

## Time Pattern of Male-Female Wage Differentials : Ontario 1946-71

### L'évolution de la différence de salaire entre hommes et femmes en Ontario de 1946 à 1971.

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Volume 31, numéro 1, 1976

URI : <https://id.erudit.org/iderudit/028682ar>

DOI : <https://doi.org/10.7202/028682ar>

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Éditeur(s)

Département des relations industrielles de l'Université Laval

ISSN

0034-379X (imprimé)

1703-8138 (numérique)

[Découvrir la revue](#)

Citer cet article

Gunderson, M. (1976). Time Pattern of Male-Female Wage Differentials : Ontario 1946-71. *Relations industrielles / Industrial Relations*, 31(1), 57-71. <https://doi.org/10.7202/028682ar>

#### Résumé de l'article

Bien qu'il existe aujourd'hui des études plus nombreuses sur les causes déterminantes des différences de salaires entre les hommes et les femmes, on en compte que peu, s'il y en a, qui soient approfondies sur l'effet du facteur temps en rapport avec ces différences. L'écart s'est-il resserré avec les années? Se resserre-t-il ou s'élargit-il à la pointe d'un cycle économique? S'est-il resserré au cours des dernières années par suite d'une application plus rigoureuse de la législation en matière d'égalisation des salaires? L'article précédent tente d'y répondre à partir des statistiques publiées en Ontario pendant la période 1946-1971.

Depuis la fin de la deuxième guerre, les séries de statistiques sur les taux de salariés payés aux hommes et aux femmes pour une occupation rigoureusement décrite sont disponibles dans les rapports annuels, taux de salaires, traitements et heures de travail publiés par le ministère du travail du Canada. Pour la période 1946-1971, la série n'est continue que dans le cas de neuf fonctions.

De rapport théorique entre la différence de salaire et le passage du temps, le cycle économique et la législation sur l'égalisation des salaires y est d'abord établie. Ensuite, il fut procédé à une analyse de régression de la différence proportionnelle de salaire entre les hommes et les femmes pour chacune des neuf fonctions, selon le taux de chômage et une variable artificielle indiquant les années où la législation relative à l'égalisation des salaires se trouvait en vigueur.

Les résultats arithmétiques ont démontré qu'aucune des occupations n'indiquait au point de vue statistique un quelconque resserrement significatif dans le temps des différences de salaire entre les hommes et les femmes. En réalité, sur cinq des neuf emplois, l'écart montre une tendance vers la hausse de un à deux pour cent par année. Il ressort de là que, avec les années, loin de se resserrer, l'écart s'accroît.

Lorsque l'on considère les faits en fonction des cycles économiques, les résultats s'enchevêtrent. En période d'abondance, quand le taux de chômage est bas, l'écart se resserre légèrement dans deux fonctions, s'élargit considérablement dans trois autres et ne bouge à peu près pas dans les quatre dernières. D'une façon générale, il semble que les politiques de plein emploi associées à des périodes de prospérité n'auront que peu d'effet sur les différences de salaire entre les hommes et les femmes. Plus, les écarts peuvent tendre à s'accroître durant les époques de prospérité.

En ce qui concerne la variable de la législation relative à l'égalisation des salaires, une seule occupation permet de constater un changement significatif après l'adoption de la mesure, changement qui démontre vraiment un élargissement de l'écart.

Le transfert des stipulations concernant l'égalisation des salaires du *Human Rights Act* à l'*Employment Standards Act* n'a pas eu d'effet marqué sur la réduction de la différence entre les salaires des hommes et ceux des femmes, du moins pour les occupations qui sont analysées dans cette étude. Cette conclusion est confirmée par un travail concomitant de l'auteur fondé sur l'analyse d'un échantillonnage d'un nombre plus considérable de fonctions.

Ces conclusions ne sont pas substantiellement modifiées par des modifications à l'analyse de régression. La correction de la corrélation sérielle dans le cas de deux occupations et la suppression du taux de chômage dans l'ensemble des occupations n'a pas d'effet appréciable. L'utilisation d'une variable chronologique non linéaire ne change pas beaucoup les résultats. D'une façon générale, le modèle chronologique non linéaire indique un resserrement de l'écart au commencement de la décennie 1950 et son élargissement vers la fin de la même période ainsi qu'au cours des années 1960. Il se peut que cela refléchisse une pénurie relative de femmes pendant la période d'après-guerre alors qu'elles avaient tendance à abandonner le marché du travail et à retourner au foyer, tout comme on peut y reconnaître l'abondance relative des femmes dans les années 1960 alors qu'elles retournaient en grand nombre sur le marché du travail. Lorsqu'on fait intervenir l'élément temps d'une façon non linéaire, malgré les mesures d'égalisation des salaires entre hommes et femmes, force est de constater un resserrement des écarts pour deux fonctions. Ceci laisse entrevoir que nous devons être moins sûr de l'impact qu'ont pu avoir ces mesures.

