THE IMPACT OF RECESSION ON EQUAL OPPORTUNITIES FOR MINORITIES & WOMEN IN THE UNITED STATES, CANADA AND BRITAIN

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A number of economists such as Masters (2), Blau (3), and Lloyd & Niemi (4), have stressed the importance for the welfare of the minority workforce of maintaining high levels of aggregate demand in the economy, since employment discrimination is likely to be inversely related to the tightness of labour markets, and affirmative action policies in particular are likely to be easier to implement when jobs are plentiful for majority workers. In essence, this means that the EEO legislation may only be effective when the economy is operating at high levels of aggregate demand relative to the available labour supply.

This paper attempts to examine the impact of cyclical (short-run) and trend (long-run) effects, (with special reference to the current recession) in three industrialized economies which have implemented detailed equal employment opportunity (EEO) legislation to protect the interests of minority group workers, (5).

The paper is divided into several parts. We consider first ways in which recessions may have adverse effects on members of minority groups, and the forms that this disadvantage might take. Second, we examine empirical evidence on these disadvantageous effects with respect to gross earnings differentials, unemployment and resort to EEO legislation. Finally, we draw conclusions and implications based on the evidence.
The Effects of Recession On Minority Groups

For several reasons, trade unions and employers establish seniority and last-in/first out (LIFO) policies. Employers find it preferable to retain some workers than others and union adopt principles for job protection which safeguard certain categories of workers relative to others. For the employer, given the costs of hiring and training labour, laying a worker off in the recession implies writing off prior investments in fixed labour costs, (6). Thus, seniority and LIFO systems are likely to result in redundancies affecting a disproportionate number of minority workers who possess less experience because they have suffered discrimination in the past or in the case of women because they have spent a proportion of their post-school years out of the labour force.

Women are affected more than men because a high proportion of new entrants into employment have been females which means that there are more women than men with shorter length of service. Moreover, employers realize that alternative job opportunities are more restricted for (married) women than for men, so it is probable that they (employers) will be able to re-employ a substantial number of women with specific skills in an upturn, if they should be laid off, (7). This is one reason why employers tend to hoard skilled labour (with experience) in the recession for fear of being unable to obtain sufficient human capital for their needs in the recovery phase.

In the case of black workers Vroman (8) has found in the U.S. that older workers are less affected by cyclical fluctuations than are younger employees, presumably because, as Pfister (9) suggests, older black workers have more seniority, thus enabling them to hold jobs which are less sensitive to variations in the level of economic activity.

Unions along with employers institute and perpetuate seniority and LIFO systems because of several reasons. The majority of union members in all
three countries are white males. Thus, it is rational for unions to adopt policies for protecting jobs which will satisfy the interests and thus receive the majority votes of their members, (10). In recessionary periods, it seems quite probable that unions will strive less to protect the interests of minority workers than when conditions are buoyant.

During recessions, access to jobs is also likely to be more difficult for minority groups relative to the majority. In such periods, given discriminatory tastes on the part of the employer, potential demand can be met simply by hiring white males for preferred jobs, and sex and race may be used as a screening device to exclude minority workers. In tight labour markets, however, labour shortages may force employers to hire coloured and female workers for what have traditionally been white, male jobs. This itself may help to remove any erroneous beliefs that might be held concerning the relative productivity of majority and minority workers. As Reder (11) has pointed out the effect of tight labour markets will be to eliminate the excess supply of unskilled workers, while part of the excess demand for skilled workers can be met by upgrading. Consequently the skill differential tends to narrow at the peak of the cycle and to widen in the trough.

Since minority and female workers are unskilled to a disproportionate extent relative to white male workers white/black and male/female earnings differentials may be expected to narrow during periods of high activity and widen during periods of low activity.

The level of economic activity is also likely to influence the willingness of workers to use equality of opportunities legislation. In the recession workers in jobs are likely to be more concerned with the retention of that job rather than the conditions of employment or whether there is equality of treatment with respect to other groups of workers. However, it is also possible that minority workers who are threatened with job losses may see
the legislation as a means of protecting their jobs, so that incidence of usage of the legislation might increase in the recession with respect to conditions attaching to job termination.

Similarly, more minority workers will have their applications for jobs turned down in the recession if only for the reason that there is more competition for jobs generally during such periods, so that equal opportunities applications relating to access to jobs may also increase during the recession.

On the employer side the costs of compliance are also likely to be related to the level of economic activity, particularly where affirmative action provisions apply. As Beller (12) points out, in the recession the demand for labour and voluntary turnover will both decline, increasing the costs of attaining any given target or quota for minority employment. It is obviously harder to raise the ratio of minority workers when there are fewer new jobs to be filled. At the same time the reduced availability of jobs is likely to make majority workers and unions more resistant to the hiring of minority workers. Thus firms are less likely to comply with the legislation in periods of recession when the costs of compliance are greater. These costs also depend on the expected costs of violating the law which are a function of the penalties imposed for such violation multiplied by the probability of detection.

