the relative performance of visible minority men in all three CMAs. In Montreal and Toronto, the negative earnings differential grew by about 10 percentage points between 1986 and 1996, and in Vancouver, the insignificant earnings disadvantage found in 1986 turned to a significant negative earnings differential of -6% in 1996.

In the smaller CMA's, the estimated earnings differentials are in most cases not as pronounced and do not vary to the same degree. The pattern of improvement in the relative earnings of visible minority men is not as evident in the smaller CMAs as it is in the larger CMAs. In fact, in Halifax, the negative earnings differential more than doubles between 1971 and 1986 and then decreases by 1996 to -24%. However, the general pattern of declining relative earnings by visible minorities between 1991 and 1996 noted for the larger CMAs is strongly evident in the smaller CMAs.

5.3 Age Effects and Quasi-Cohort Analysis

It is possible that our specification of how ethnicity effects earnings used in the regressions underlying Table 2 isn't complex enough. That is, the earnings effect of ethnicity may vary with other individual characteristics. In this section, we assess how the earnings effect of ethnicity varies with age. Table 3 gives selected coefficients from log-earnings models where ethnicity dummies are interacted with age (and not with age squared). We note the results in

Table 3 are for a model which pools all the cities together and interacts ethnicity with CMA. This regression is run separately for males and females. A specification which runs the regressions separately by CMA produces similar coefficient estimates, but with much less precision.

The ethnicity dummy coefficients reported in Table 3 can be taken as the effect of ethnicity on earnings for a 25 year old worker. The coefficients for *ethnicity times age* may be taken as the rate at which earnings of minority workers ‘catch-up’ to the earnings of white workers. For example, in Table 3, for women in 1971, the coefficient for Aboriginal-Halifax is -0.28 which implies that 25 year old Aboriginal women in Halifax faced a negative earnings differential of approximately 28%. However, this differential evolves with age. For women in 1971, the coefficient for *Aboriginal times age* is -0.01, which implies that with each year of age above 25 comes an additional percentage point of negative earnings differential. Thus, a 50 year old Aboriginal women, earned only half of what a 50 year old white woman earned in 1971.

This table has two broad messages. First, for women, the ethnic origin penalty for Aboriginals increases with age by as much as one percentage point per year of age. For men, this penalty increases much faster, by as much as three percentage points per year of age. Thus, although Aboriginals—both male and female—earn substantially less than their white counterparts, this earnings disadvantage is concentrated among older workers, especially for men.

Second, for women, the ethnic origin penalty for visible minorities decreases with age, by as much as half a percentage point per year of age. For men, this ‘catch-up’ is slightly slower, ranging from no catch-up in 1996 to one-third of a percentage point per year in 1981 and 1991. Thus, to the extent that visible minorities face negative earnings differentials relative to whites in labour markets, this earnings disadvantage is concentrated among younger workers. We note that although visible minority men face negative earnings differentials in most years, CMAs and age levels, this is not the case for women. In the early part of the period, visible minority women earn more or less the same as white women, but in the latter part of the period, they tend to earn less than white women.

Where Table 2 offers insight into the evolution of Aboriginal and visible minority earnings differentials over time, Table 3 offers insight into the evolution of these differentials over age. However, we know that for individuals, age increases as time passes. Thus, these two phenomena should be treated together. Ideally, we could address this by analysing a panel of individuals over time and asking whether or not their birth cohort and age affect the structure of the ethnic origin differentials. However, our data do not permit exact panel analysis. One solution is to use quasi-panel methods, which involve estimating ethnic origin differentials for each birth cohort and age group in each period, and then drawing out the actual history of earnings differentials by age for different birth cohorts over time.

Quasi-cohort analysis has a big advantage if we are concerned about the generational composition of the Canadian-born visible minority population. The immigration flow of visible minorities to Canada was high in the late 19th century and early 20th century, low until the 1960s and high thereafter (see Pendakur 2001). Thus one might think that working-age Canadian-born visible minorities in the 1970s were probably children of other Canadian-born visible minorities, but working-age Canadian-born visible minorities in the 1990s were more likely to be children of immigrants. If immigration effects carry across the generations (eg, see Trejo 1998), then comparison of these populations is invalid. However, if we hold constant the birth cohort of Canadian-born working-age visible minorities, then we are implicitly holding constant the generational composition of these populations. Thus, if quasi-cohort analysis reveals the same patterns as the simple analysis in Table 2, then the results are probably not driven by changes in the generational composition of the Canadian-born visible minority population.

Table 4 provides a large number of coefficients from log-earnings regressions by sex and selected CMA in which ethnic origin is interacted with 5-year wide age groups. From this table, we construct the actual history of earnings differentials by age and birth cohort. Figures 1 to 4 show the Canada wide information in a graphical format. For example, Figure 1 shows how earnings differentials for Aboriginal females in 6 birth cohorts have evolved over time. The eldest cohort is born between 1932 and 1936, and women in this cohort faced a negative earnings differential of -8 percent in 1971, -4 percent in 1981, -1 percent in 1986, -5 percent in 1991 and a positive earnings differential of 3 percent in 1996. This good news story is characteristic of outcomes for the eldest cohorts. However, when we look at younger cohorts of Aboriginal women, we see the opposite pattern over time. For these Aboriginal women, negative earnings differentials shrank between 1971 and 1981, but then enlarged between 1986 and 1996.

For Aboriginal men, the wage disparities tend to be deeper. In 1971, Aboriginal men born in the 1930s, could expect about half the earnings of their white male counterparts (see Table 4 and Figure 4). Although there was some improvement during the 1970s, this was followed by a retrenchment of disparity during the 1980s and 90s. The pattern for other birth cohorts is broadly similar.

Visible minority men and women tend to face smaller earnings differentials than Aboriginal workers regardless of age cohort. The other trend that is apparent is a general worsening of earnings differentials between 1991 and 1996 among men, regardless of cohort. Amongst women, there are a number of cohorts whose members actually make comparatively more than their white female counterparts. However, even here, there is a decline in advantage between 1991 and 1996 for most visible minority cohorts.

5.4 Earnings differentials by detailed group

So far the analysis suggests that as a group, Canadian-born visible minority and aboriginal peoples face a significant earnings penalty compared to whites, after controlling for personal characteristics. However, the visible minority category is an amalgam of many distinct non-European groups including Chinese, South Asian and Black. In the same way, the White

grouping is the aggregate of all people of European origin. If there are substantial differences in the pattern of earnings differentials across subgroups, we may be overstating the size of the disadvantaged group, for example, if visible minority disadvantage is driven mainly by one ethnic sub-group in the visible minority aggregate. In this case, we would also understate the earnings differential for the most disadvantaged sub-group(s).

This section explores the degree to which labour market disadvantage is unevenly distributed across 27 ethnic groups over the five census periods. In this way we may ask, for example, whether Blacks have higher or lower earnings differentials as compared to Chinese, or whether, there are disadvantaged groups within the European (white) category.

The selection of groups is largely determined by the 1971 census coding structure which is the most restrictive and allowed only a single ethnic origin to be reported. For 1971 and 1981, twenty-seven single origin ethnic groups are defined (19 white groups, 7 visible minority groups and 1 aboriginal category). For 1986, 1991, and 1996, five groups are added to include those with more than one ethnic origin. Four of these multiple origin groups are comprised of combinations of either British, or French with another origin. A final category includes people with more than one origin other than British or French.⁸

Regressions are run separately for men and women and the comparison group is males or females of British (single-origin) ancestry. As with previous analyses, controls include age groups, highest level of schooling, marital status, census metropolitan area (CMA), household size and official language ability. In recognition of the fact that labour markets are local and that different groups may face varying levels of labour market advantage or disadvantage depending on where they live, separate regressions are also run for Canada's largest three CMAs: Montreal, Toronto and Vancouver.

This section contains a very large quantity of estimated coefficients, but, we think, can be summarised fairly simply. In previous research (Pendakur and Pendakur 1998), we found that the white ethnic grouping contained substantial heterogeneity in labour market outcomes using 1991 public use data. In particular, we noted that southern European ethnic groups, especially Greeks, fared relatively poorly in Canadian labour markets. We saw less heterogeneity among the visible minority ethnic groups in the 1991 public use data. In particular, we concluded that the visible minority ethnic groups for whom we had sufficient numbers of observations—Blacks and Chinese—earned significantly less than British origin men.

In this section, we show that the results we saw in the 1991 data for European ethnic groups are largely reproduced in the larger sample and other Census years. There is

⁸. A consistent coding structure across all years is not possible due to the presence of multiple origin information after 1986. Table 1 (appendix 1) and Table 2 (appendix 1) provide information on 23 groups. Information on people reporting Canadian, and those coded as 'other European', 'other single origins' or 'other multiple origins' is suppressed from the tables.

heterogeneity among European ethnic groups in their labour market performance, but it seems to have little pattern over time. There is one exception. Those with Spanish ethnic origin saw steadily worsening labour market outcomes over the five Census periods. It is notable that this ethnic group was comprised almost entirely of European origin people in 1971, but by 1996, comprised a majority of Latin American origin people.

We also show that the results we saw in the 1991 public use data for visible minority ethnic groups are largely reproduced in the larger sample and other Census years. However, it seems that for most visible minority groups, the negative earnings differential has grown in size between the 1980s and 1990s. A notable exception is concerns those with Chinese ethnic origin, whose labour market disadvantage has shrunk to essentially zero by 1996.

5.4.1 Results for Females:

Table 5 shows estimated earnings differentials for 27 ethnic groups estimated at the Canada-wide level. Table 6 shows estimated earnings differentials for 10 selected ethnic groups for each of Canada's three largest cities. Tables 5 and 6 only report results for 1971, 1986 and 1996 (results for 1981 and 1991 are available upon request from the authors). Looking first at Table 5, we see that among women in 1971, seven ethnic groups faced significant negative earnings differentials and nine enjoyed positive earnings differentials compared to British origin women. Scandinavian, Dutch, Jewish, Black and Aboriginal women all faced earnings disadvantage ranging from -3% (for Scandinavian women) to -19% (for Aboriginal women). Six European groups (French, Baltic, Polish, Italian, Balkan and Ukrainian) and 3 visible minority groups (Arab, Chinese and Japanese) earning significantly more than British origin women (ranging from 3% more for French origin women to 18% more for Japanese origin women).

