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Measuring Gender Differences in Wage Distributions for Five Countries

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Luxembourg Income Study Working Paper Series

Working Paper No. 25

Measuring Gender Differences in Wage Distributions
for Five Countries

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Measuring Gender Differences

in Wage Distributions

for Five Countries

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Gender differences in economic reward are often measured by comparing the wage rate received by the average woman with the wage rate received by the average man. However, if there are gender differences in the distributions of these variables, simply comparing means will not provide a complete description of the problem. Suppose, for example, that most women earn very low wages as filing clerks or waitresses but that a few women are highly-paid corporate lawyers who push up the average female wage. Suppose, on the other hand, that most men are steel-workers or managers who actually receive wages closer to the average male wage. Then, gender wage distributions might be described by the diagrams in Figure 1. In this case, simply comparing mean wage rates received by men and women will understate the market disadvantage experienced by a majority of women working in very low-wage jobs.

Section one of this paper proposes a methodology for measuring gender differences which takes account of both the level and the distribution of wage rates. Distributionally-sensitive gender difference measures are then calculated for gross wage distributions in Australia, Canada, Sweden, the United Kingdom and the United States using the Luxembourg Income Study, a set of internationally comparable microdata sets.¹

Measuring gender differences using gross wage rates ignores the possibility that men and women receive different wages because they have different levels of education or experience. The second section of the paper outlines the technique employed by economists (beginning with Blinder, 1973; Oaxaca, 1973) to assess the contribution of gender differences in productivity-related characteristics to gender differences in economic reward. Such an analysis is then carried out for Australia and Canada.

The third section of the paper makes use of estimated wage equations to ask two questions. First, are women's wages less equally distributed

¹This data set is described in detail in Smeeding et.al., 1985.

than men's wages because human capital is less equally distributed among women than among men? That is, do a small number of women aspiring to professional careers 'invest' heavily in human capital while most women have very low levels of human capital? Second, are women's wages less equally distributed than men's wages because most women devote more energy to family than to career while a few women avoid family responsibilities in order to devote themselves to a career? If either hypothesis is true, then higher levels of inequality in women's wages should disappear after the influences of human capital and family responsibilities are removed from individual wages. Thus, these hypotheses are tested by comparing distributionally-sensitive gender difference measures calculated using wages adjusted for human capital and family responsibilities with the same measures calculated using gross wages. The final section of the paper offers conclusions and suggestions for future research.

1. Distributionally-Sensitive Measures of Gender Differences.

Gender differences in wages are often measured as the ratio of the average women's wage to the average men's wage. A logical extension of this practice which would take into account the distributions as well as the levels of wages would be to measure gender differences as the ratio of 'equally distributed equivalent' wage rates (Atkinson, 1970). Given a social evaluation function (s.e.f.), W , which is continuous, increasing along the ray of equality and strictly s-concave,² an equally distributed equivalent (e.d.e.) wage rate $E(w) = w_e$ is implicitly defined by $W(w_e \cdot 1_n) = W(w)$ where $w = (w_1, \dots, w_n)$ denotes a discrete wage distribution for a population of size n and 1_n is an n -vector of ones. The e.d.e. wage could be assigned to each member of the relevant population and the level of social welfare generated would equal the level of social welfare generated by the actual distribution of wages. Notice that the equally distributed

² An s-concave function ranks any Lorenz-superior distribution with the same mean as w no worse than w ; a strictly s-concave function ranks it as better.

equivalent wage is an alternative representation of the social evaluation function. The choice of s.e.f. determines the e.d.e.³

For this study, the s.e.f. chosen to calculate distributionally-sensitive wage ratios is

$$W(w) = \left\{ \frac{1}{n} \sum_{i=1}^n w_i^r \right\}^{1/r}$$

where $r \leq 1$; $r \neq 0$.

If $r = 1$, all wage rates receive equal weight (the equally-distributed wage equals the mean wage); as the value of r is reduced, more weight is placed on low-wage individuals; as $r \rightarrow -\infty$, social welfare is assessed to be no greater than the level of welfare experienced by the individual with the lowest wage in the population. Thus, r can be interpreted as an 'inequality-aversion' parameter.

Figure 2 illustrates how distributionally-sensitive wage ratios capture gender differences in the distribution of economic reward which would be over-looked by simply comparing means. Suppose (in a two-person world) A and B represent two wage distributions with the same mean. Using a s.e.f. with no aversion to inequality (e.g., $r = 1$), distributions A and B will have the same equally distributed wage (i.e., the mean wage). However, using a s.e.f. with strong aversion to inequality (e.g., $r \rightarrow -\infty$),

³ Several recent papers (Dagum, 1980; Shorrocks, 1982; Ebert, 1984; Chakravarty and Dutta, 1987) have proposed measures of the 'economic distance' between income distributions. The most attractive of these measures (Shorrocks, 1982; Chakravarty and Dutta, 1987) is

$$|E(x) - E(y)|$$

where $x = (x_1, \dots, x_m)$; $y = (y_1, \dots, y_n)$ denote discrete income distributions for populations of size m and n .