Reasons cited above suggest that, overall, minority workers are likely to be subjected to greater instability of employment over the cycle than is the case for majority workers. However, an important factor that has an effect on employment stability is the difference in employment distribution between minority and majority workers. Certain sectors are more prone to employment instability than is generally the case.
As the O.E.C.D. study (13) has noted, one factor which might operate in favour of women's employment in the recession is that business downturns tend to be more severe in manufacturing and construction industries than in the service industries. Since working women are, in many countries, relatively more concentrated in the service industries than men, their overall employment may be relatively less affected during recessions for this reason; thus, during the U.S. recession from the fourth quarter of 1973 until the fourth quarter of 1975 it is estimated that female employment would have been half a million less had it not been for the concentration of women in the less cyclic service sector. However, Urquhart (14) has noted that in sharp contrast to the employment record, the cyclical pattern of unemployment in services is very similar to that of manufacturing. This paradox is explained by the fact that women tend to re-enter the labour force in the recession to maintain family incomes and this affect will be proportionately greater in services because of the very fact of their relative growth and cyclical insensitivity. Thus it appears that within sectors women may fare worse than men with respect to job loss, but this is offset by their more favourable distribution across sectors. As Bowers (15) notes, the situation may however be changing over time. In U.S. manufacturing industries as a whole the relative employment impact on women has tended to increase steadily while that on men has declined. This may be a consequence of female employment gains in manufacturing being concentrated in the more cyclically sensitive industries.

The data by race are less ambiguous. Black workers in manufacturing, as elsewhere, are more likely than whites to experience loss of employment in the recession. Thus in 1973-1975 16% of the employment loss in manufacturing was borne by black workers, who in the previous peak had comprised only 11% of the labour force. Unfortunately we lack sufficiently detailed data to estimate at all precisely the probability of job loss for the various groups in the labour
market.

Methodology: Based upon the adverse effects of recession on minorities and women as outlined above, three hypotheses are tested in the light of empirical evidence in the three countries.

These hypotheses are:

1) Gross earnings differentials between minorities and non-minorities, and females and males are related to the state of the labour market, that is, such differentials tend to widen during recessions and narrow during buoyant economic conditions.

2) Employability of minorities and women is related to the state of the labour market, that is, minorities and women are less employable during recession than during prosperity.

3) Minorities and women tend to have less propensity to utilize anti-discrimination legislation during recession than during buoyant economic conditions.

3a) Type of EEO complaints by minorities and women are influenced by the level of economic activity.

In this study, models proposed in earlier studies have been utilized; and whereas none of these studies extends beyond 1975 (and indeed in several of them the data finish earlier), in this study data on earnings and unemployment have been utilized for a very long period, 31 years in some cases, and data up to 1980 have been included. Since there are no time series of earnings or incomes by race for Canada and Britain, analysis for these countries have of necessity to be focussed upon the relative position of women, though race is also considered where data are available such as with respect to unemployment in Britain.

In the case of anti-discrimination legislation, the available data from the three countries is analyzed.
**Empirical Evidence**

1) **Gross Earnings Differential:** Earlier U.S. studies by Rasmussen (16) covering a period up to 1964, Masters (2) and Vroman (8), both up to 1971 found that aggregate labour market tightness assisted the relative earnings position of minority workers. Ashenfelter (17) found, in analyzing the 1950-1966 data that while there was no clear evidence that aggregate labour market tightness had an appreciable effect, relative extent of unemployment depressed non-white earnings. However, a further U.S. study by Freeman (18) over the period 1948-1975 produced rather mixed results. Gunderson (19) in Canada (1946 to 1971 in Ontario) and Chiplin et al (20) in Britain (1949 to 1975) could find no support for the hypothesis. Relevant evidence was collected and analyzed based on data up to 1980 which provided regression results for each of the three countries using several of the models in the studies referred to above (21). An outline of these results presented in Table 1 for the U.S. suggests that there is no clear relationship between the gross earnings differential and the state of the labour market. For Canada, using data by sex only, the results show that there is support for the hypothesis over the period 1950 to 1964, but not so over the period 1965 - 1979 when women appear to fare better in the recession. In Britain, also using data by sex only, there is no evidence to support the view that recession weakens the earnings position of women relative to men. In general then the evidence suggests that slower economic growth and rising unemployment will not necessarily worsen the earnings position of minority workers relative to that of white male employees despite the fact that evidence from North America suggest that this may have been so earlier in the post-war period. It should be re-emphasised that these results are based on simple aggregate models and they do not tell us how far the results have been influenced, for example, by changes in the structure of employment.
If indeed the effect of the recession is to drive out of employment, disproportionately, low paid minority and female workers relative to comparable white males the relative earnings of minority workers will rise in aggregate. Alternatively, the effects of recession may be felt disproportionately by white male workers if they have under normal circumstances an undue share of overtime working or if women are sheltered from short-time working because they are employed predominantly in service occupations. To the extent that either of these situations applies the relative earnings position of minority or female employees may have improved in the recession but members of these groups in employment will almost certainly be worse off in absolute terms compared with periods of high economic activity. One would hardly therefore recommend slower growth and higher unemployment as a means of improving the welfare of minority workers! This emphasises too the need to examine relative employment opportunities as well as relative earnings.

2. Relative Employability

As the level of economic activity declines we might expect the number of employees in employment to decline, the number of unemployed to increase and possibly labour force participation rates to dimish. Here we are particularly concerned to establish the extent to which minority workers are more adversely affected in these respects than are members of the majority group.

Absolute unemployment rates for racial minorities are significantly higher than those of white employees both in the U.S. and in Britain, and the same is true for women in North America.