En se fondant sur les résultats limités de cette étude, il est possible d'en tirer les conclusions suivantes. La différence de salaire entre les hommes et les femmes s'est élargie avec les années, surtout pendant la décennie 1960. L'écart tend à s'amenuiser durant les périodes de prospérité. En réalité, elle peut augmenter à certaines époques. De toute façon, il n'en ressort pas clairement que la politique d'égalisation des salaires ait favorisé la diminution de l'écart.

# Time Pattern of Male-Female Wage Differentials:

Ontario 1946-1971

**Morley Gunderson**

*In this paper the author examines whether male-female wage differentials have narrowed over time, whether such differentials narrow or widen at the peak of a business cycle, and whether the stricter enforcement of equal pay legislation in recent years has influenced these differentials.*

Although there is a growing literature on the determinants of male-female wage differentials, there are few, if any, systematic studies of the time pattern of the differential. Has it narrowed over time? Does it narrow or widen at the peak of a business cycle? Has it narrowed in recent years, with the stricter enforcement of equal pay legislation?

Answers to these questions have important policy implications. If the differential has been continually narrowing over time, then a «hands-off» policy may be warranted. If the differential narrows during the peak of a business cycle, then full employment policies would have the desirable side effect of encouraging equal pay for equal work. Finally, a narrowing of the differential in recent years could be taken as evidence of the effectiveness of legislative enactment of equal pay. If the differential has not narrowed, then perhaps we should re-think the viability of equal pay through legislation.

In spite of the obvious importance of these questions, the empirical literature on male-female wage differentials provides few answers. On the basis of Canadian census data, Ostry (1968, p. 39) reports: «From these data one might conclude that the 'sex differential' was unchanged over the decade, but an examination of more detailed occupational information for the two census years suggests that the gap between male and female earnings may have widened between 1951 and 1961. However, the data are too fragmentary to sustain any intensive analysis and a study of trends must await further developmental work in the construction of his-

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torical series.» Archibald (1970, p. 27) reports an increase in female salaries relative to male salaries in the period 1957 to 1968; however, her figures are confined to those earning over \$10,000 per year in the Public Service of Canada. In their study of Canadian academic salaries, Robson and Lapointe (1971, p. 11) report what they term a «disturbing trend» — a decline in the female salaries relative to male between 1956 and 1964. None of these Canadian studies were designed specifically to analyse the time pattern of male-female earnings differentials. Their comments on the time pattern were parenthetical and based on scanty evidence.

Similarly, U.S. empirical studies of male-female wage differentials provide little systematic evidence on the time pattern of the differential. Comparisons tend to be made between select years, or for select occupations, and the results are often contradictory.

Bergmann and Adelman (1973, p. 511) report the male-female earnings gap to be widening between the years 1956 to 1969. They attribute this to the increased overcrowding of women into low-wage, female-dominated jobs. Simchak (1971, p. 545) states that «a comparison of the median wage or salary incomes of women and men who work at full-time jobs the year round reveals that, while those of women are considerably less than those of men, the difference was less in 1969 than it had been in previous recent years. The gap, however, was wider than it was ten to fifteen years ago.» In their analysis of academic salaries, Bayer and Astin (1968, p. 199) report «no large or consistent increases or decreases in sex differences in salary emerge over time.» On the basis of wage data for ten select occupations, Buckley (1971, p. 38) finds no change in male-female wage differentials over the years 1960, 1965 and 1970. In the only published study, to my knowledge, that was specifically designed to examine male-female wages over time, Fuch (1974, p. 237) utilizes U.S. census data and finds a reduction in the male-female earnings differential between 1959 and 1969. Because this finding is based on data from only two select years, it is difficult to determine if the narrowing reflects a trend, a cyclical phenomena, or perhaps a shift because of equal pay legislation.

In order to obtain a more accurate picture of the time pattern of male-female wage differentials, the proportionate wage differential,  $(W_m - W_f)/W_f$ , in each of nine occupations for the period 1946-1971, was regressed on the time trend, the unemployment rate, and a dummy variable indicating the years when equal pay legislation was in effect. The rationale for each of these explanatory variables is given in section

II; and the data source and empirical results are presented in section III. The empirical analysis is restricted to the province of Ontario.

#### EXPLANATORY VARIABLES

##### **Time Trend**

In his seminal work on the economics of discrimination, Becker (1971, p. 14) argues that «if an individual has a 'taste for discrimination,' he must act as if he were willing to pay something, either directly or in the form of a reduced income, to be associated with some persons instead of others.» To the extent that discrimination is a 'normal' good, we would expect more of it to be purchased as income increases over time. On the other hand, Becker (1971, p. 17) also points out that «since a taste for discrimination incorporates both prejudice and ignorance, the amount of knowledge available must be included as a determinant of taste.» Thus, the increased education and communication that has occurred over time may serve to reduce discrimination.