In 1986, women in only a few ethnic groups had earnings significantly different from British origin women. Jewish and Greek origin women faced negative earnings differentials of -7% and -19%, respectively. Women in some ethnic groups fared better than British origin women. French, German, Italian and Japanese women earned between 4% and 29% more than British origin women with similar credentials. Among people reporting more than one origin, those reporting British in combination with another origin faced significant earnings disadvantage.

The pattern of negative and positive earnings differentials in 1996 is similar to that in earlier years, but the differentials tend to be larger in magnitude. In 1996, among European origin women, Jewish and Greek women faced significant negative earnings differentials of -11% and -4%, respectively. Among non-European origin women, South Asian, Black, and Aboriginal women faced earnings disadvantage compared to British origin women ranging from -8% to -35%.

5.4.2 Males:

Earlier results for men suggest that the situation for visible minority and aboriginal males worsened steadily over the five census periods. This pattern is mirrored at the level of individual groups. In 1971, for example, of the six groups who earned less than British origin men, three were from non-European origins. Chinese, Black and Aboriginal men faced earnings differentials of -12%, -17% and -48%, respectively. French, Portuguese and Spanish origin men also had lower earnings, facing earnings differentials of -3%, -13%, and -6%, respectively. Notably, the disadvantaged visible minority groups fared worse than the disadvantaged European groups in 1971. We see a very similar pattern of disadvantage across ethnic groups in 1986. Two new features emerged. Japanese origin men earned more than British origin men in 1986. Spanish origin men earned about the same as British origin men in 1986. Finally, the results for European groups in 1986 show that no European ethnic group was characterised by higher earnings than British origin.

By 1996, the pattern of earnings differentials across groups seems to have changed. Among European origin men, many groups have higher earnings than men of British origin (French, Polish, Dutch, German, Czech/Slovak, Balkan and Ukrainian). Two groups have substantially lower earnings – Greek and Spanish origin men face earnings differentials of -19% and -17%, respectively. The outcomes for Spanish origin men seem to have worsened substantially over the 25 year period.

Among visible minority men, the relative labour market performance of Chinese men improved substantially. By 1996, Chinese men earn about the same as British origin men. Japanese men earned slightly more than British origin men. However, outcomes for other visible minority groups worsened between 1986 and 1996. Although Arab and South Asian men had earnings insignificantly different from British origin men prior to 1996, by 1996, these groups face differentials of -6% and -22%, respectively. The relative earnings of Black and Aboriginal men also declined, so that they face earnings differentials of -36% and -63%, respectively, in 1996.

In previous research (Pendakur and Pendakur 2001), we found some evidence suggesting that earnings differentials related to ethnicity could be correlated with the ethnic group composition of the local population. Different cities have different ethnic group compositions, so we may expect to see different patterns of earnings differentials across cities. In particular, in that research, we found that members of large ethnic communities in particular cities seemed to fare better than members of small ethnic communities in those same cities. In the next section, we try to assess how earnings differentials across ethnic groups vary across Canada's largest cities over the 25 year period.

5.4.3 Females in Montreal, Toronto and Vancouver

Table 6 shows estimated earnings differentials for 10 selected ethnic origins in Canada's three largest CMA's for 1971, 1986 and 1996. First, consider earnings differentials among women in Montreal. In 1971, French and Italian women earned 2% and 8% more, respectively, than British women. In contrast, Greek women earned 15% less than British women. By 1986, the pattern of differentials had changed little except that in this year, Jewish women also earned significantly less than British origin women. By 1996, Black and Aboriginal women also face statistically significant earnings disadvantage.

A similar pattern can be seen in Toronto. In 1971, Jewish, Portuguese and Italian women faced negative earnings differentials. In 1986, Aboriginals were added to the disadvantaged groups. And in 1996, South Asian and Black women also faced significant earnings disadvantage. Further, by 1996, among European origin women, only Jewish women earned less than British origin women. Broadly speaking, for women in Montreal and Toronto, the disadvantaged ethnic groups became less European and more visible minority over time.

In Vancouver, the pattern over time is different. Aboriginal women earned much less than British origin women in every year, but women in visible minority ethnic groups do not (although the earnings differential for Black women in 1971 is marginally significantly negative).

5.4.4 Males in Montreal, Toronto and Vancouver

First consider the estimated coefficients for men in Montreal. In 1971, of the 10 selected ethnic groups, only Jewish men earned significantly more than British origin men. French men, men of southern European and non-European origin all earned significantly less than British origin men. Portuguese, Italian and Greek men faced earnings gaps of -22%, -10%, and -9%, respectively. Chinese, South Asian, Black and Aboriginal men faced earnings gaps of -32%, -41%, -28% and -19%, respectively. Here, the visible minority and Aboriginal groups on the whole fare worse than even the disadvantaged European ethnic groups. These patterns in earnings differentials across ethnic groups in Montreal are fairly stable over time, except that the earnings gap faced by French men disappears by 1996. It is also worth noting that over time, the earnings gap faced by Chinese men shrinks, but that facing Black men grows.

In Toronto, we see broadly similar patterns. French men earned significantly less than British men in 1971, but earn the same by 1996. Italian and Greek men earned less than British men in all three years. Chinese men earned 25% less than British men in 1971, but by 1996 earn only 9% less. The opposite trend is evident for Black men. In 1971, they faced an earnings differential of -14% which grew to -41% by 1996. South Asians earned insignificantly less than British men in 1971, but by 1996 earn 30% less. Outcomes for Aboriginal men deteriorate drastically. The estimated coefficient dropped from -.25 in 1971 to -.87 in 1996.

In Vancouver, the time trends for the different ethnic groups are similar to those observed in Montreal and Toronto, but the magnitude of earnings differentials are smaller. On the whole, European ethnic groups do not tend to face earnings gaps compared to British men. French men faced a -3% earnings gap in 1971, but earn the same as British men by 1996. Among non-Europeans, we see some significant earnings differentials. Chinese men earned 17% less than British men in 1971, but by 1996 face no earnings gap. Black men earned significantly less than British men throughout the period, facing earnings gaps of approximately -20% in both 1971 and 1996. Outcomes for South Asian and Aboriginal men deteriorated somewhat over the period. South Asian men faced no gap in 1971, but earn 20% less than British men in 1996. The estimated coefficients for Aboriginal men in 1971 and 1996 are -.41 and -.68, respectively.

We show that the aggregate categories of white, visible minority and Aboriginal hide some variability across their constituent sub-groups. A number of European ethnic groups faced earnings gaps in each time period, a pattern that was hidden when examination was limited to looking at just the aggregate groups. Similarly, some visible minority groups seem not to face labour market disadvantage. For example, Japanese origin workers do not earn less than British origin workers in any year. We also find that different groups experience different degrees of earnings disadvantage depending on where they lived. Thus, the groups that face earnings gaps in Montreal are not necessarily the same as those that face gaps in Vancouver.

Overall, it appears that the three categories of white, visible minority and aboriginal, although coarse, capture much of what they are meant to capture in terms of describing groups subject to discrimination. The earnings differentials follow a similar pattern over time to that seen for the aggregate groups with the number of groups facing negative earning differentials decreasing through the 80s and then increasing in the 1990s. This is particularly the case in Montreal and Toronto, as compared to Vancouver.

6. Conclusions

Previous research using data from the 1990s has shown that visible minorities and Aboriginals earn less than white workers, especially among men. Our goal in this paper is to show how these differentials have evolved over a long period of time using a consistent data set and econometric methodology. We find that for both broad ethnic categories studied — Aboriginals and visible minorities — there was stasis or mild improvement in relative earnings compared to white workers between 1971 and 1981, stasis through 1991 and then some decline in relative earnings between 1991 and 1996. This finding is broadly true for Aboriginal and visible minority persons, regardless of sex or city of residence.

We find some important differences across sex. In particular, as noted in previous work (Baker and Benjamin, 1995, Pendakur and Pendakur 1998), the pattern of earnings differentials among women is quite different from that among men. The earnings differentials faced by Aboriginal and visible minority women in comparison with white women are smaller and sometimes positive. However, the pattern of erosion of relative standing over the 1990s is

evident among both men and women. We also find some important differences across our broad ethnicity categories. In particular, among both men and women, Aboriginals fare less well than visible minorities. This reinforces results from previous research (eg, George and Kuhn 1994, Pendakur and Pendakur 1998).

From a policy perspective these findings are concerning. A decade after the implementation of employment equity programming, inequity is seen to be on the rise at the same time as larger and larger numbers of Canadian-born minorities can be seen entering the labour market. It appears that the labour market may be neither colour blind nor moving toward that goal.

Bibliography:

- Akbari, A. 1992. 'Economics of immigration and racial discrimination : a literature survey (1970-1989).' Ottawa: Multiculturalism and Citizenship.
- Akbari, A. 1992b. 'Ethnicity and Earnings Discrimination in Canadian Labour Markets: Some Evidence from the 1986 Census,' Ottawa: Multiculturalism and Citizenship.
- Baker, M and D. Benjamin. 1995. 'Ethnicity, Foreign Birth and Earnings: A Canada/US Comparison,' in M. Abbott, C. Beach and R Chaykowski (eds). Transition and Structural Change in the North American Labour Market, Kingston Ontario: IRC Press, Queen's University.
- Basran, G and L. Zong. 1997. 'Visible Minority immigrant professionals and evaluation of their credentials,' Prairie Centre of Excellence for Research on Immigration and Integration working paper.
- Beach, Charles and Christopher Worswick. 1993. "Is There a Double-Negative Effect on the Earnings of Immigrant Women?" Canadian Public Policy XIX:1:36-53.
- Becker, Gary S. 1996 [1957]. Accounting for tastes Cambridge and London: Harvard University Press, 1996, pages viii, 268.
- Boyd, M. 1992. 'Gender, visible minority and immigrant earnings inequality: Reassessing an employment equity premise', in V. Satzewich (ed). Deconstructing a Nation: Immigration, multiculturalism and racism in '90s Canada, Halifax: Fernwood Publishing. 279-321.
- Christofides and Swidinsky. 1994. 'Wage Determination by Gender and Visible Minority Status: Evidence from the 1989 LMAS', Canadian Public Policy, 20(1): 34-51.
- deSilva, A. 1999. 'Wage discrimination against natives,' Canadian Public Policy, 20(1): 34-51.