However, a measure of 'distance' seems less appropriate for measuring gender differences than the proposed ratios of e.d.e.'s. First, the distance measure depends on the nominal currency in which the wage is expressed. This creates serious complications for comparisons across countries or time. (Index number problems are particularly serious when comparisons of wages at different positions in the distribution are required since high- and low-wage individuals are unlikely to consume the same bundle of goods.) Second, gender differences are more standardly presented in relative rather than absolute terms.

the equally distributed wage associated with the more unequal distribution, B , will fall. Thus, if women's wages are less equally distributed than men's wages, as depicted in Figure 1, then the gender difference will appear much larger when measured using the ratio of e.d.e.'s (calculated from a s.e.f. with high aversion to inequality) than when measured using the ratio of means.

Table 1 presents distributionally-sensitive wage ratios calculated for male and female gross wage distributions using microdata from the Luxembourg Income Study for Australia, Canada, Sweden, the United Kingdom and the United States. All men and women between the ages of twenty-five and fifty-five with positive wage rates are included in the sample populations. (Part-time workers are included. See Appendix A for details on data sources.) Results are presented for five levels of inequality aversion.

With no aversion to inequality ($r = 1.0$), the distributionally-sensitive wage ratio is just the ratio of the average women's wage to the average men's wage. In all countries, the average women's wage is substantially lower than the average men's wage. However, there is considerable variation across countries in the relative positions of women. In Sweden, the average woman receives a wage which is 78 percent of the average male wage while in Canada and the United States women receive only 62 percent of the average male wage.

Differences in the relative economic positions of women across countries become more pronounced as aversion to inequality is increased. In Sweden, as r is reduced from 1.0 to -1.5, there is essentially no change in the distributionally-sensitive wage ratio. In Canada and Australia, on the other hand, wage ratios fall substantially (the measured gender difference increases) as aversion to inequality is increased. This indicates that women's wages are less equally distributed than men's wages in Canada and Australia but that this is not true in Sweden. This finding is confirmed through an examination of Atkinson (1970) indices of

inequality calculated separately for distributions of male and female wage rates for each country (see Table 2).

Notice that as inequality aversion is increased to $r = -5.0$, the wage ratios for Sweden and Australia increase substantially (gender differences almost disappear). Thus, there is little difference between men and women working in extremely low-wage occupations; the problem of poverty presumably dominates the problem of gender differences.

2. The Basic Economic Framework for Measuring Wage Differentials.

Measuring gender differences in terms of gross wage rates ignores the possibility that men and women may not have equivalent levels of education or experience. If men and women are not equally productive workers, then at least part of observed differences in wage rates might be justified on economic grounds. Economists (starting with Blinder, 1973; Oaxaca, 1973) have developed techniques which attempt to measure the portion of the observed wage differential which can be attributed to differences in worker characteristics. Section 2 of this paper conducts such an analysis for Canada and Australia.⁴

In a world without discrimination (and without institutional barriers or imperfect information) neo-classical economic theory predicts that workers will be paid wage rates equal to their marginal products. However, since it is extremely difficult to measure the contribution of an individual worker to the firm's output, economists usually use 'human capital' variables to proxy individual productivity. That is, it is assumed that a worker with, for example, more education and experience is more productive and hence, according to neo-classical theory should receive a higher wage. If two workers with the same quantity of human capital do

⁴The data sets for Sweden, the United Kingdom and the United States do not provide information on education. Thus, it is not possible to estimate 'human capital' wage equations for these countries.

not receive equal compensation, this is interpreted to be the result of discrimination in the labour market.

The basic procedure employed by economists who seek to measure wage differences involves estimating separate wage equations for men and women:

$$\ln w_m = b_m X_m + e_m$$

$$\ln w_f = b_f X_f + e_f$$

where w_m and w_f are male and female wage rates, X_m and X_f are vectors of human capital variables, b_m and b_f are vectors of parameters to be estimated and e_m and e_f are random error terms. If men and women are rewarded equally for traits such as education and experience, then there should be no significant differences between the sets of parameters estimated for the two equations. Notice, however, that this does not imply that men and women will receive equal wages if men, on average, have different levels of human capital than women.²

Estimated wage equations allow the portion of wage differentials attributable to differences in productivity-related characteristics to be calculated. Using male rates of returns, this is

$$\hat{b}_m \bar{X}_m - \hat{b}_m \bar{X}_f.$$

Any remaining gender differences in wage rates must be due to differential rates of return for the same skill level and are thus interpreted as discriminatory. This basic procedure is easily extended to incorporate

² The possibility of discrimination in access to human capital is ignored.

family responsibilities, occupation and industry as well as human capital variables.⁶

Tables 3 through 6 report wage equations estimated by ordinary least squares using the Luxembourg Income Study data for Canada and Australia.⁷ For Canadian men and women, three equations were estimated. The first includes only the most basic of human capital variables ('potential experience,' PEXP,⁸ and its square, PEXP2, two dummy variables to indicate level of education, HSCH and ACAD, and a dummy variable to indicate residence in a major metropolitan area, CITY). The second equation is extended to include 'family responsibility' variables (a dummy variable for individuals who are married or living together, MARRIED, number of children under eighteen, NKIDS, and age of youngest child, AGEKID) as well as a dummy variable for part-time workers, PART. The third equation incorporates dummy variables for occupations (PROF, ADMIN, SALES).