In the U.S. Gilman (22) found that standardizing for differences in education, age, occupation, industry and region only accounted for about half the racial differential in unemployment and he goes on to suggest that part of the residual difference is to be explained by wage rigidities. That is, if
employers are unable to satisfy their hiring preferences (which may in part be
themselves discriminatory) by offering lower wages to minority workers,
because either equality of opportunity or minimum wage laws apply, then we
would expect employment opportunities to decline more in the recession for
minority workers than for the majority. The implication is, then, that a more
favourable position for minority workers within the labour market may be
bought at the cost of greater unemployment.

More recently Bergmann's simulation results (23) suggest that about half
the difference in unemployment rates between white women and white men in 1976
was due to a difference in demand deficiency rates between the two groups,
with the remainder being explained by the higher rates of separation from
employment of white women. For black men and women a very high proportion of
the excess of their unemployment rates over those of white males is to be
explained by a shortage of jobs in the areas in which they search.

In Britain there have been studies of even more immediate relevance to
the purpose of this paper. A Home Office study of ethnic minorities (24)
found that 'the figures show unmistakably that when unemployment generally is
rising, the number of unemployed among ethnic minorities increase more rapidly
than in the case of the rest of the population.' This result is not negated
by the difficulty in estimating accurate unemployment rates for ethnic
minorities in the absence of accurate figures of the size of the ethnic
minority population at work or seeking work. The report notes that between
August 1979 and August 1980 the number of unemployed ethnic minority workers
rose by 48% compared with a 38% rise in the total number unemployed. Within
these figures it appears that West Indian men and Asian women are more
vulnerable to unemployment than are West Indian women and Asian men, who in
turn are more vulnerable than whites (25). Reasons put forward for this
vulnerability of ethnic minority workers to unemployment include, the
concentration of ethnic minority workers in younger age groups, lack of occupational skills and qualifications, their concentration in certain sectors of employment, types of firm and occupation, and direct racial discrimination. In particular they are over-represented in the declining manufacturing sector.

In the case of women Rubery and Tarling (7) note that there has been a sharp reduction in female employment since 1979 accompanied by a rapid rise in female unemployment rates beginning earlier, in 1976, (an increase of 150% compared with 75% for men), and a decline in the participation rate of married women between 1977 and 1979 which they attribute to the inability of married women to re-enter the labour force subsequent to childbirth. They proceed to regress the annual percentage change in female employment on the percentage change in total employment in the U.K. over the period 1960-1980. In manufacturing they find that the fluctuation in female employment is greater than for men (26), but that there is no significant difference in other employment sectors. They report a similar result for the U.S. manufacturing sector over the period 1971-1978, where women are also subject to greater cyclical employment fluctuation in the finance sector.

In this study, the relationship between changes in employment and unemployment for both racial minorities and women relative to majority employees is examined by regression analysis and the results are reported for the three countries in table 2. For the USA, it appears that employment is subject to markedly greater swings for non-white males than is the case for white males, but this is not the case for women in general, relative to men, or for non-white females relative to non-white males. These analyses cover larger periods than most earlier studies, 25 years in the case of the racial analyses and 31 years in the case of the analyses by sex. Since changes in unemployment rather than levels were examined these results are not necessarily explained by differences in the propensity to register.
The results for Canada by sex are rather similar. Examining changes in employment and unemployment using annual data for the whole of Canada over the period 1951-1980 and monthly data for Ontario over the period January 1953 to December 1980 it appears that the cyclical amplitude of employment and unemployment is less for women than it is for men. As in the U.S. there is no significant time trend.

In the British regression analysis, the relative unemployment experience of minority workers is worsening over time (27).

For women both quarterly data over the period 1959 (3) to 1981 (3) and annual data over the period 1950 to 1980 are in line with North American findings. That is, changes in both employment and unemployment are more volatile for men than for women and there is no significant time trend. In summary it appears that both in the U.S. and Britain non-white workers may suffer disproportionately to white workers in terms of employment experience when economic conditions worsen, but there is no clear evidence that this is also true for women in any of the three countries examined, (28). In addition, in each of the three countries, female labour force participation rates have held up better than for men.

Examination of unemployment rates as opposed to changes in such rates points clearly however to the absolute disadvantage of minority groups in the workforce. In the U.S.A. total unemployment reached a post-war peak in 1975, in Canada in 1978 and in the U.K. in 1980 as far as the period analyzed is concerned. In the U.S.A. female unemployment rates both for white and black and other workers consistently exceed their male equivalents. In Canada male unemployment was consistently higher than that of females up to 1968 but since then the situation has been reversed. In the U.K. female unemployment matched that of males in the early 1950s, fell sharply relatively to that of males up to the mid 1970s and has since risen. Rising absolute levels of unemployment
for women and minority workers have implications for the use of equality of opportunities legislation considered in the next section.