- deSilva, A. 1992. 'Earnings of Immigrants: A Comparative Analysis,' Ottawa: Economic Council of Canada Working Paper Series.
- deSilva, A and C. Dougherty. 1996. 'Discrimination against visible minority men'. Ottawa: HRDC Applied Research Branch, Strategic Policy Document, W-96-6E.
- Dickens, W. and K. Lang. 1993. "Labor Market Segmentation Theory: Reconsidering the Evidence" in William Darity Jr. (ed.) Labor economics: Problems in analyzing labor markets, Recent Economic Thought Series, Norwell, Mass: Kluwer Academic, 1993, pages 141-80.
- George, P. and P. Kuhn. 'The Size and Structure of Native-White Differentials in Canada', Canadian Journal of Economics 27(1), pp 20-42.
- Henry, F. and E. Ginsberg. 1989. 'Who gets the work: a test of racial discrimination in employment,' Ottawa: Multiculturalism Canada.
- Hiebert, D. 1998. 'The colour of work,' Research on immigration in the Metropolis (RIIM) working paper.
- Howland, J and C. Sakellariou. 1993. 'Wage discrimination, occupational segregation and visible minorities in Canada', Applied Economics 25: 1413-1422.
- Hum, D. and W. Simpson. 1998. 'Wage Opportunities for Visible Minorities in Canada'. The Income and Labour Dynamics Working Paper Series. Ottawa: Statistics Canada.
- Kelly, K. 1995. 'Visible Minorities: A Diverse Group,' Canadian Social Trends (no 37). Ottawa: Statistics Canada. Pp: 2-8.
- Li, 1998. 'The market value and the social value of race,' in V. Satzewich (ed) Racism and Social Inequality in Canada. Toronto: Thompson.
- Lian, J. and D. Mathews. 1998. 'Does the vertical mosaic still exist? Ethnicity and income in 1991,' Canadian Review of Sociology and Anthropology. Vol 35(4). Pages 461-482.
- Mata, F. and R. Pendakur. 1998. 'Patterns of Ethnic Identification and the 'Canadian' Response,' Canadian Ethnic Studies vol XXX (2)
- McDade, K. 1988. Barriers to recognition of the credentials of immigrants in Canada. Ottawa: Institute for Research in Public Policy.
- Mincer, Jacob. 1974. Schooling, experience, and earnings. New York: Columbia University Press.

- Oaxaca, R.L. 1973. "Male-Female Wage Differentials in Urban Labor Markets", International Economic Review August 1973, pp 693-709.
- Pendakur, R. 2001. Immigrants and the Labour Force: Policy, Regulation and Impact, Montreal: McGill-Queen's University Press.
- Pendakur, K. and R. Pendakur. 1998. 'The colour of money: earnings differentials among ethnic groups in Canada'. Canadian Journal of Economics 31(3): 518-548.
- Pendakur, K. and R. Pendakur. 2001. "Speaking in Tongues: Language Knowledge as Human Capital and Ethnicity" International Migration Review, forthcoming.
- Porter, J. 1965. The Vertical Mosaic. Toronto: University of Toronto Press.
- Shapiro and Stiglitz. 1984. "Equilibrium Unemployment as a Worker Discipline Device" American Economic Review.
- Statistics Canada. 1996. 1996 Census Dictionary. Ottawa: Statistics Canada.
- Stelcner, M. 2000. 'Earnings differentials among ethnic groups in Canada: A review of the research,' Review of Social Economy, 58(3): 295-317.
- Stelcner, M and N. Kyriazis. 1995. 'An empirical analysis of earnings among ethnic groups in Canada', International Journal of Contemporary Sociology. 32(1): 41-79.
- Trejo, S. 1998. "Intergenerational Progress of Mexican-Origin Workers in the U.S. Labor Market" University of California, Santa Barbara, Working Papers in Economics: 98/16, September 1998, pages 26.
- Torczyner, J. 1997. "Diversity, Mobility and Change: The Dynamics of Black Communities in Canada," McGill Consortium for Ethnicity and Strategic Planning, executive summary presented to the Multiculturalism Branch, Department of Canadian Heritage, Ottawa.
- Wanner, R. 1998a. "Prejudice, Profit, Or Productivity: Explaining Returns To Human Capital Among Male Immigrants To Canada." Canadian Ethnic Studies 30:24-55.
- Wanner, R. 1998b. 'Shifting Origins, Shifting Labour Markets: Trends in the Occupational Attainment of Immigrants to Canada,' Prairie Centre of Excellence for Research on Immigration and Integration working paper.

Appendix 1: Labour Force Participation Rates

For women, the relative labour market attainment of whites, visible minorities and Aboriginals changed substantially over the 25 year period, but so, too, did the relative labour force participation rates of the three groups. Ideally, we would estimate a structural model of participation and a model of earnings, to generate a picture of earnings differentials across ethnic groups in the *offer* distribution, that is, the distribution of earnings that would obtain if all women worked. However, the identification of such models requires one or more variables that are uncorrelated with potential wages, but correlated with labour force participation. Unfortunately, in these Census microdata, we do not have such a variable.

However, we can get some handle on the data by assuming that the labour force participation decision is driven entirely by potential wage offer considerations on the supply side. In this case, if the non-participation rate is 20%, then the women whose potential wages are in the bottom 20% (and only those women) are non-participants. Obviously, this is not a very good model of participation because it takes no reasonable account of women who drop out for the purposes of childbearing and childrearing. This is effectively a sample truncation model rather than a sample selection model, and given this model, a look at the relative participation probabilities across ethnic groups over time can help us assess the results in Table 2 regarding observed earnings.

Table A1 shows estimated transformed coefficients from a logit models where the left-hand side variable is “Is a labour force participant” and where it is “Is in our sample” (this is slightly tighter). Defining the odds ratio of an event as the probability that it happens divided by the probability that it doesn’t happen, the transformed coefficients give the proportional impact of ethnic origin on the odds ratio of labour force participation, conditional on personal characteristics. For example, the transformed coefficient for labour force participation of visible minority women in 1971 is 1.15, indicating that the conditional odds of being in the labour force are 15% higher for them compared to white women in that year. This number decreased to 1.06 by 1996. Thus, the relative labour force participation rate of visible minority women compared to white women *declined* over 1971 to 1996. This means that creaming of visible minority women into work was more prevalent in the 1990s, a period when visible minority women faced negative earnings differentials, than it was in earlier years, when visible minority women earned as much or more than white women. Thus, under the strict truncation model of participation, we would expect that correcting for participation effects would exacerbate the decline in relative labour market attainment for visible minority women observed in Table 2.

We note that a similar story can be told for visible minority men, because their relative labour force participation rates also fell over the period. For Aboriginal women and men, the story is not so clear. Aboriginal women saw their relative participation probabilities rise between 1971 and 1981, but then decline thereafter, and Aboriginal men saw substantial increases in their relative labour force participation probabilities throughout the period.

Table 1 Weighted Frequency Counts of Ethnic Group by Sex and selected Geographic Area, 1971 to 1996

Sex	Region	Data	1971	1981	1986	1991	1996
females	Canada	White	1,505,455	2,522,035	3,028,740	3,323,710	3,781,420
		Visible Minorities	9,680	16,910	28,655	40,455	46,675
		Aboriginal Persons	10,870	47,770	73,140	119,800	109,060
	Halifax	White	20,465	37,090	45,305	50,495	57,570
		Visible Minorities	220	555	1,165	1,845	1,955
		Aboriginal Persons	25	270	525	1,070	480
	Montreal	White	207,795	321,215	376,905	428,225	470,550
		Visible Minorities	1,125	1,345	2,125	3,585	3,455
		Aboriginal Persons	670	2,375	3,990	8,285	2,865
	Ottawa-Hull	White	57,290	95,470	122,570	137,925	155,315
		Visible Minorities	200	455	865	1,755	1,725
		Aboriginal Persons	125	960	2,520	5,630	3,065
	Toronto	White	187,985	268,395	350,010	356,915	391,710
		Visible Minorities	2,545	4,000	7,205	10,185	12,905
		Aboriginal Persons	695	2,540	5,845	6,885	3,545
	Hamilton	White	32,735	52,530	63,540	70,495	80,460
		Visible Minorities	230	350	620	765	875
		Aboriginal Persons	155	695	1,010	1,650	945
	Winnipeg	White	50,175	70,710	80,965	79,465	90,615
		Visible Minorities	275	485	810	1,010	1,055
		Aboriginal Persons	370	2,010	3,365	4,855	6,290
	Calgary	White	33,615	69,615	92,880	96,690	114,515
		Visible Minorities	220	745	1,230	1,820	2,215
		Aboriginal Persons	175	1,160	2,150	3,405	3,120
	Edmonton	White	40,695	75,765	103,165	102,615	117,760
		Visible Minorities	270	500	1,015	1,440	1,785
		Aboriginal Persons	360	2,000	3,245	5,145	4,705
	Vancouver	White	81,975	127,970	147,690	161,770	189,135
		Visible Minorities	1,880	3,540	5,340	7,720	9,950
		Aboriginal Persons	565	2,385	4,305	6,120	5,300
Victoria	White	15,145	25,355	30,690	34,285	42,590	
	Visible Minorities	175	370	515	855	960	
	Aboriginal Persons	90	475	660	1,520	1,025	
Rest of Canada	White	777,570	1,377,920	1,615,020	1,804,830	2,071,190	
	Visible Minorities	2,525	4,550	7,760	9,485	9,800	
	Aboriginal Persons	7,635	32,910	45,525	75,235	77,720	