For Canadian women, results for the three estimated equations are presented in Table 3. Since coefficients change little across equations, only the third will be discussed. Notice, first, that the included variables explain only 10 percent of the observed variation in (log) wage rates. (This is not atypical of wage equations estimated using cross-sectional data.) However, estimated coefficients conform to results obtained elsewhere in the literature (Gunderson, 1975; Robb, 1978; Miller, 1987). There are positive returns to potential experience and education.

⁶ Following Polachek (1975) and Miller (1987), differences in wages attributable to differences in family characteristics are calculated as $\hat{b}_m \bar{X}_m - \hat{b}_f \bar{X}_f$.

This allows for the possibility that social norms assign men and women different levels of family responsibility.

⁷ The LIS database can be accessed via the EARN/BITNET system. However, remote users of the LIS database are restricted to using the software package SPSSX. Hence, the potential problem of sample selectivity bias is ignored.

⁸ Following the literature in this area, 'potential experience' is calculated as 'age - years of education - six.' This is clearly an extremely unsatisfactory measure, particularly for married women.

Being married or having additional children significantly reduce women's wages. The age of the youngest child and the dummy for part-time workers are insignificant (at 90 percent) variables. Finally, the dummy variables for workers in Sales or Administrative occupations are significant.

For Canadian men, results are qualitatively similar (see Table 4). Included variables explain only 10 percent of the observed variation in (log) wages. The pattern of estimated coefficients follows that found for women with the following exceptions: the dummy variable for part-time workers exerts a negative influence on men's wages; being married exerts a positive influence on wages; number of children has no significant impact.

Since the Australian data include information on industry, four wage equations were estimated for Australian men and women. Results for Australian women are reported in Table 5. Again, only a small part of the observed variation in (log) wage (9 percent) is explained by even the most comprehensive list of variables. The pattern of estimated coefficients resembles that obtained for Canadian women. (Number of children is also a significant determinant of wages.) None of the additional set of dummy variables for industry (PRIM, MFG, FIN (financial services), OSERV (other services) exerts a significant influence on the wages of Australian women.

Results for Australian men are reported in Table 6. In this case, 16 percent of the observed variation in (log) wages is explained by the included variables. The pattern of estimated coefficients follows that obtained for Canadian men. Again, the dummy variable for part-time work exerts a significant negative influence on wages; the part-time worker dummy is insignificant in both of the women's wage equations. Being married significantly increases men's wages; the opposite is true for both Canadian and Australian women. Child variables do not significantly affect the wages of Australian men. Thus, 'family responsibilities' tend to increase men's wages and reduce women's wages in the two countries studied. Finally, the dummy variables for both industry and occupation exert a significant influence on men's wages in Australia; industry dummies do not exert a significant influence on women's wages.

Estimated wage equations are then used to calculate the portion of observed gender wage gaps which can be attributed to differences in productivity-related characteristics. Results from this procedure are reported in Table 8. For Canada, differences in basic human capital variables (potential experience, education, location of residence) do not help to explain the observed wage gap. This is reasonable given that there is little difference between Canadian men and women in average years of potential experience⁹ or in average years of education (see Table 7). However, differences in family responsibilities explain 40 percent of the observed wage gap. This confirms findings reported by Miller, 1987. Finally, with the addition of occupation variables, 47 percent of the Canadian gender wage gap can be explained. (Notice, however, that differences in occupation need not reflect differences in productivity.)

For Australia, 7 percent of the observed wage gap can be explained by differences in basic human capital variables. Again, however, taking account of differences in family responsibilities explains a much larger part of the observed wage gap. With the addition of these variables, 61 percent of the gap can be explained. Differences in occupation do not help to explain the gender gap in Australia. Differences in industry explain an additional 6 percent of the over-all wage gap.

3. Distributionally-Sensitive Measures of Gender Differences Adjusted for Human Capital and Family Responsibilities.

Results of section 1 suggest that in Australia, Canada and the United States, there is more inequality in the distribution of women's wages than in the distribution of men's wages. Results of section 2 indicate that

⁹ Again, the LIS data set provides little information about work experience. This is a limitation of the present analysis.

differences in average stocks of human capital are relatively unimportant in explaining gender differences in average wage levels in Australia and Canada. However, differences in average family characteristics are extremely important. This section of the paper asks whether human capital and family responsibilities are important determinants of the distributions of male and female wages as well as their levels? More specifically, two hypotheses are tested. The first is that women's wages are less equally distributed than men's wages because human capital is less equally distributed among women than among men. The second is that women's wages are less equally distributed than men's wages because family responsibilities are less equally distributed among women than among men.