(c) Use of the legislation

Attempts to test the relationship between the use made of equal opportunities legislation and the level of economic activity are beset by data problems. In the U.S. the EEOC has changed the way in which the detailed statistics are reported; in Canada statistics are maintained separately by the provincial Human Rights Commissions and are not always comparable; while in Britain the legislation has only recently been introduced which provides few observations for time series analysis. Beller (12) has, however, attempted to ascertain how far the effects of the enforcement of sex discrimination provisions in the U.S.A. have been influenced by the level of economic activity. Specifically, she finds that women's earnings would have been higher in 1974 and the sex differential smaller had the unemployment rate been lower. The downward influence of Title VII on male earnings would also have been reduced had the unemployment rate been less. Indeed, if the unemployment rate can be maintained at a sufficiently low level it appears from this analysis that legislation is a relatively costless tool (as far as male workers are concerned) for narrowing the sex differential in earnings. Beller proxies the probability of detection if in violation of the law by the ratio of the number of investigations of sex discrimination charges completed by the EEOC or by the state or local Fair Employment Commission to which a charge has been deferred - to the number of women in each state or class of worker. She also proxies the probability of paying a penalty by the ratio of successful settlements of sex discrimination charges (successful conciliations plus successful predecision settlements) to attempted settlements. It should be noted that in these models incidence of the use of legislation is included as an independent variable. It could equally be argued that use of legislation
will itself be influenced by the state of the economy and hence appropriate estimating procedures for problems of simultaneity (such as two stage least squares) is required. We make no attempt to construct an econometric model such as that of Beller here, but simply analyze some relevant statistics on the use of the legislation in each of the three countries including more recent experience (Beller's data ends in 1974 when unemployment was somewhat lower than it is today).

The U.S. statistics on charges by basis of employment discrimination (table 3) reveal a very rapid growth in number since 1967, and a level of activity far greater than in Canada and even more so than in the case of Britain. In the U.S. about half the number of cases concern race, and this number is substantially greater than that relating to sex. In Britain, too, with its much smaller coloured population, cases under the Race Relations Act have exceeded those under the Sex Discrimination Act (table 5). In Canada in contrast it appears on the basis of somewhat fragmentary evidence that cases concerning sex and marital status discrimination are more common than those relating to race, colour, nationality and ancestry (table 4b). Notwithstanding this it is clear that when allowance is made for the relative sizes of the minority and female working populations in each of the three countries that the probability of race rather than sex discrimination charges is substantially greater. Although discrimination complaints are nowhere near as substantial in Canada (table 4a) as in the U.S.A. where the figure was 112,700 in 1979 they comfortably exceed those in Britain. In Ontario alone (747 in 1980) complaints exceeded the British total in 1980. Indeed, the infrequency with which recourse is had to the law is the most striking feature of the British experience - the total of less than 700 cases in 1980 compared with a total approaching 29,000 with respect to allegations of unfair dismissal. In the present state of knowledge it is difficult to say whether
the low utilization rate of the legislation owes more to lack of knowledge concerning the rights of individuals, knowledge that prospects of a successful outcome for the individual are rather low relative to other forms of employee protection legislation, or a reaction to the depressed state of the labour market and fear of retaliation by the employer.

It seems necessary, however, to examine types of charge brought forward in relation to the level of economic activity. Statistics for the U.S.A. indicate there have been some substantial shifts in the proportions of types of charge brought. For example in 1967 there were slightly more cases concerning hiring than discharge, while in 1980 when unemployment rates were nearly twice as great as in 1967 there were nearly four times as many cases relating to discharges as to hiring. Of course in the recession there will be fewer job hires and more job discharges, so these figures in themselves may not tell us how the probability of charge being brought alters with economic circumstances. In addition, over the period 1973 to 1979 issues relating to treatment within employment such as wages, promotion (though not demotion), seniority, job classification and training and apprenticeship decreased in significance, perhaps reflecting the importance attached to holding any job in a period of rising unemployment, rather than the relative treatment of women and minorities within jobs. In Britain, too, both in the case of sex and race applications, questions relating to dismissal or other unfavourable treatment have increased in relative importance with respect to those relating to recruitment and treatment within the job.

Willingness to make use of legislative provisions will be conditioned by probability of success as well as by the general economic environment. In the U.S.A. in an average year only about half the total charges made to the EEOC are recommended for investigation. Further, of the much smaller number of completed conciliations more are unsuccessful than are successful in a
majority of years. In Canada experience seems to be varied. In Ontario a high proportion of formal cases were settled over the period 1978 to 1980, but the figure declined from 87% to 51% over this short period with an increasing proportion of cases dismissed or withdrawn. This is even more so for British Columbia and Manitoba. Thus overall, the success rate appears to have diminished in recent years in Canada. In Britain 60% or more of sex discrimination cases and 50% or more of race discrimination cases are settled by conciliation or withdrawn before they come before an industrial tribunal. Of the remainder a tribunal is four times more likely to dismiss a sex discrimination case as to uphold it and the ratio is even higher in race discrimination cases. Surprisingly a quarter of the British sex discrimination cases are brought by men, who over the period analysed were even less likely than women to have their application upheld by an industrial tribunal. Given the generally low probability of success of an aggrieved worker who has recourse to the law, we might anticipate that those in employment will be particularly reluctant to bring forward their grievances when economic conditions are depressed.

To conclude this section there is a suggestion that use of the legislation is influenced by the general economic climate, particularly in relation to the types of charges brought. The hypothesis that changes in the level of unemployment will influence the number of cases in the opposite direction is not clearly substantiated by the admittedly fragmentary evidence available. Obviously much more research is required in this area before firmer conclusions can be drawn.