Table 1 Weighted Frequency Counts of Ethnic Group by Sex and selected Geographic Area, 1971 to 1996

Sex	Region	Data	1971	1981	1986	1991	1996
Males	Canada	White	2,837,325	3,419,815	3,696,510	3,723,390	4,068,945
		Visible Minorities	16,375	21,160	33,260	43,000	49,125
		Aboriginal Persons	27,560	73,630	90,385	128,970	118,515
	Halifax	White	37,660	49,050	54,485	56,035	60,285
		Visible Minorities	400	695	1,340	1,665	1,515
		Aboriginal Persons	55	410	745	1,090	515
	Montreal	White	412,600	431,350	455,340	459,575	486,435
		Visible Minorities	1,700	1,475	2,195	3,415	3,650
		Aboriginal Persons	1,515	3,420	4,370	7,750	3,395
	Ottawa-Hull	White	95,245	119,180	141,475	147,135	160,300
		Visible Minorities	410	650	1,190	1,915	1,820
		Aboriginal Persons	220	1,150	2,510	5,230	2,915
	Toronto	White	286,425	307,230	377,750	367,000	387,260
		Visible Minorities	3,960	4,515	7,555	10,195	12,885
		Aboriginal Persons	900	3,020	5,765	6,280	3,500
	Hamilton	White	61,540	70,605	77,260	77,895	84,315
		Visible Minorities	395	560	630	770	940
		Aboriginal Persons	295	1,010	1,135	1,615	815
	Winnipeg	White	76,305	84,490	92,085	83,975	94,370
		Visible Minorities	510	715	900	1,075	1,040
		Aboriginal Persons	600	2,615	3,460	5,000	6,775
	Calgary	White	54,695	89,245	105,750	107,795	125,070
		Visible Minorities	360	870	1,505	2,135	2,425
		Aboriginal Persons	265	1,705	2,125	3,475	2,760
	Edmonton	White	66,780	95,250	119,520	114,185	126,340
		Visible Minorities	390	755	1,235	1,765	1,760
		Aboriginal Persons	535	2,615	3,485	4,745	4,980
	Vancouver	White	134,085	156,360	169,750	176,995	200,730
		Visible Minorities	2,810	4,220	5,885	7,935	10,610
		Aboriginal Persons	800	3,050	4,070	6,135	4,820
	Victoria	White	24,130	31,085	33,260	36,115	41,160
		Visible Minorities	300	405	515	915	1,010
		Aboriginal Persons	215	590	740	1,430	975
Rest of Canada	White	1,587,860	1,985,965	2,069,835	2,096,705	2,302,685	
	Visible Minorities	5,135	6,295	10,305	11,215	11,460	
	Aboriginal Persons	22,165	54,040	61,990	86,220	87,065	

Source 1971, 1981, 1986, 1991 and 1996 census mainbase.

Selection All Canadian-born residents of Canada, 25 to 64 years of age, whose primary source of income is from wages and salaries. People without any schooling were dropped from the sample as were those without any earnings.

Table 2. Selected Coefficients from Log-Earnings Regression Models, with Ethnicity Dummies, 1971 to 1996

			year														
sex	variable	Model	1971			1981			1986			1991			1996		
			coef	s	sig	coef	s	sig	coef	s	sig	coef	s	sig	coef	s	sig
Females	Aboriginal	Canada	-0.20	0.01	0.00	-0.10	0.01	0.00	-0.09	0.01	0.00	-0.17	0.01	0.00	-0.16	0.01	0.00
		Not a Big CMA	-0.17	0.02	0.00	-0.07	0.01	0.00	-0.05	0.01	0.00	-0.15	0.01	0.00	-0.13	0.01	0.00
		Halifax	-0.42	0.31	0.18	-0.01	0.15	0.97	-0.01	0.10	0.88	-0.10	0.07	0.12	-0.23	0.13	0.07
		Montreal	-0.09	0.06	0.14	-0.04	0.05	0.35	-0.13	0.04	0.00	-0.13	0.02	0.00	-0.32	0.06	0.00
		Ottawa-Hull	-0.19	0.15	0.21	-0.02	0.07	0.84	-0.01	0.05	0.75	-0.06	0.03	0.04	-0.14	0.05	0.00
		Toronto	-0.09	0.07	0.15	-0.24	0.05	0.00	-0.13	0.03	0.00	-0.11	0.03	0.00	-0.16	0.04	0.00
		Hamilton	-0.19	0.15	0.22	-0.26	0.09	0.01	-0.11	0.08	0.15	-0.13	0.06	0.02	-0.20	0.08	0.02
		Winnipeg	-0.18	0.09	0.04	-0.27	0.05	0.00	-0.25	0.04	0.00	-0.34	0.03	0.00	-0.29	0.03	0.00
		Calgary	-0.24	0.14	0.08	-0.24	0.07	0.00	-0.22	0.05	0.00	-0.26	0.04	0.00	-0.37	0.05	0.00
		Edmonton	-0.32	0.09	0.00	-0.31	0.05	0.00	-0.25	0.04	0.00	-0.36	0.03	0.00	-0.41	0.03	0.00
	Vancouver	-0.19	0.08	0.01	-0.15	0.05	0.00	-0.11	0.03	0.00	-0.24	0.03	0.00	-0.37	0.03	0.00	
	Victoria	-0.26	0.19	0.16	-0.13	0.11	0.25	-0.10	0.09	0.27	-0.46	0.05	0.00	-0.26	0.07	0.00	
	Visible Minority	Canada	0.09	0.02	0.00	0.07	0.02	0.00	0.04	0.01	0.00	0.00	0.01	0.99	-0.06	0.01	0.00
		Not a Big CMA	0.03	0.04	0.34	0.14	0.04	0.00	0.03	0.03	0.28	0.01	0.02	0.76	-0.04	0.02	0.08
		Halifax	-0.33	0.11	0.00	-0.05	0.10	0.59	-0.17	0.07	0.01	-0.16	0.05	0.00	-0.14	0.06	0.01
		Montreal	0.11	0.05	0.01	-0.03	0.06	0.61	0.03	0.05	0.51	-0.06	0.03	0.10	-0.19	0.04	0.00
		Ottawa-Hull	0.21	0.12	0.07	-0.16	0.10	0.12	0.03	0.07	0.63	-0.19	0.05	0.00	-0.15	0.05	0.00
		Toronto	0.08	0.03	0.02	-0.03	0.04	0.38	0.02	0.03	0.39	-0.01	0.02	0.57	-0.12	0.02	0.00
		Hamilton	0.30	0.13	0.02	-0.04	0.14	0.75	-0.05	0.10	0.58	-0.07	0.08	0.35	-0.13	0.08	0.10
		Winnipeg	0.10	0.10	0.32	0.08	0.10	0.46	-0.02	0.08	0.78	0.04	0.07	0.57	-0.12	0.07	0.10
Calgary		0.03	0.12	0.82	0.17	0.08	0.04	0.17	0.07	0.01	0.06	0.05	0.26	0.02	0.05	0.63	
Edmonton		0.05	0.11	0.66	0.12	0.10	0.23	0.07	0.07	0.33	0.07	0.06	0.21	-0.04	0.06	0.43	
Vancouver	0.14	0.04	0.00	0.19	0.04	0.00	0.13	0.03	0.00	0.09	0.03	0.00	0.10	0.02	0.00		
Victoria	0.32	0.14	0.02	0.15	0.13	0.24	0.32	0.11	0.00	0.13	0.08	0.08	0.03	0.07	0.69		
Males	Aboriginal	Canada	-0.48	0.01	0.00	-0.37	0.00	0.00	-0.44	0.00	0.00	-0.48	0.00	0.00	-0.57	0.00	0.00
		Not a Big CMA	-0.51	0.01	0.00	-0.41	0.01	0.00	-0.48	0.01	0.00	-0.53	0.00	0.00	-0.58	0.00	0.00
		Halifax	0.15	0.12	0.19	-0.23	0.08	0.00	-0.23	0.06	0.00	-0.03	0.05	0.61	-0.35	0.10	0.00
		Montreal	-0.13	0.03	0.00	-0.06	0.03	0.03	-0.14	0.03	0.00	-0.10	0.02	0.00	-0.27	0.05	0.00
		Ottawa-Hull	-0.05	0.06	0.43	-0.09	0.05	0.04	-0.14	0.03	0.00	-0.10	0.02	0.00	-0.27	0.04	0.00
		Toronto	-0.24	0.03	0.00	-0.16	0.03	0.00	-0.13	0.02	0.00	-0.16	0.02	0.00	-0.49	0.04	0.00
		Hamilton	-0.10	0.06	0.06	-0.04	0.05	0.40	-0.29	0.05	0.00	-0.11	0.05	0.02	-0.21	0.08	0.01
		Winnipeg	-0.36	0.04	0.00	-0.37	0.03	0.00	-0.39	0.03	0.00	-0.42	0.03	0.00	-0.55	0.03	0.00
		Calgary	-0.24	0.06	0.00	-0.26	0.04	0.00	-0.30	0.04	0.00	-0.34	0.03	0.00	-0.35	0.04	0.00
		Edmonton	-0.41	0.04	0.00	-0.19	0.03	0.00	-0.36	0.03	0.00	-0.51	0.02	0.00	-0.63	0.03	0.00
	Vancouver	-0.40	0.04	0.00	-0.12	0.03	0.00	-0.26	0.03	0.00	-0.32	0.02	0.00	-0.52	0.03	0.00	
	Victoria	-0.34	0.07	0.00	-0.14	0.07	0.04	-0.64	0.06	0.00	-0.45	0.04	0.00	-0.71	0.07	0.00	
	Visible Minority	Canada	-0.05	0.01	0.00	-0.03	0.01	0.00	-0.07	0.01	0.00	-0.06	0.01	0.00	-0.15	0.01	0.00
		Not a Big CMA	0.03	0.02	0.05	0.05	0.02	0.01	0.00	0.02	0.82	0.00	0.02	0.94	-0.11	0.02	0.00
		Halifax	-0.17	0.05	0.00	-0.30	0.06	0.00	-0.41	0.05	0.00	-0.19	0.04	0.00	-0.24	0.05	0.00
		Montreal	-0.11	0.03	0.00	-0.12	0.04	0.00	-0.10	0.04	0.01	-0.21	0.03	0.00	-0.21	0.04	0.00
		Ottawa-Hull	0.02	0.05	0.71	0.03	0.06	0.65	-0.03	0.04	0.54	-0.08	0.04	0.04	-0.08	0.04	0.06
		Toronto	-0.11	0.02	0.00	-0.09	0.03	0.00	-0.08	0.02	0.00	-0.11	0.02	0.00	-0.17	0.02	0.00
		Hamilton	-0.02	0.05	0.62	-0.06	0.06	0.37	-0.15	0.07	0.03	-0.21	0.07	0.00	-0.10	0.07	0.15
		Winnipeg	-0.08	0.04	0.07	0.01	0.06	0.83	-0.06	0.06	0.31	-0.08	0.06	0.15	-0.16	0.06	0.01
Calgary		-0.04	0.05	0.49	0.04	0.05	0.47	-0.10	0.05	0.04	0.10	0.04	0.02	-0.18	0.04	0.00	
Edmonton		-0.09	0.05	0.10	-0.01	0.06	0.87	-0.11	0.05	0.04	-0.08	0.04	0.06	-0.16	0.05	0.00	
Vancouver	-0.10	0.02	0.00	-0.08	0.03	0.00	-0.04	0.03	0.15	0.00	0.02	0.93	-0.06	0.02	0.00		
Victoria	0.05	0.06	0.40	-0.08	0.08	0.34	0.04	0.09	0.63	0.00	0.06	0.96	0.05	0.07	0.47		