Tests of these hypotheses proceed in two steps. First, individual wages are adjusted for returns to human capital and family responsibilities using the wage equations estimated in section 2. Second, distributionally-sensitive wage ratios are re-calculated using adjusted wages. If adjusted distributionally-sensitive wage ratios fall when calculated using a s.e.f. with higher aversion to inequality, then the distribution of adjusted women's wages must still be less equal than the distribution of adjusted men's wages. If the pattern follows that obtained using gross wages, human capital and family responsibilities must be rejected as major explanations for gender differences in the distributions of wages (even though family responsibilities seem to be important determinants of the relative levels of wages).

To see why this is so, consider the first hypothesis. Suppose it is true that the distribution of women's wages is skewed because a few 'career women' have made large investments in human capital while most women have very little human capital. Then, removing returns to human capital from individual wages should reduce the wages of high-wage (high human capital) women by substantially more than the wages of low-wage (low human capital) women; the distribution of women's wages should become more equal. If, at the same time, human capital is (relatively) equally distributed among men, then removing returns to human capital should reduce all male wages proportionally. Thus, if the women's wage distribution becomes more equal

and the men's wage distribution remains unchanged, human-capital adjusted wage ratios should not decrease by as much as gross wage ratios when calculated using a s.e.f. with a high degree of inequality aversion.

The second hypothesis is that women's wages are less equally distributed than men's wages because family responsibilities are less equally distributed among women than among men. Again, suppose this is true. Suppose that social norms place the major burden of home- and child-care on women. However, suppose a few career-oriented women avoid family responsibilities (e.g., they have fewer children). Then, removing the negative impact on wages of, for example, additional children, should increase the wages of low-wage women proportionally more than the wages of high-wage women. This adjustment should reduce inequality in the distribution of women's wages. Suppose, at the same time, that social norms mean that most men devote little energy to home- or child-care. Then, adjusting wages for 'family responsibilities' will have little impact on the distribution of male wages. Again, if the distribution of women's wages becomes more equal while the distribution of men's wages is relatively unaffected, then distributionally-sensitive wage ratios calculated using adjusted wages should look different than wage ratios calculated using gross wage ratios.

The first step toward testing these two hypotheses is thus to calculate wages adjusted for human capital and family responsibilities. Since male and female rates of return to human capital vary, adjusted wage rates are calculated for each man and woman by removing the portion of the wage attributable to each individual's own basic human capital if rewarded according to the coefficients estimated for the male wage equation:

$$\begin{aligned}w_{A1}^m &= w_{01}^m - \hat{b}_m X_{11}^m \\w_{A1}^f &= w_{01}^f - \hat{b}_m X_{11}^f\end{aligned}$$

where w_{A1}^m and w_{A1}^f are individual wages net of returns to human capital, w_{01}^m and w_{01}^f are observed individual (gross) wages and X_{11}^m and X_{11}^f are individual human capital variables (HSCH, ACAD, PEXP, PEXP2, CITY).

Notice that for each woman, this procedure involves eliminating 'returns' which have not actually been received. However, the alternative procedure of removing returns to human capital as estimated through the women's wage equation perpetuates a discriminatory gender difference.

It is often argued (e.g., Polachek, 1975; Miller, 1987) that social norms assign men and women different levels of family responsibility and that this affects relative levels of energy which can be devoted to the labour market. Thus, a second set of net wage rates, adjusted for the influence of family responsibilities as well as human capital is calculated:

$$\begin{aligned}w_{B1}^m &= w_{O1}^m - \hat{b}_{1m}X_{11}^m - \hat{b}_{2m}X_{21}^m \\w_{B1}^f &= w_{O1}^f - \hat{b}_{1m}X_{11}^f - \hat{b}_{2f}X_{21}^f\end{aligned}$$

where w_{B1}^m and w_{B1}^f are wages adjusted for both basic human capital and family responsibilities; w_{O1}^m and w_{O1}^f are observed individual (gross) wage rates, as before; X_{11}^m and X_{11}^f are human capital variables; X_{21}^m and X_{21}^f are family responsibility variables (MARRIED, NKIDS, AGEKID). To capture the idea that family responsibilities often differ between men and women, the influence of family variables is removed using individual family characteristics and the estimated male or female coefficient as appropriate.

Table 9 reports ratios of adjusted to gross mean wage rates for men and women in Australia and Canada. For both men and women in Australia, removing returns to basic human capital reduces the average wage by 25 percent. For men and women in Canada, removing returns to human capital reduces gross mean wage rates by approximately 35 percent. In both countries, average male and female wages are reduced by equal proportions when returns to human capital are eliminated using the estimated coefficients from the male wage equation. Men and women in these samples do not have substantially different levels of education or experience (see Table 7).

Table 9 also reports ratios of adjusted to gross mean wage rates when the adjustment incorporates family responsibilities as well as human capital. Results indicate that if men had no family responsibilities, the average male wage would be lower (5 percent in Australia and 8 percent in Canada); if women had no family responsibilities the average female wage would be higher (8 percent in Australia and 6 percent in Canada). These results confirm findings reported in section 2. To test whether adjustments for human capital and family responsibilities change the distribution as well as the level of women's wages it is necessary to examine distributionally-sensitive wage ratios.