4. Conclusions and Implications

The effects of recession have been analysed in relation to three aspects of equality of opportunity in employment for racial minorities and women — the gross earning differentials, relative employability and the propensity to
utilize the anti-discrimination legislation and machinery.

There is partial evidence that racial minorities are adversely affected relatively to white workers in the recession, but no clear evidence that this is also true for women. Nevertheless, there is no doubt that the absolute position of all groups deteriorates in the recession and this may have long-run consequences that are detrimental both to minority workers and women. This is likely to be the case where internal labour markets tend to exclude workers with intermittent job experience from primary markets. For women there is the further problem that the micro-electronics revolution threatens most those occupations where women predominate, such as those in offices. Thus women's favourable occupational distribution in the past, favourable that is in so far as cushioning the effects of recession is concerned, may no longer be so.

Growing unemployment also worsens the climate in which equal opportunities policies are implemented and may relegate them to matters of secondary importance. This is particularly so where majority workers fear that minority workers and women pose a threat to their own jobs. (29) Adverse economic circumstances may also be used as an argument against broadening the legislation to allow, for instance, equal pay comparisons to be made for work of equal value or for dissimilar jobs, to move the burden of proof away from the complainant towards the defendant or to extend affirmative action provisions in the legislation. In Britain politicians have become increasingly critical of the operation of the Equal Opportunities Commission and Commission for Racial Equality (30). In the United States the Reagan Administration has announced its intention to shift policy away from affirmative action towards a case by case approach, that is more on British and canadian lines (31). Thus it may be the general climate of depressed economic conditions rather than short-run changes in the level of unemployment
that pose the greatest threat to the relative position of minority workers and women.
Footnotes

(1) This paper is adapted from a larger study "The Challenge of Unemployment to Equal Opportunities in The U.S.A., Canada and Britain," prepared for presentation at the Sixth World Congress of The International Industrial Relations Association, in Kyoto, Japan, March 28-31, 1983.


(5) In the U.S.A. equal employment opportunity legislation is enshrined in Title VII of the Civil Rights Act of 1964, as amended in 1972, while the Equal Pay Act was passed in 1963. The Canadian equal employment provisions are contained in the human rights statutes in all jurisdictions, federal and provincial. Approximately 10 percent of the labour force is covered by federal statutes; the remaining 90% of the work-force come under provincial jurisdiction. In Ontario, for instance, the human rights commission was introduced in 1962 to administer the human rights code of the same year. The code consolidated the previously existing Racial Discrimination legislation, first introduced in 1944, as well as the Female Employees Fair Remuneration Act of 1951. In Britain the Equal Pay Act, introduced in 1970, became fully operational at the end of 1975, while the Sex Discrimination Act was passed in 1975, and the Race relations Act in 1976.

(6) As P. Morgan, "Short-term employment functions and the quasifixity labour: a note", Applied Economics, Vol. 12, 1980 points out, since a substantial number of women are secondary workers female labour will possess a lower degree of fixity than is the case for males and firms will thus tend to invest less in their specific training. His empirical results for U.K. manufacturing 1963 to 1976, using quarterly data show significant differences, as posited, between the short-term employment output elasticities of men and women and those of manual females and non-manual females.


(9) Comment on Vroman, ibid. It is generally true that job mobility is greater for younger than for older workers.


(21) Tables for each of the three countries specifying models used and providing regression results are available on request from the authors.


(25) It also appears that differences between minority and white unemployment rates are greater for women than for men, while Asian women's unemployment rates are much higher than those for West Indian women from abroad.
(26) However when a similar analysis was conducted at industry order levels for U.K. manufacturing significant differences were found in only 5 out of 14 order levels, emphasising the importance of occupational distribution.

(27) The ethnic unemployment minority data used in the British regression analysis are different to those used in the U.S. and Canadian analysis. Ethnic minority unemployment is measured as a percentage of total unemployment. Hence a tendency for minority unemployment to increase faster than that of the majority in the recession is in this case reflected in a coefficient on the majority \( \Delta U \) explanatory variable > 0 rather than > 1. The results over the period since 1971 when such data first became available support earlier findings that minority workers will gain proportionately more from a recovery in economic activity than white male and female workers, and suffer more correspondingly in a period of declining economic activity. When a time trend is introduced the \( \Delta U \) term loses its significance, but the time trend is positively significant.

(28) These results by sex differ from those of Rubery and Tarling for Britain and the U.S.A. But there are differences in time period, sectors and the employment variable analysed. Moreover, Rubery & Tarling regress the percentage change of female employment on the percentage change in total employment rather than the percentage change in male employment.

(29) That there may well be substance in these fears is indicated by a recent U.S. study by J.H. Grant and D.S. Hamermesh, 'Labour Market Competition among Youths White Women and Others', The Review of Economics and Statistics, Vol. LXIII, No. 3, August 1981. Their estimates of white female youth substitutability imply strongly that the growth in white female labour force participation has harmed the earnings prospects of young workers.

(30) In December 1981 a Home Affairs Select Committee reported that the commission for Racial Equality had an incoherent policy with a degree of incompatibility between its functions as a law enforcement agency and a promoter of racial harmony. It was suggested that promotional activities should be de-emphasised. First Report of the Home Affairs Committee, 1981-81, Commission for Racial Equality, Vol. I, Report with Minutes of Proceedings.