Variables in model include: 8 age cohorts, 12 dummies for schooling, 5 dummies for marital status, household size, 3 dummies for official language ability and 3 for group status. The Canada wide regression includes 13 dummies for region (10 CMAs, a small CMA).

Source 1971, 1981, 1986, 1991 and 1996 census mainbase.

Selection All Canadian-born residents of Canada, 25 to 64 years of age, whose primary source of income is from wages and salaries. People without any

Table 3. Selected Coefficients from Log-Earnings Regression Models, with Ethnicity Dummies interacted with age, 1971 to 1996

Sex	Group	CMA	1971			1981			1986			1991			1996		
			coef	s	sig	coef	s	sig	coef	s	sig	coef	s	sig	coef	s	sig
Females	Aboriginal	Halifax	-0.28	0.33	0.40	0.02	0.15	0.90	0.05	0.11	0.62	-0.02	0.07	0.73	-0.14	0.13	0.28
		Montreal	0.07	0.07	0.30	0.05	0.05	0.37	-0.10	0.04	0.01	-0.06	0.03	0.03	-0.22	0.06	0.00
		Ottawa-Hull	-0.08	0.16	0.63	0.06	0.08	0.44	0.03	0.05	0.48	0.04	0.03	0.18	-0.02	0.05	0.72
		Toronto	0.07	0.07	0.29	0.07	0.05	0.15	-0.07	0.03	0.02	-0.01	0.03	0.60	-0.04	0.04	0.40
		Hamilton	-0.05	0.15	0.74	-0.19	0.09	0.04	-0.09	0.08	0.22	-0.04	0.06	0.53	-0.11	0.09	0.20
		Winnipeg	-0.05	0.09	0.61	-0.17	0.06	0.00	-0.19	0.04	0.00	-0.24	0.03	0.00	-0.19	0.03	0.00
		Calgary	-0.14	0.14	0.31	-0.15	0.07	0.04	-0.18	0.05	0.00	-0.19	0.04	0.00	-0.26	0.05	0.00
		Edmonton	-0.23	0.09	0.01	-0.23	0.05	0.00	-0.22	0.04	0.00	-0.29	0.03	0.00	-0.34	0.03	0.00
		Vancouver	-0.09	0.07	0.21	-0.06	0.05	0.26	-0.05	0.03	0.19	-0.14	0.03	0.00	-0.26	0.03	0.00
	Victoria	-0.17	0.18	0.36	-0.04	0.11	0.72	-0.07	0.09	0.42	-0.34	0.05	0.00	-0.15	0.08	0.05	
	Visible Minority	Halifax	-0.34	0.12	0.00	-0.12	0.10	0.23	-0.22	0.07	0.00	-0.19	0.05	0.00	-0.15	0.06	0.01
		Montreal	0.15	0.06	0.01	-0.09	0.07	0.17	-0.03	0.05	0.59	-0.09	0.04	0.02	-0.21	0.04	0.00
		Ottawa-Hull	0.21	0.13	0.09	-0.25	0.11	0.02	-0.06	0.08	0.43	-0.24	0.05	0.00	-0.21	0.06	0.00
		Toronto	0.08	0.04	0.06	0.07	0.04	0.09	-0.04	0.03	0.16	-0.04	0.02	0.08	-0.17	0.02	0.00
		Hamilton	0.32	0.12	0.01	-0.13	0.13	0.32	-0.10	0.09	0.29	-0.10	0.08	0.22	-0.16	0.08	0.06
		Winnipeg	0.11	0.11	0.33	0.00	0.11	0.98	-0.08	0.08	0.37	0.01	0.07	0.87	-0.16	0.07	0.03
		Calgary	0.04	0.12	0.72	0.10	0.09	0.25	0.13	0.07	0.06	0.03	0.05	0.56	0.01	0.05	0.91
		Edmonton	0.04	0.11	0.72	0.07	0.11	0.49	0.05	0.07	0.47	0.05	0.06	0.36	-0.07	0.06	0.21
		Vancouver	0.14	0.05	0.00	0.09	0.05	0.05	0.06	0.04	0.08	0.06	0.03	0.05	0.07	0.03	0.01
	Victoria	0.33	0.14	0.01	0.10	0.13	0.43	0.28	0.11	0.01	0.09	0.08	0.23	-0.03	0.08	0.74	
Aboriginal status * age			-0.01	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	-0.01	0.00	0.00	
Visible Minority Status * age			0.00	0.00	0.85	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.03	
Males	Aboriginal	Halifax	0.37	0.13	0.01	-0.09	0.08	0.29	0.05	0.07	0.45	0.30	0.06	0.00	-0.03	0.11	0.77
		Montreal	0.28	0.03	0.00	0.22	0.03	0.00	0.12	0.03	0.00	0.18	0.02	0.00	0.15	0.05	0.00
		Ottawa-Hull	0.24	0.07	0.00	0.14	0.05	0.01	0.11	0.04	0.00	0.18	0.03	0.00	0.08	0.05	0.12
		Toronto	0.06	0.04	0.09	0.19	0.03	0.00	0.13	0.02	0.00	0.12	0.02	0.00	-0.17	0.04	0.00
		Hamilton	0.31	0.07	0.00	0.22	0.05	0.00	0.03	0.06	0.60	0.22	0.05	0.00	0.17	0.08	0.04
		Winnipeg	-0.09	0.04	0.05	-0.14	0.03	0.00	-0.12	0.03	0.00	-0.13	0.03	0.00	-0.19	0.03	0.00
		Calgary	0.11	0.07	0.11	-0.05	0.04	0.23	-0.08	0.04	0.04	-0.10	0.03	0.00	-0.08	0.04	0.07
		Edmonton	-0.07	0.05	0.16	0.07	0.03	0.04	-0.12	0.03	0.00	-0.23	0.03	0.00	-0.31	0.03	0.00
		Vancouver	-0.13	0.04	0.00	0.19	0.03	0.00	0.09	0.03	0.00	-0.02	0.02	0.34	-0.13	0.03	0.00
	Victoria	0.06	0.07	0.39	0.17	0.07	0.01	-0.29	0.06	0.00	-0.11	0.04	0.01	-0.35	0.07	0.00	
	Visible Minority	Halifax	-0.19	0.06	0.00	-0.34	0.06	0.00	-0.44	0.05	0.00	-0.24	0.05	0.00	-0.24	0.06	0.00
		Montreal	-0.10	0.03	0.00	-0.17	0.05	0.00	-0.15	0.04	0.00	-0.27	0.03	0.00	-0.24	0.04	0.00
		Ottawa-Hull	0.02	0.06	0.73	0.01	0.06	0.85	-0.04	0.05	0.43	-0.11	0.04	0.01	-0.07	0.05	0.17
		Toronto	-0.14	0.02	0.00	-0.02	0.03	0.47	-0.15	0.02	0.00	-0.14	0.02	0.00	-0.20	0.02	0.00
		Hamilton	-0.06	0.06	0.31	-0.10	0.07	0.16	-0.20	0.07	0.01	-0.25	0.07	0.00	-0.10	0.07	0.16
		Winnipeg	-0.10	0.05	0.05	-0.04	0.06	0.56	-0.09	0.06	0.16	-0.13	0.06	0.02	-0.18	0.06	0.00
		Calgary	-0.06	0.06	0.31	0.02	0.06	0.76	-0.08	0.05	0.11	0.09	0.04	0.04	-0.15	0.04	0.00
		Edmonton	-0.12	0.06	0.05	-0.05	0.06	0.44	-0.11	0.05	0.03	-0.13	0.05	0.01	-0.17	0.05	0.00
		Vancouver	-0.13	0.02	0.00	-0.12	0.03	0.00	-0.07	0.03	0.01	-0.04	0.02	0.07	-0.06	0.02	0.01
	Victoria	0.04	0.07	0.52	-0.13	0.08	0.12	0.03	0.08	0.75	-0.04	0.06	0.55	0.04	0.07	0.53	
Aboriginal status * age			-0.026	0.00	0.00	-0.021	0.00	0.00	-0.025	0.00	0.00	-0.025	0.000	0.00	-0.027	0.000	0.00
Visible Minority Status * age			0.002	0.00	0.01	0.003	0.00	0.00	0.002	0.00	0.00	0.003	0.001	0.00	-0.001	0.001	0.43

Variables in model include: 8 age cohorts, 12 dummies for schooling, 5 dummies for marital status, household size, 3 dummies for official language ability and 3 for group status. As well, two variables are included with interact age with ethnicity status.