Table 10 reports distributionally-sensitive wage ratios calculated using wages adjusted for the impact of human capital. (Gross wage ratios are also reported for purposes of comparison.) Adjusting for returns to human capital has little impact on gender wage ratios in either Australia or Canada. Given similar average levels of education and experience, it is not surprising that the ratio of average wages is unaffected. It is more interesting, however, that distributionally-sensitive wage ratios calculated using a social evaluation function with a high level of inequality aversion are unaffected by the adjustment for human capital. This finding rejects the hypothesis that women's wages are less equally distributed than men's wages because human capital is less equally distributed among women than among men. Even after removing returns to human capital, distributionally-sensitive wage ratios decrease when calculated using a s.e.f with a high degree of inequality aversion. Women's wages are still less equally distributed than men's wages. Since the same pattern is observed using gross or adjusted wages, we can reject the hypothesis that inequality in women's wages is primarily due to a skewed distribution of human capital among women.

Finally, Table 10 reports distributionally-sensitive wage ratios adjusted for both human capital and family responsibilities. In both Australia and Canada, the ratio of mean adjusted wages ($r = 1.0$) is much higher than the ratio of mean gross wages (.86 for Australia and .75 for

Canada). As indicated by the regression decomposition results, family responsibilities appear to be more important than human capital in explaining gender differences in the average level of wage rates.

Of more interest, however, is the fact that even after accounting for both human capital and family responsibilities, the same pattern of measured gender differences is observed as inequality aversion is increased. Distributionally-sensitive wage ratios decrease as more weight is placed on low-wage workers. Thus, the level but not the distribution of gender differences is affected by adjusting for family responsibilities. Even after adjusting for both human capital and family responsibilities, distributionally-sensitive wage ratios fall when calculated using a s.e.f. with strong aversion to inequality. Thus, it is not possible to argue that the distributions of women's wage are skewed because some women, while participating in the labour market, devote their energies to families while other women devote themselves to their careers.

4. Conclusions.

This paper proposes a new method for measuring gender differences which takes account of the distribution as well as the average level of economic rewards. An application to wages in Australia, Canada, Sweden, the United Kingdom and the United States using the Luxembourg Income Study indicates that in Australia, Canada and the United States women's wages are less equally distributed than men's wages. Thus, merely comparing average male and female wages for these countries will understate the market disadvantage experienced by a majority of women.

These findings are further explored for Australia and Canada using estimated wage equations to adjust individual wages for individual differences in human capital and family responsibilities. When distributionally-sensitive gender difference measures are recalculated using these adjusted wage rates, the same patterns of male/female inequality are apparent. Thus, it is possible to reject the hypotheses that women's wages are less equally distributed than men's wages because a few 'career women' have made substantial investments in human capital and have avoided family responsibilities while a majority of women have low levels of human capital and high levels of family responsibility.

Several questions might be addressed by future research. First, why is there less inequality in women's wages in Sweden than other countries? Second, why are women's wages in Australia and Canada less equally distributed than men's wages? Two hypotheses concerning personal characteristics of the workers have been rejected. It would be interesting to consider the role played by characteristics of the employer/job. Finally, how many low-wage women live in low-wage households? Is there an important link between market discrimination and female poverty?

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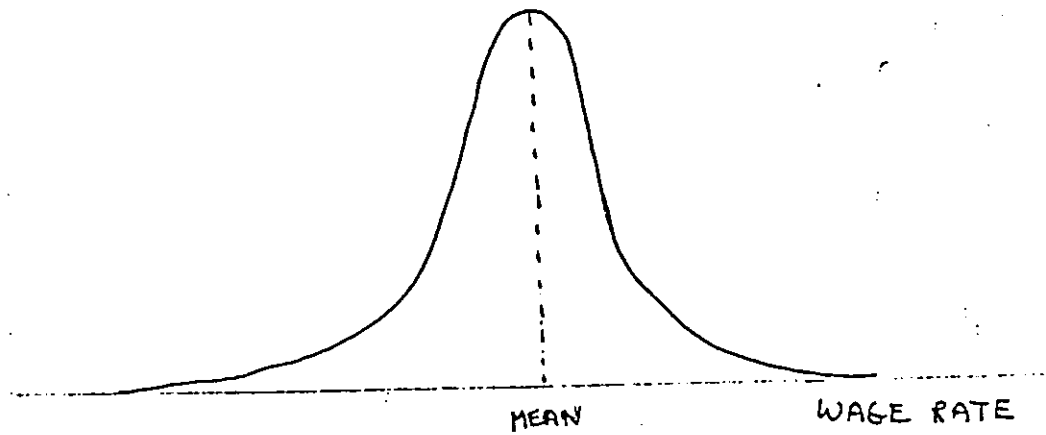
Appendix A
LIS Datasets included in analysis.