(31) Under the proposed changes in the regulations governing the OFCCP with regard to affirmative action programmes required of federal government contractors, the size threshold of covered companies could be reduced from its present level of $50,000 and 50 or more employees to $1 million or more and 250 or more employees, effectively reducing the number of covered companies by a quarter. Also recovery of back pay or lost promotion opportunities would be far more difficult since under the proposed rules only identifiable victims would be eligible for a limited period of time.
TABLE 1
REGRESSION RESULTS FOR INCOME OR EARNINGS RATIOS BY RACE AND SEX, U.S.A., CANADA AND BRITAIN

<table>
<thead>
<tr>
<th>Race</th>
<th>Sex</th>
<th>Country</th>
<th>Time Period</th>
<th>Dependent Variable</th>
<th>Independent Variables</th>
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<td>Males</td>
<td>Females</td>
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<td>1950-64</td>
<td>Female/male hourly earnings</td>
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<td>Females</td>
<td>Female/male hourly earnings</td>
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<td></td>
<td>Female/male average wages</td>
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<tr>
<td></td>
<td>Female/male average wages</td>
<td>non-white/white 0.00 -0.00</td>
<td></td>
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<tr>
<td></td>
<td>Female/male average wages</td>
<td>non-white/white 0.00 -0.00</td>
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Key:
- U.S.A.
- Canada
- Great Britain

For the USA, GDP figures are in constant 1972 dollars from the Economic Report of the President; for Canada GDP is in constant 1971 dollars.

For the USA, unemployment rates are from the Bureau of Labor Statistics; for Britain, unemployment rates are from the Department of Employment.

For the USA, the earning figures are from the Current Population Reports; for Canada, average hourly earnings of wage earners are taken from Earnings and Hours of Work in Manufacturing, 1960-69, Department of Labor, Ottawa.

For the USA, GNP figures are from the Economic Report of the President; for Canada, GNP is in constant 1971 dollars from the Canadian Statistical Review Annual Supplement.

For the USA, percentage unemployment is obtained from Employment and Earnings; for Canada, unemployment rates are from Labor Force Statistics, OECD; for Britain, unemployment rates are from the Department of Employment.

For the USA, GNP figures are in 1972 dollars from the Economic Report of the President; for Canada, GNP is in constant 1971 dollars from the Canadian Statistical Review Annual Supplement; for the UK, GNP is from the Economic Report of the President.
<table>
<thead>
<tr>
<th>Race</th>
<th>Country</th>
<th>Time Period</th>
<th>Dependent Variable</th>
<th>Independent Variables</th>
<th>R²</th>
<th>Country</th>
<th>Time Period</th>
<th>Dependent Variable</th>
<th>Independent Variables</th>
<th>R²</th>
<th>Country</th>
<th>Time Period</th>
<th>Dependent Variable</th>
<th>Independent Variables</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>U.S.A.</td>
<td>1955-80</td>
<td>Change in EMP</td>
<td>1.83 0.39</td>
<td>0.03 0.33</td>
<td>0.13 0.87</td>
<td>2.35 (1)</td>
<td>1.33 0.15 0.09 0.67</td>
<td>0.80 0.75</td>
<td>0.10 0.79</td>
<td>0.25 0.79</td>
<td>0.77 2.21</td>
<td>2.05 0.67</td>
<td>0.11 0.67</td>
<td>0.76 2.25</td>
</tr>
<tr>
<td>Males</td>
<td>Britain</td>
<td>1971-81</td>
<td>Male minority workers</td>
<td>1.61 0.57</td>
<td>0.64 0.64</td>
<td>0.03 0.13</td>
<td>0.67 (1)</td>
<td>0.71 0.04 0.06 0.75</td>
<td>0.48 0.43</td>
<td>0.09 0.50</td>
<td>0.03 0.03</td>
<td>2.26 0.30</td>
<td>1.83 0.30</td>
<td>0.12 0.22</td>
<td>0.80 2.25</td>
</tr>
<tr>
<td>Females</td>
<td>U.S.A.</td>
<td>1955-80</td>
<td>Change in EMP</td>
<td>1.16 0.43</td>
<td>0.68 0.74</td>
<td>0.00 0.64</td>
<td>0.00 (1)</td>
<td>1.26 0.04 0.06 0.74</td>
<td>0.48 0.43</td>
<td>0.09 0.50</td>
<td>0.03 0.03</td>
<td>2.26 0.30</td>
<td>1.83 0.30</td>
<td>0.12 0.22</td>
<td>0.80 2.25</td>
</tr>
<tr>
<td>Females</td>
<td>Britain</td>
<td>1971-81</td>
<td>Female minority workers</td>
<td>1.91 0.35</td>
<td>0.76 0.84</td>
<td>0.02 0.10</td>
<td>0.02 (1)</td>
<td>1.70 0.04 0.06 0.74</td>
<td>0.48 0.43</td>
<td>0.09 0.50</td>
<td>0.03 0.03</td>
<td>2.26 0.30</td>
<td>1.83 0.30</td>
<td>0.12 0.22</td>
<td>0.80 2.25</td>
</tr>
<tr>
<td>All males</td>
<td>U.S.A.</td>
<td>1950-80</td>
<td>Change in EMP</td>
<td>1.19 0.15</td>
<td>0.96 0.22</td>
<td>0.50 0.27</td>
<td>0.50 (1)</td>
<td>1.87 0.04 0.06 0.74</td>
<td>0.48 0.43</td>
<td>0.09 0.50</td>
<td>0.03 0.03</td>
<td>2.26 0.30</td>
<td>1.83 0.30</td>
<td>0.12 0.22</td>
<td>0.80 2.25</td>
</tr>
<tr>
<td>All females</td>
<td>Canada</td>
<td>1951-80</td>
<td>Change in EMP</td>
<td>1.29 0.15</td>
<td>0.96 0.22</td>
<td>0.50 0.27</td>
<td>0.50 (1)</td>
<td>1.87 0.04 0.06 0.74</td>
<td>0.48 0.43</td>
<td>0.09 0.50</td>
<td>0.03 0.03</td>
<td>2.26 0.30</td>
<td>1.83 0.30</td>
<td>0.12 0.22</td>
<td>0.80 2.25</td>
</tr>
<tr>
<td>All females</td>
<td>Britain</td>
<td>1950-80</td>
<td>Change in EMP</td>
<td>1.19 0.15</td>
<td>0.96 0.22</td>
<td>0.50 0.27</td>
<td>0.50 (1)</td>
<td>1.87 0.04 0.06 0.74</td>
<td>0.48 0.43</td>
<td>0.09 0.50</td>
<td>0.03 0.03</td>
<td>2.26 0.30</td>
<td>1.83 0.30</td>
<td>0.12 0.22</td>
<td>0.80 2.25</td>
</tr>
</tbody>
</table>