Source 1971, 1981, 1986, 1991 and 1996 census mainbase.

Selection All Canadian-born residents of Canada, 25 to 64 years of age, whose primary source of income is from wages and salaries. People without

Table 4: Earnings Differentials by Birth Cohort, Ethnicity, Region and Sex for 1971 to 1996

Group	Region	Sex	year	birth cohort								
				1967-71	1962-66	1957-61	1952-56	1947-51	1942-46	1937-41	1932-36	
Aboriginal	Canada	Males	1971							-0.44	-0.53	-0.49
			1981				-0.36	-0.36	-0.42	-0.39	-0.38	
			1986			-0.42	-0.44	-0.41	-0.47	-0.48	-0.46	
			1991		-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.40	
			1996	-0.57	-0.60	-0.61	-0.56	-0.55	-0.52	-0.46	-0.34	
		Females	1971							-0.31	-0.17	-0.08
			1981				-0.22	-0.05	-0.04	-0.04	-0.04	
			1986			-0.17	-0.06	-0.06	-0.04	-0.09	-0.01	
			1991		-0.28	-0.17	-0.13	-0.15	-0.16	-0.05	-0.05	
			1996	-0.24	-0.23	-0.14	-0.13	-0.12	-0.12	0.02	0.03	
	Montreal	Males	1971						0.03	-0.06	0.00	
			1981				-0.05	-0.17	-0.04	-0.06	0.03	
			1986			-0.06	-0.10	-0.22	-0.17	-0.17	-0.14	
			1991		-0.19	-0.10	-0.09	-0.06	-0.13	0.05	0.01	
			1996	-0.01	-0.35	-0.25	-0.18	-0.56	-0.21	-0.03	-0.86	
		Females	1971						-0.07	-0.28	0.00	
			1981				0.04	0.00	-0.07	-0.06	-0.15	
			1986			-0.20	-0.09	-0.18	-0.05	0.00	-0.26	
			1991		-0.12	-0.13	-0.21	-0.09	-0.06	-0.14	-0.30	
			1996	-0.11	-0.31	-0.37	-0.57	-0.16	-0.40	-0.27	0.12	
	Toronto	Males	1971						-0.20	-0.09	-0.16	
			1981				-0.16	-0.11	-0.14	-0.25	-0.10	
			1986			-0.08	-0.07	-0.13	-0.10	-0.31	-0.20	
			1991		-0.05	-0.19	-0.23	-0.19	-0.31	-0.17	-0.09	
1996			-0.30	-0.26	-1.15	-0.40	-0.35	-0.33	-0.26	-0.25		
Females		1971						-0.14	-0.24	-0.04		
		1981				-0.42	-0.18	-0.16	-0.19	-0.02		
		1986			-0.19	-0.05	-0.17	-0.04	-0.02	-0.14		
		1991		-0.24	-0.05	-0.05	-0.15	-0.12	-0.05	0.05		
		1996	-0.29	-0.28	-0.05	-0.23	-0.09	0.03	0.19	-0.13		
Vancouver	Males	1971						-0.35	-0.37	-0.65		
		1981				-0.07	-0.14	-0.21	-0.15	-0.14		
		1986			-0.33	-0.07	-0.43	-0.37	-0.07	-0.23		
		1991		-0.23	-0.32	-0.47	-0.43	-0.31	-0.32	-0.06		
		1996	-0.43	-0.46	-0.76	-0.52	-0.58	-0.45	-0.41	-0.05		
	Females	1971						-0.23	-0.27	-0.04		
		1981				-0.33	-0.15	-0.03	-0.11	-0.12		
		1986			-0.32	-0.13	-0.05	-0.09	-0.06	0.16		
		1991		-0.25	-0.34	-0.27	-0.12	-0.24	-0.26	0.10		
		1996	-0.36	-0.41	-0.48	-0.27	-0.46	-0.35	-0.15	-0.22		

Table 4: Earnings Differentials by Birth Cohort, Ethnicity, Region and Sex for 1971 to 1996

Group	Region	Sex	year	birth cohort									
				1967-71	1962-66	1957-61	1952-56	1947-51	1942-46	1937-41	1932-36		
Visible Minorities	Canada	Males	1971							-0.07	-0.06	-0.04	
			1981				-0.06	-0.06	-0.01	-0.07	-0.07		
			1986			-0.10	-0.06	-0.09	-0.04	-0.05	-0.04		
			1991		-0.08	-0.06	-0.06	-0.08	-0.04	-0.03	0.00		
		1996	-0.21	-0.07	-0.12	-0.20	-0.20	-0.14	-0.05	0.05			
		Females	1971						0.11	0.08	0.00		
			1981				0.02	0.06	0.04	0.05	0.15		
			1986			0.02	0.07	-0.03	-0.02	0.13	0.02		
			1991		-0.03	0.04	-0.02	-0.09	0.00	0.05	0.07		
		1996	-0.12	-0.03	-0.04	-0.05	-0.13	-0.08	0.13	0.04			
		Montreal	Males	1971							-0.10	-0.21	0.00
				1981				-0.26	-0.07	-0.11	-0.26	-0.12	
	1986					-0.14	0.05	-0.05	-0.20	-0.05	-0.02		
	1991				-0.28	-0.18	-0.15	-0.29	-0.38	-0.01	-0.02		
	1996		-0.22	-0.19	-0.06	-0.27	-0.33	-0.74	0.12	0.00			
	Females		1971						0.08	0.13	0.07		
			1981				-0.01	0.02	0.02	-0.11	0.16		
			1986			0.12	0.05	-0.39	-0.05	0.11	-0.20		
			1991		-0.11	-0.02	-0.17	-0.27	0.12	0.15	0.09		
	1996		-0.31	-0.19	0.00	-0.15	-0.01	-0.16	0.23	-0.03			
	Toronto		Males	1971							-0.08	-0.09	-0.14
				1981				-0.14	-0.02	-0.07	-0.14	-0.14	
		1986				-0.07	-0.09	-0.15	-0.03	-0.07	-0.02		
		1991			-0.09	-0.15	-0.18	-0.07	-0.19	-0.01	-0.04		
1996		-0.21	-0.08	-0.14	-0.35	-0.12	-0.26	-0.06	-0.04				
Females		1971						0.11	0.25	0.09			
		1981				-0.02	-0.19	-0.20	0.04	0.04			
		1986			-0.06	0.06	-0.03	0.02	0.08	0.00			
		1991		-0.10	0.05	0.03	-0.01	0.08	-0.07	0.12			
1996		-0.17	-0.06	0.00	-0.10	-0.29	-0.31	-0.02	-0.08				
Vancouver		Males	1971							-0.02	-0.07	-0.10	
			1981				-0.06	-0.09	-0.05	-0.07	-0.32		
	1986				-0.02	-0.11	0.03	0.03	-0.12	-0.09			
	1991			0.00	0.03	0.04	0.06	-0.09	-0.09	0.04			
	1996	-0.13	0.11	-0.09	-0.13	-0.20	-0.09	0.03	-0.16				
	Females	1971						0.15	0.26	0.10			
		1981				0.15	0.21	0.21	0.15	0.34			
		1986			0.11	0.21	0.09	0.04	0.18	0.10			
		1991		0.08	0.18	0.06	-0.05	-0.05	0.11	0.01			
	1996	0.07	0.20	0.06	0.04	-0.12	0.08	0.27	0.24				

Variables in model include: 24 age-group status cohorts, 12 dummies for schooling, 5 dummies for marital status, household size, and 3 dummies for official language ability.

Source 1971, 1981, 1986, 1991 and 1996 census mainbase.

Selection All Canadian-born residents of Canada, 25 to 64 years of age, whose primary source of income is from wages and salaries. People without any schooling were dropped from the sample as were those without any earnings.

Significance: ***: 0.01, **: 0.05, *: 0.1

Table 5 Earnings Differentials by detailed ethnic origin, Canada, 1971 to 1996

Sex	Ethnic Group	1971			1986			1996		
		Coef	Std err	sig	Coef	Std err	sig	Coef	Std err	sig
females	French	0.03	0.01	***	0.04	0.01	***	0.03	0.00	***
	Scandinavian	-0.03	0.01	***	0.02	0.07		0.01	0.02	
	Baltic	0.11	0.05	**	-0.07	0.09		0.03	0.04	
	Polish	0.09	0.01	***	0.01	0.05		0.06	0.02	***
	Dutch	-0.06	0.01	***	-0.02	0.06		0.00	0.01	
	German	-0.01	0.01	*	0.08	0.03	**	0.02	0.01	**
	Russian	-0.02	0.03		-0.15	0.13		0.01	0.03	
	Hungarian	0.04	0.03		-0.15	0.09	*	0.06	0.02	**
	Czech / Slovak	0.05	0.03	*	-0.03	0.10		0.02	0.03	
	Jewish	-0.05	0.01	***	-0.07	0.03	***	-0.11	0.02	***
	Portuguese	-0.10	0.08		0.24	0.15		0.07	0.03	**
	Italian	0.06	0.01	***	0.10	0.02	***	0.06	0.01	***
	Greek	-0.02	0.05		-0.19	0.07	**	-0.04	0.02	*
	Balkan	0.09	0.04	**	0.10	0.11		0.09	0.03	***
	Ukrainian	0.09	0.01	***	0.04	0.04		0.06	0.01	***
	Spanish	-0.05	0.07		0.25	0.16		0.01	0.06	
	Arab	0.10	0.04	**	0.17	0.09	*	-0.01	0.04	
	Japanese	0.18	0.03	***	0.29	0.13	**	0.14	0.03	***
	Chinese	0.10	0.04	***	0.03	0.09		0.10	0.02	***
	South Asian	0.04	0.08		0.09	0.31		-0.08	0.04	**
	Black	-0.10	0.04	**	0.02	0.10		-0.22	0.03	***
	Aboriginal Origins	-0.19	0.01	***	-0.04	0.03		-0.15	0.01	***
	Br. Fr. & Other				-0.09	0.02		-0.05	0.01	***
British & French				-0.01	0.01		0.00	0.01		
British & Other				-0.07	0.02		-0.01	0.00	**	
French & Other				-0.01	0.02		-0.03	0.01	***	