Country	Dataset Name, Year, Total Sample Size	Size of Sample Selected for Analysis
Australia	Income and Housing Survey; 1981/82; 17,000 Obs.	2886 Women 4989 Men
Canada	Survey of Consumer Finance; 1981; 37,900 Obs.	3645 Women 5315 Men
Sweden	Swedish Income Distribution Survey; 1981; 9,600 Obs.	2512 Women 2582 Men
U.K.	Family Expenditure Survey; 1979; 6,800 Obs.	630 Women 940 Men
U.S.A.	Current Population Survey; 1979; 65,000 Obs.	3542 Women 4662 Men

FIGURE 1

DISTRIBUTION OF MALE WAGE RATES

FREQUENCY



DISTRIBUTION OF FEMALE WAGE RATES

FREQUENCY

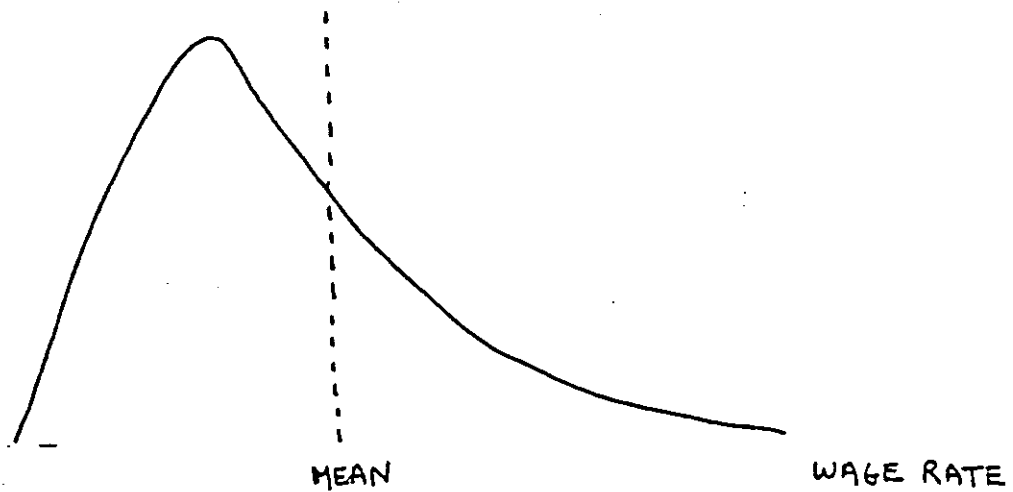


FIGURE 2

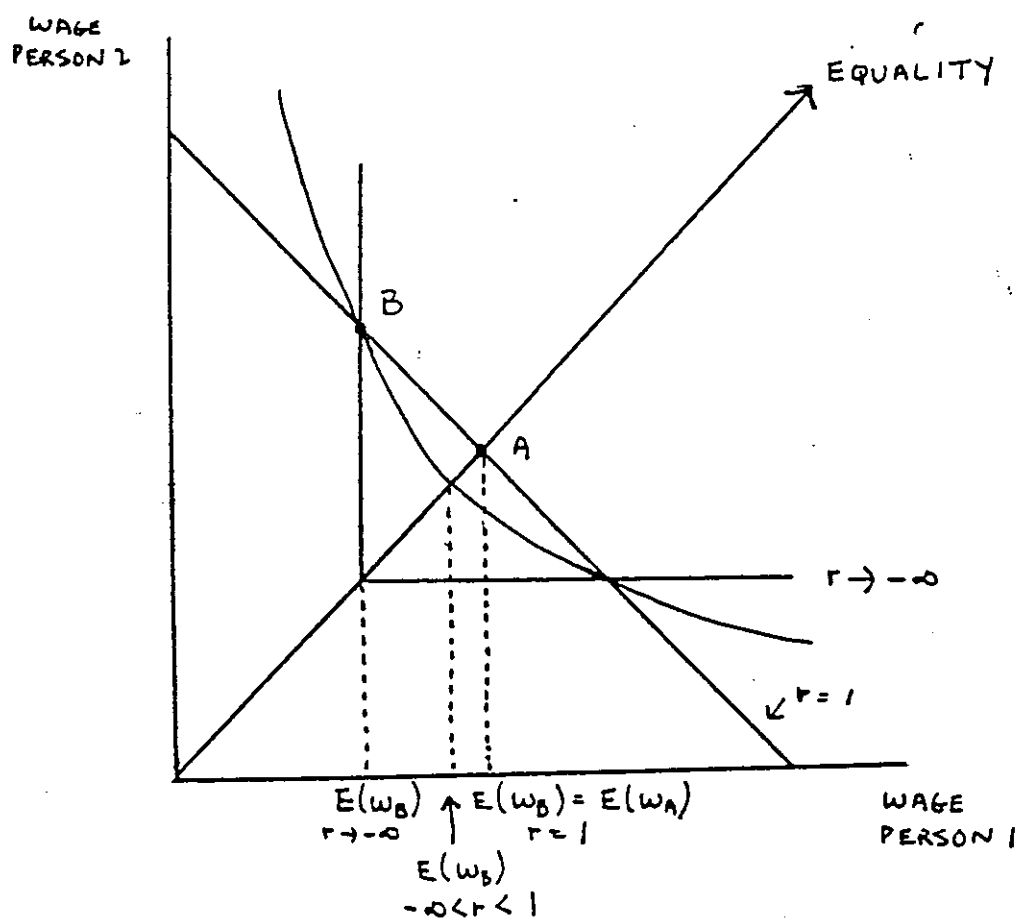


Table 1.--Distributionally-Sensitive Wage Ratios.