**Key**: t statistic in parentheses.  

- EMP = the change in unemployment for white or male workers.  
- EM Maj = the change in unemployment for white or male workers.  
- UT = time trend.  

**Note**: The dependent variable is the change in employment or unemployment for the specified group.
### U.S.A. Detailed Statistics on Charges by Basis of Discrimination

<table>
<thead>
<tr>
<th>Year</th>
<th>Race</th>
<th>Colour</th>
<th>Religion</th>
<th>Sex</th>
<th>National Origin</th>
<th>Unspecified and Other</th>
<th>No Basis</th>
<th>Total**</th>
<th>Total No. of Charges Analyzed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>4786</td>
<td>13</td>
<td>169</td>
<td>2003</td>
<td>478</td>
<td>1063</td>
<td>N.S.</td>
<td>8512</td>
<td>N.S.</td>
</tr>
<tr>
<td>1968</td>
<td>6650</td>
<td>N.S.</td>
<td>291</td>
<td>2410</td>
<td>721</td>
<td>1100</td>
<td>N.S.</td>
<td>11172</td>
<td>N.S.</td>
</tr>
<tr>
<td>1969</td>
<td>9562</td>
<td>N.S.</td>
<td>330</td>
<td>2689</td>
<td>1093</td>
<td>797</td>
<td>N.S.</td>
<td>14471</td>
<td>N.S.</td>
</tr>
<tr>
<td>1970</td>
<td>11806</td>
<td>N.S.</td>
<td>392</td>
<td>3572</td>
<td>1032</td>
<td>978</td>
<td>N.S.</td>
<td>17780</td>
<td>N.S.</td>
</tr>
<tr>
<td>1971</td>
<td>15394</td>
<td>N.S.</td>
<td>677</td>
<td>5820</td>
<td>3043</td>
<td>3675</td>
<td>N.S.</td>
<td>28609</td>
<td>N.S.</td>
</tr>
<tr>
<td>1972</td>
<td>27468</td>
<td>N.S.</td>
<td>1176</td>
<td>10436</td>
<td>5321</td>
<td>2930</td>
<td>N.S.</td>
<td>47331</td>
<td>N.S.</td>
</tr>
<tr>
<td>1973</td>
<td>53732</td>
<td>1371</td>
<td>2255</td>
<td>33965</td>
<td>12377</td>
<td>4146</td>
<td>N.S.</td>
<td>107846</td>
<td>N.S.</td>
</tr>
<tr>
<td>1974</td>
<td>62099</td>
<td>2738</td>
<td>2771</td>
<td>39289</td>
<td>11664</td>
<td>3790</td>
<td>N.S.</td>
<td>122351</td>
<td>50879</td>
</tr>
<tr>
<td>1975</td>
<td>68487</td>
<td>2215</td>
<td>2252</td>
<td>41650</td>
<td>14715</td>
<td>2442</td>
<td>1252</td>
<td>133313</td>
<td>57779</td>
</tr>
<tr>
<td>1976*</td>
<td>88262</td>
<td>2742</td>
<td>3639</td>
<td>48613</td>
<td>16759</td>
<td>2048</td>
<td>1002</td>
<td>163065</td>
<td>72567</td>
</tr>
<tr>
<td>1977</td>
<td>84140</td>
<td>1889</td>
<td>2997</td>
<td>46966</td>
<td>16963</td>
<td>956</td>
<td>2376</td>
<td>156287</td>
<td>74951</td>
</tr>
<tr>
<td>1978</td>
<td>53731</td>
<td>1069</td>
<td>1943</td>
<td>30239</td>
<td>10882</td>
<td>N.S.</td>
<td>5896</td>
<td>103760</td>
<td>63366</td>
</tr>
<tr>
<td>1979</td>
<td>54179</td>
<td>1324</td>
<td>6022</td>
<td>33026</td>
<td>11291</td>
<td>6858</td>
<td>N.S.</td>
<td>112700</td>
<td>70886</td>
</tr>
</tbody>
</table>

* Figures only provided for 15 month period have been scaled down to provide an appropriate comparison.