Table 5 Earnings Differentials by detailed ethnic origin, Canada, 1971 to 1996

Sex	Ethnic Group	1971			1986			1996		
		Coef	Std err	sig	Coef	Std err	sig	Coef	Std err	sig
males	French	-0.03	0.00	***	-0.04	0.01	***	0.00	0.00	
	Scandinavian	0.04	0.00	***	-0.04	0.05		0.04	0.01	***
	Baltic	0.03	0.02		0.01	0.07		0.04	0.04	
	Polish	0.01	0.01		-0.01	0.04		0.06	0.01	***
	Dutch	0.00	0.01		-0.03	0.04		0.08	0.01	***
	German	0.01	0.00	***	-0.02	0.02		0.06	0.01	***
	Russian	-0.01	0.01		-0.02	0.10		0.01	0.03	
	Hungarian	-0.02	0.01	*	-0.04	0.07		0.01	0.02	
	Czech / Slovak	0.05	0.01	***	0.08	0.07		0.08	0.03	***
	Jewish	0.08	0.01	***	0.01	0.02		0.00	0.02	
	Portuguese	-0.13	0.03	***	-0.40	0.10	***	-0.01	0.03	
	Italian	0.02	0.01	***	-0.03	0.02	*	0.01	0.01	
	Greek	0.00	0.02		-0.14	0.06	**	-0.19	0.02	***
	Balkan	0.07	0.02	***	0.01	0.10		0.08	0.03	***
	Ukrainian	0.00	0.00		0.00	0.03		0.02	0.01	**
	Spanish	-0.06	0.03	**	0.06	0.10		-0.17	0.05	***
	Arab	0.02	0.02		0.07	0.07		-0.06	0.03	*
	Japanese	0.00	0.01		0.22	0.09	**	0.06	0.03	**
	Chinese	-0.12	0.02	***	-0.17	0.07	**	0.00	0.02	
	South Asian	0.04	0.03		-0.16	0.20		-0.22	0.03	***
Black	-0.17	0.02	***	-0.16	0.07	**	-0.36	0.02	***	
Aboriginal Origins	-0.48	0.01	***	-0.45	0.02	***	-0.63	0.01	***	
Br. Fr. & Other				-0.15	0.02		-0.02	0.01	***	
British & French				-0.07	0.01		-0.02	0.01	***	
British & Other				-0.05	0.01		0.01	0.00		
French & Other				-0.07	0.01		-0.07	0.01	***	

controls include: age groups, schooling, marital status, census metropolitan area, household size and official language ability.

Note Canadian, Other European, Other Asian, Other Single origins and Other Multiple origins were included as controls but have been omitted from the table.

Significance: ***: 0.01, **: 0.05, *: 0.1

Table 6

Earnings Differentials by CMA and Year, For Selected Ethnic Groups, Montreal, Toronto and Vancouver, 1971, 1986, 1996

		Montreal			Toronto			Vancouver											
		1971	1986	1996	1971	1986	1996	1971	1986	1996									
Sex	Group	Coef	sig	Coef	sig	Coef	sig	Coef	sig	Coef	sig								
Female	French	0.02 *		0.03 **		0.04 **		0.00		0.07 ***		0.03		0.01		0.01		-0.03	
	Dutch	0.07		-0.03		0.02		-0.06		-0.07 *		-0.01		0.00		0.05		0.00	
	Jewish	-0.03		-0.06 **		-0.07 **		-0.06 ***		-0.10 ***		-0.10 ***		0.02		0.03		-0.05	
	Portuguese	0.25		0.18		-0.05		-0.56 ***		0.15		0.00		-0.01		0.04		0.05	
	Italian	0.08 ***		0.08 ***		0.01		-0.05 *		0.10 ***		0.02		0.04		0.15 ***		0.09 **	
	Greek	-0.15 *		-0.19 **		-0.18 ***		0.05		-0.07		0.01		0.04		-0.32 *		0.02	
	Chinese	0.09		0.21		0.12		-0.06		0.09		0.00		0.12 *		0.24 ***		0.15 ***	
	S. Asian	0.28		0.26		-0.21		-0.14		0.00		-0.21 ***		0.18		0.14		0.04	
	Black	0.03		-0.03		-0.26 ***		-0.01		-0.08		-0.27 ***		-0.40 *		0.03		-0.08	
Aboriginal	-0.08		-0.09		-0.29 ***		-0.10		-0.24 ***		-0.17 **		-0.19 **		-0.07		-0.46 ***		
Male	French	-0.09 ***		-0.03 ***		0.01		-0.04 ***		-0.05 ***		0.00		-0.03 **		-0.05 *		-0.03	
	Dutch	0.02		-0.15 *		0.16		-0.01		-0.04		0.06 *		0.00		-0.01		0.08 **	
	Jewish	0.09 ***		0.05 *		0.02		0.01		-0.05 ***		-0.05 **		0.04		-0.05		-0.08	
	Portuguese	-0.22 ***		-0.19		-0.08		-0.33 ***		0.06		-0.03		0.04		-0.35 *		0.01	
	Italian	-0.10 ***		-0.02		-0.07 ***		-0.04 ***		0.04 **		-0.03 **		0.05 *		0.05		0.05	
	Greek	-0.09 **		-0.24 ***		-0.27 ***		-0.11 ***		-0.10 *		-0.18 ***		0.04		0.04		-0.14	
	Chinese	-0.32 ***		-0.24 **		-0.19 **		-0.25 ***		-0.22 ***		-0.09 ***		-0.17 ***		-0.08 **		0.01	
	S. Asian	-0.41 ***		0.40		-0.44 **		-0.07		-0.49 ***		-0.30 ***		-0.06		-0.02		-0.20 ***	
	Black	-0.28 ***		-0.27 ***		-0.41 ***		-0.14 ***		-0.36 ***		-0.41 ***		-0.21 *		-0.31 **		-0.19 **	
Aboriginal	-0.19 ***		-0.14 ***		-0.18 ***		-0.25 ***		-0.34 ***		-0.87 ***		-0.41 ***		-0.40 ***		-0.68 ***		

Variables in model include: 8 age cohorts, 12 dummies for schooling, 5 dummies for marital status, household size, and 3 dummies for official language ability.

Source 1971, 1981, 1986, 1991 and 1996 census mainbase.

Significance: ***: 0.01, **: 0.05, *: 0.1

Table A1: Probability of Labour Force Participation and of Selection into Our Sample

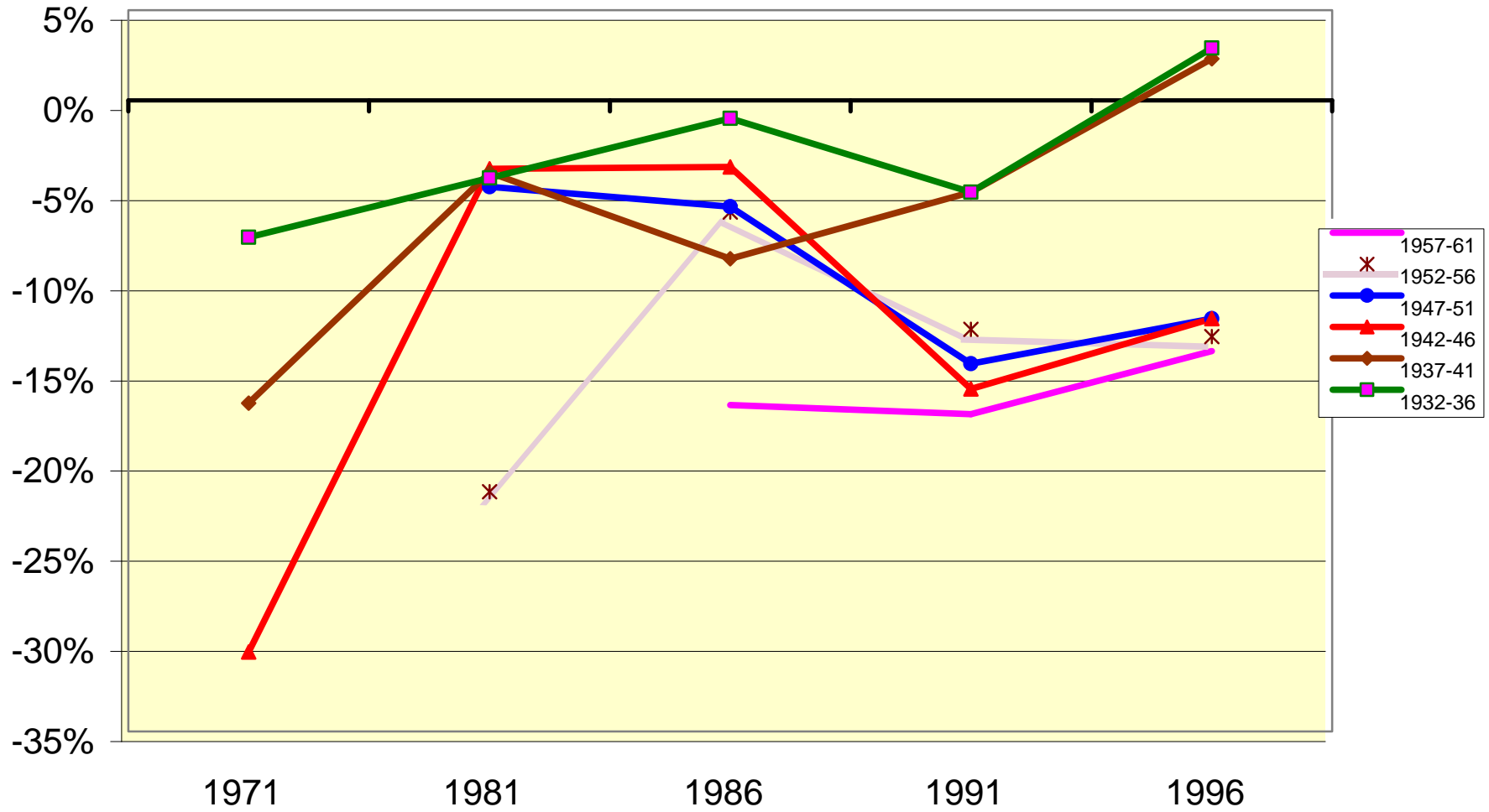
			year									
			1971		1981		1986		1991		1996	
sex	variables		odds	sig	odds	sig	odds	sig	odds	sig	odds	sig
in labour force	females	Aboriginal	0.53	***	0.72	***	0.65	***	0.60	***	0.59	***
		Visible Minority	1.15	***	1.25	***	1.13	***	1.06	**	1.06	**
	males	Aboriginal	0.28	***	0.30	***	0.30	***	0.37	***	0.36	***
		Visible Minority	1.07		1.35	***	1.06		0.88	***	0.88	***
Wage labour	Females	Aboriginal	0.69	***	0.88	***	0.80	***	0.72	***	0.83	***
		Visible Minority	1.05	*	1.18	***	0.92		1.03		0.96	**
	males	Aboriginal	1.14	***	1.22	***	0.89	***	0.89	***	0.97	***
		Visible Minority	0.69	***	0.92	**	0.81	***	0.91	***	0.99	