	AUSTRALIA	CANADA	SWEDEN	UK	USA
$r = 1.0$	.71	.62	.78	.64	.62
$r = 0.5$	.68	.60	.78	.64	.61
$r = -0.5$	.61	.52	.76	.61	.59
$r = -1.5$	.48	.31	.76	.56	.54
$r = -5.0$	.69	.09	.93	**	.29

** Unavailable

Table 2.--Atkinson Indices of Inequality.

	AUSTRALIA	CANADA	SWEDEN	UK	USA
$r = 0.5$					
Women	.07	.10	.06	.06	.08
Men	.04	.06	.05	.05	.06
$r = -0.5$					
Women	.26	.32	.18	.17	.22
Men	.13	.19	.16	.14	.19
$r = -1.5$					
Women	.56	.71	.41	.31	.46
Men	.35	.41	.39	.20	.38
$r = -5.0$					
Women	.90	.99	.90	**	.96
Men	.90	.90	.92	**	.92

Table 3.--OLS Wage Equations. Canadian Women.

	(I)	(II)	(III)
PEXP	.01 (1.50)	.01 (2.07)	.01 (1.94)
PEXP2	-.0002 (-1.58)	-.0003 (-2.32)	-.0003 (-2.16)
HSCH	.25 (8.59)	.24 (7.91)	.23 (7.48)
ACAD	.70 (14.18)	.67 (13.46)	.65 (12.89)
CITY	.17 (7.31)	.15 (6.28)	.15 (6.19)
PART	-	-.04 (-1.72)	-.03 (-1.30)
MARRIED	-	-.08 (-2.72)	-.07 (-2.55)
AGEKID	-	.002 (.888)	.002 (.902)
NKIDS	-	-.03 (-2.51)	-.03 (-2.30)
PROF	-	-	-.02 (-.539)
ADMIN	-	-	.17 (2.89)
SALES	-	-	-.13 (-2.49)
CONSTANT	1.35 (16.58)	1.45 (16.92)	1.46 (16.17)
R ²	.09	.10	.10
Number of Observations	3645	3645	3645

Note: T-Ratio's are reported in parentheses.

Table 4.--OLS Wage Equations. Canadian Men.

	(I)	(II)	(III)
PEXP	.03 (8.36)	.03 (6.35)	.02 (5.87)
PEXP2	-.0005 (-6.49)	-.0004 (-4.82)	-.0004 (-4.48)
HSCH	.19 (10.93)	.18 (10.01)	.18 (9.52)
ACAD	.52 (19.46)	.50 (18.11)	.49 (16.22)
CITY	.05 (3.51)	.06 (4.15)	.06 (4.07)
PART	-	-.08 (-4.28)	-.08 (-4.50)
MARRIED	-	.11 (4.95)	.11 (4.95)
AGEKID	-	.002 (1.03)	.002 (1.06)
NKIDS	-	.01 (1.48)	.009 (1.22)
PROF	-	-	-.07 (-3.63)
ADMIN	-	-	.11 (4.54)
SALES	-	-	-.12 (-4.93)
CONSTANT	8.93 (148.60)	9.28 (160.17)	1.73 (32.47)
R ²	.07	.09	.10
Number of Observation	5315	5315	5315

Note: T-Ratios are reported in parentheses.

Table 5.--OLS Wage Equations. Australian Women.

	(I)	(II)	(III)	(IV)
PEXP	-.002 (-.285)	.01 (1.88)	.01 (1.79)	.01 (1.75)
PEXP2	.0001 (.849)	-.0003 (-1.70)	-.0002 (-1.41)	-.0002 (-1.37)
HSCH	.19 (6.84)	.16 (6.08)	.06 (2.16)	.06 (2.12)
ACAD	.45 (8.45)	.44 (8.13)	.25 (4.41)	.25 (4.37)
CITY	-.04 (-.986)	-.05 (-1.27)	-.02 (-.63)	-.02 (-.60)
PART	-	-.02 (-.88)	-.02 (-.92)	-.02 (-.79)
MARRIED	-	-.04 (-1.39)	-.03 (-1.01)	-.03 (-1.03)
AGEKID	-	.005 (2.09)	.005 (2.05)	.005 (2.04)
NKIDS	-	-.10 (-7.01)	-.09 (-6.64)	-.09 (-6.61)
PROF	-	-	.30 (7.65)	.30 (7.62)
ADMIN	-	-	.16 (2.07)	.18 (2.20)
SALES	-	-	.05 (1.07)	.08 (1.44)
CLERK	-	-	.17 (5.11)	.18 (4.95)
BLUE	-	-	-.10 (-2.30)	-.10 (-1.81)
PRIM	-	-	-	-.007 (-.060)
MFG	-	-	-	.05 (1.00)
OSERV	-	-	-	.04 (.956)
FIN	-	-	-	.06 (1.35)
CONSTANT	3.02 (31.59)	3.01 (30.71)	2.90 (29.34)	2.86 (27.32)
R ²	.04	.06	.09	.09
Number of Observations	2886	2886	2886	2886

Note: T-Ratio's are reported in parentheses.