N.S. Means item not separately categorised in that particular year.

** The data are broken down by basis and issue of the charges recommended for investigation, deferred for state or local action, or returned for additional information. Because there are multiple bases and issues for most charges, the totals will not add up to the number of actionable charges.

### Table 4(a)


<table>
<thead>
<tr>
<th>YEAR</th>
<th>ALBERTA</th>
<th>BRITISH COLUMBIA</th>
<th>QUEBEC</th>
<th>FEDERAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>141</td>
<td>425</td>
<td>27</td>
<td>172</td>
</tr>
<tr>
<td>1976</td>
<td>372</td>
<td>46</td>
<td>4</td>
<td>180</td>
</tr>
<tr>
<td>1977</td>
<td>238</td>
<td>85</td>
<td>4</td>
<td>149</td>
</tr>
<tr>
<td>1978</td>
<td>82</td>
<td>44</td>
<td>3</td>
<td>127</td>
</tr>
<tr>
<td>1979</td>
<td>47</td>
<td>23</td>
<td>3</td>
<td>115</td>
</tr>
</tbody>
</table>

*These figures are April 1st to March 31st inclusive.*

### Table 4(b)

**Employment Discrimination by Prohibited Grounds in Selected Provinces, Canada**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Race, Colour, Nationality and Ancestry</td>
<td>182</td>
<td>382</td>
</tr>
<tr>
<td>2. Sex and Marital Status</td>
<td>169</td>
<td>379</td>
</tr>
<tr>
<td>3. Religion or Creed</td>
<td>218</td>
<td>371</td>
</tr>
<tr>
<td>4. Age</td>
<td>247</td>
<td>324</td>
</tr>
<tr>
<td>5. Other</td>
<td>64</td>
<td>166</td>
</tr>
</tbody>
</table>

### Table 4(c)

**Provincial and Federal Jurisdictions**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ALBERTA</th>
<th>BRITISH COLUMBIA</th>
<th>QUEBEC</th>
<th>FEDERAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>256</td>
<td>316</td>
<td>25</td>
<td>130</td>
</tr>
<tr>
<td>1976</td>
<td>318</td>
<td>62</td>
<td>968</td>
<td>318</td>
</tr>
<tr>
<td>1977</td>
<td>317</td>
<td>968</td>
<td>317</td>
<td>317</td>
</tr>
<tr>
<td>1978</td>
<td>542</td>
<td>318</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td>1979</td>
<td>141</td>
<td>256</td>
<td>542</td>
<td>542</td>
</tr>
</tbody>
</table>

*These figures are April 1st to March 31st inclusive.*

**Notes:**

1. The figures cover the period April 1st to March 31st for the years indicated.
2. The figures cover the period April 1st to March 31st for the years indicated.
3. These figures are April 1st to March 31st for the years indicated.
<table>
<thead>
<tr>
<th>Period</th>
<th>Number of Applications and/or withdrawn by tribunal</th>
<th>Number of Applications and/or withdrawn by tribunal by tribunal</th>
<th>Number of applications and/or withdrawn x upheld</th>
<th>Number of applications and/or withdrawn x dismissed</th>
<th>Number of applications and/or withdrawn x upheld</th>
<th>Number of applications and/or withdrawn x dismissed</th>
<th>Number of applications and/or withdrawn x upheld</th>
<th>Number of applications and/or withdrawn x dismissed</th>
<th>Number of applications and/or withdrawn x upheld</th>
<th>Number of applications and/or withdrawn x dismissed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/7/90 to 30/6/91</td>
<td>332</td>
<td>12.5</td>
<td>5.1</td>
<td>5.2</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
<td>5.1</td>
</tr>
<tr>
<td>1/7/91 to 30/6/92</td>
<td>426</td>
<td>12.3</td>
<td>5.1</td>
<td>5.2</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
<td>5.1</td>
</tr>
<tr>
<td>1/7/92 to 30/6/93</td>
<td>369</td>
<td>12.3</td>
<td>5.1</td>
<td>5.2</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
<td>5.1</td>
</tr>
<tr>
<td>1/7/93 to 30/6/94</td>
<td>355</td>
<td>12.3</td>
<td>5.1</td>
<td>5.2</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
<td>5.1</td>
</tr>
<tr>
<td>1/7/94 to 30/6/95</td>
<td>332</td>
<td>12.3</td>
<td>5.1</td>
<td>5.2</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
<td>5.1</td>
</tr>
</tbody>
</table>

**Table 5: Discrimination Applications - Great Britain**
Faculty of Business  
McMaster University  
WORKING PAPER SERIES


Continued on Page 2...


Continued on Page 3...


154. Szendrovits, A.Z. and Drezner, Zvi, "Optimizing N-Stage Production/Inventory Systems by Transporting Different Numbers of Equal-Sized Batches at Various Stages", April, 1979. Continued on Page 4...


Continued on Page 5...


187. Love Robert F., Dowling, Paul D., "Optimal Weighted \( \ell_p \) Norm Parameters For Facilities Layout Distance Characterizations", April, 1982.