Variables in model include: 8 age cohorts, 12 dummies for schooling, 5 dummies for marital status, household size, 3 dummies for official language ability and 3 for group status. As well, two variables are included with interact age with ethnicity status.

Source 1971, 1981, 1986, 1991 and 1996 census mainbase.

Significance: ***: 0.01, **: 0.05, *: 0.1

Figure 1: Earnings Differentials by Age Cohorts and Year, Aboriginal Females, Canada, 1971 to 1996



**Figure2: Earnings Differentials by Age Cohorts and Year, Aboriginal Males
Canada, 1971 to 1996**

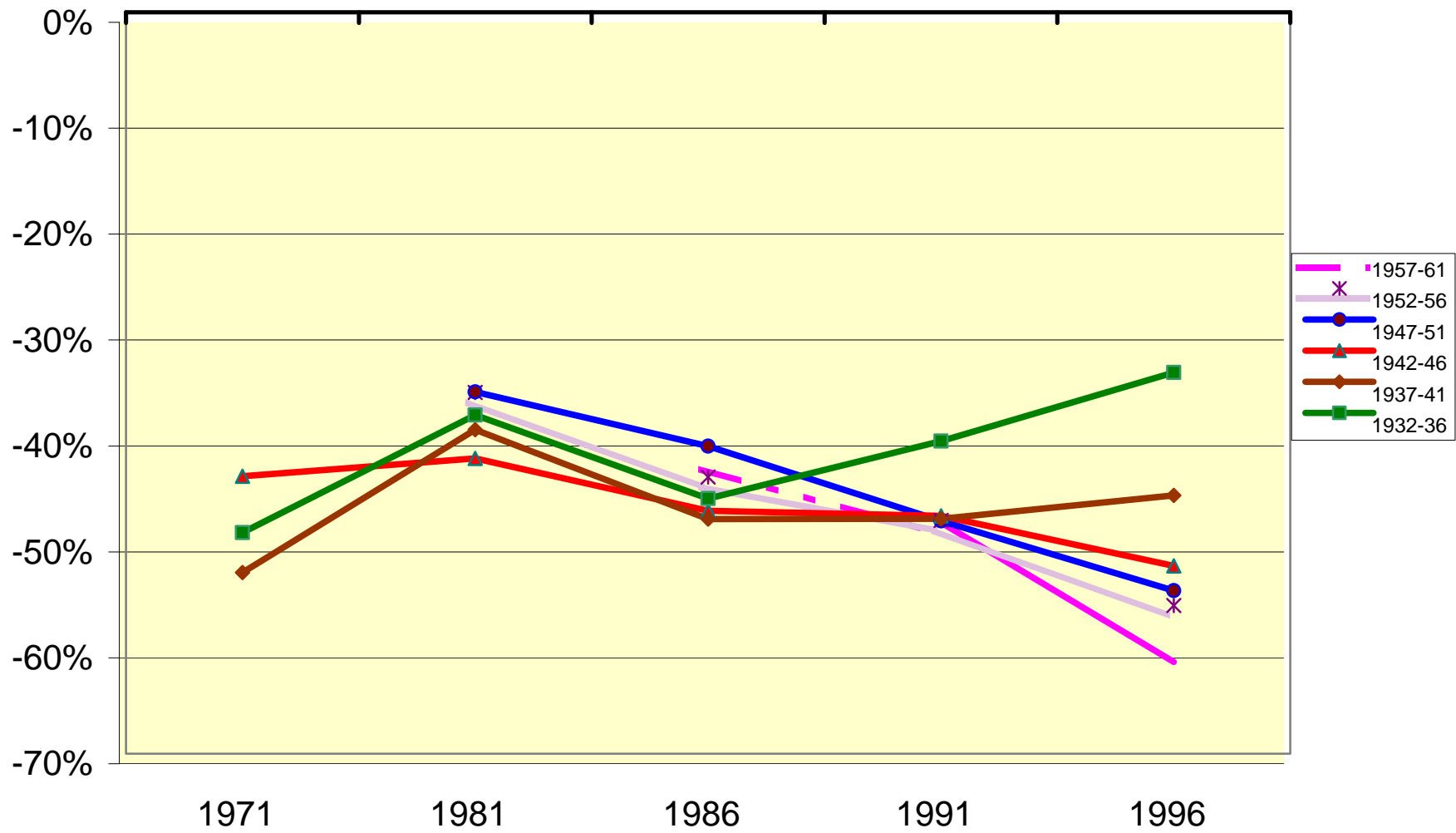
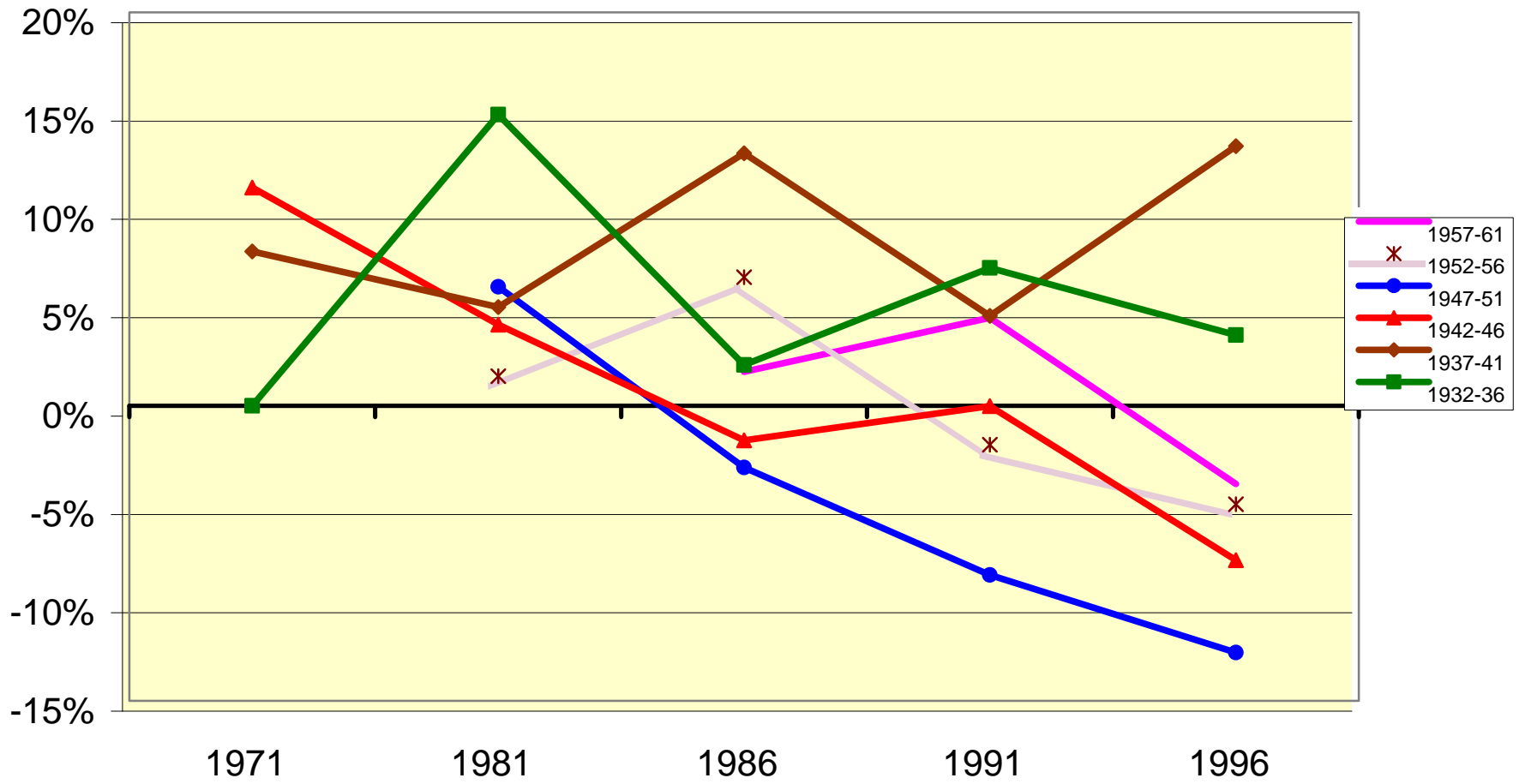


Figure 3: Earnings Differentials by Age Cohorts and Year, Visible Minority Females, Canada, 1971 to 1996



**Figure 4: Earnings Differentials by Age Cohorts and Year, Visible Minority Males
Canada, 1971 to 1996**