Table 6.--OLS Wage Equations. Australian Men.

	(I)	(II)	(III)	(IV)
PEXP	.03 (9.39)	.03 (7.40)	.03 (6.97)	.02 (6.86)
PEXP2	-.0006 (-7.95)	-.0005 (-6.32)	-.0004 (-5.93)	-.0004 (-5.74)
HSCH	.17 (11.72)	.16 (11.34)	.13 (9.24)	.14 (9.85)
ACAD	.51 (21.77)	.50 (21.24)	.33 (12.56)	.35 (13.17)
CITY	-.02 (-1.04)	-.02 (-1.11)	-.02 (-.877)	-.02 (-1.06)
PART	-	-.21 (-4.67)	-.24 (-5.39)	-.23 (-5.23)
MARRIED	-	.08 (4.21)	.08 (4.25)	.08 (4.38)
AGEKID	-	.002 (1.25)	.002 (1.38)	.002 (1.18)
NKIDS	-	.005 (.861)	.003 (.463)	.003 (.586)
PROF	-	-	.13 (5.03)	.12 (4.55)
ADMIN	-	-	.12 (4.54)	.10 (3.80)
SALES	-	-	-.09 (-2.72)	-.10 (-3.08)
CLERK	-	-	.04 (1.51)	.02 (.796)
BLUE	-	-	-.10 (-4.53)	-.13 (-5.79)
PRIM	-	-	-	.34 (11.60)
MFG	-	-	-	.05 (3.35)
OSERV	-	-	-	-.01 (-.763)
FIN	-	-	-	.05 (2.64)
CONSTANT	3.02 (66.62)	3.01 (62.55)	3.08 (60.99)	3.08 (59.68)
R ²	.09	.10	.14	.16
Number of Observations	4989	4989	4989	4989

T-Ratios are presented in parentheses.

Table 7.--Means of Regression Variables.

	WOMEN AUSTRALIA	MEN AUSTRALIA	WOMEN CANADA	MEN CANADA
LNWAGE	3.132	3.558	1.757	2.327
PEXP	23.382	22.794	22.088	22.994
PEXP2	634.058	603.357	577.064	623.510
HSCH	.432	.565	.603	.502
ACAD	.091	.116	.117	.141
CITY	.881	.893	.449	.394
PART	.426	.017	.460	.216
MARRIED	.766	.858	.775	.869
AGEKID	5.005	4.600	5.504	5.134
NKIDS	1.113	1.369	1.235	1.378
PROF	.257	.178	.733	.266
ADMIN	.025	.113	.063	.124
SALES	.071	.053	.092	.099
CLERK	.317	.097	-	-
BLUE	.112	.474	.112	.511
PRIM	.010	.045		
MFG	.148	.249		
OSERV	.529	.247		
FIN	.113	.110		

Table 8.-- Regression Decomposition of Log Wage Gaps for Canada and Australia.

	CANADA			AUSTRALIA			
	(I)	(II)	(III)	(I)	(II)	(III)	(IV)
Differences in Observed Wages	.57	.57	.57	.43	.43	.43	.43
Due to Differences in:							
Experience	-.001	-.001	-.001	-.002	-.002	-.002	-.002
Education	-.006	-.006	-.006	.027	.027	.027	.027
Location	-.003	-.003	-.003	-.0002	-.0002	-.0002	-.0002
Family Responsibilities	-	.233	.233	-	.18	.18	.18
Occupation	-	-	.039	-	-	-.052	-.052
Industry	-	-	-	-	-	-	.021
Total	-.01	.230 (40%)	.269 (47%)	.025 (6%)	.212 (49%)	.160 (37%)	.181 (42%)

Table 9.--Ratios of Adjusted to Gross Mean Wage Rates

	WOMEN		MEN	
	Human Capital	Human Capital + Family	Human Capital	Human Capital + Family
AUSTRALIA	.74	.82	.72	.67
CANADA	.65	.71	.67	.59

Table 10.--Distributionally-Sensitive Wage Ratios Adjusted for Returns to Human Capital and Family Responsibilities.

AUSTRALIA

	Gross	Human Capital	Human Capital + Family
$r = 1.0$	.71	.73	.86
$r = 0.5$	.68	.70	.84
$r = -0.5$	.61	-	-
$r = -1.5$	.48	.48	.59
$r = -5.0$	.69	.68	.81

CANADA

	Gross	Human Capital	Human Capital + Family
$r = 1.0$	.62	.61	.75
$r = 0.5$	.60	.59	.72
$r = -0.5$	.52	.52	.63
$r = -1.5$	.31	.31	.38
$r = -5.0$	.09	.11	.11