Changes in the occupational and industrial mix of the economy have also worked to increase the demand for females relative to males. To cite Fuch (1974, p. 237): «The growth of a service economy and the decline in the importance of heavy manual jobs tend to move the demand curve [for females] to the right. Demand also is affected by the removal of legal and institutional barriers to women and by the greater acceptance of women in a variety of occupations and roles by consumers and other employees.»

On the supply side, the large influx of females into the labour force in recent years would have a dual effect on male-female wage differentials. According to Fuch (1974, p. 237), the influx «tends to depress average female earnings in the short run, not only because increased quantity lowers price but also because the new entrants tend to have less schooling and less labor market experience.» Becker (1971, p. 16) adds that «it has been argued that an increase in the numerical importance of a minority group increases the prejudice against them, since the majority begins to fear their growing power.» On the other hand, Becker points out that «greater numbers bring greater knowledge and that this leads to a decline in prejudice.» This latter view is emphasized by Zellner (1972, p. 158) who argues that «an increase in the relative number of women employed in masculine occupations will itself generate a rightward shift in the demand curve for women» as sex stereotypes are broken and as information on the labour market worth of females

is provided. This is compounded as women reach senior positions whereby they are responsible for recruiting and hiring other females.

To the extent that firms pay females lower wages than equally productive males, the forces of competition should reduce male-female wage differentials over time. However, as Arrow (1973, p. 20-23) points out, because of adjustment costs and imperfect information, the adjustment process may take considerable time. In their desire to recoup fixed hiring costs, firms would be reluctant to immediately replace their male workers with lower-wage female workers. In a similar vein, Stiglitz (1973) provides a queuing theory to explain why male-female wage differentials may persist over time. In order to reduce turnover, improve morale, or secure other advantages of always having a queue from which to hire workers, some firms pay wages in excess of the going market wage. Others are forced to do so because of unions or minimum wages. Rationing of the scarce high-wage jobs may be carried out on the basis of discrimination. Neither Arrow nor Stiglitz argues that the forces of competition would not work to narrow discriminatory male-female wage differentials over time; they simply suggest that the adjustment process may not be as rapid and as complete as predicted by conventional, static economic theory.

Although profit-maximizing forces may be at work to reduce discriminatory male-female wage differentials in the competitive sector, this need not be the case in the non-competitive sector. As Freeman (1973) argues, governments could discriminate in their own hiring practices and in the provision of education and training, and unions could discriminate, especially in apprenticeship and training programs. The growth of this not-for-profit sector thereby implies more discrimination over time. On the other hand, being responsive to forces of power, the not-for-profit sector may respond to the growing pressure from women's rights groups and government agencies that were formed to combat sex discrimination. In Ontario, for example, the post-World War II era saw an increase in the role of the Human Rights Commissions, the Women's Bureau of the Ontario Ministry of Labour and the Women's rights movement in general.

Although the not-for-profit sector has grown over time, the monopsonistic sector has probably declined, as urbanization and improved communications have expanded the menu of available jobs and as females have become less tied to the household. In monopsonistic labour markets, as Madden (1972, p. 69-85) points out, females do not have the effective threat of mobility necessary to command a competitive wage. This occurs because of their ties to the household and to their

husband's places of employment. As these factors change over time, so should male-female wage differences.

In summary, male-female wage differentials will change over time, reflecting tastes (as influenced by income and education), the demand for and supply of female labour, and competitive and non-competitive (monopsony, not-for-profit) behaviour. The net impact of these various factors is ultimately an empirical proposition. Unfortunately the available data does not enable us to disentangle the separate influence of each factor. Consequently we are unable to distinguish amongst various competing hypotheses. Until better data are available we can only document the existence of a trend.

To test the net impact of these time-related variables on the male-female proportionate wage differential, a linear time-trend variable was formulated, using the last two digits for the years 1946 to 1971. The regression coefficient is interpreted as the long-run trend in the male-female wage differential. A nonlinear time trend variable was also employed.

### **Unemployment Rate**

Theoretical and empirical work on occupational wage structures indicates that the skill differential narrows at the peak of a business cycle and widens in the trough. During prosperity there is an increase in the supply of skilled, relative to that of unskilled, workers. This occurs because hiring and job standards for skilled workers are relaxed and firms train and upgrade the unskilled for skilled jobs. The resulting mobility up the occupational ladder increases the supply of skilled, decreases the supply of unskilled, and thereby reduces the skill differential. In addition there is an increase in the demand for unskilled, relative to that for skilled, during full employment. This occurs because prosperity permits longer, continuous production runs that require workers to perform only one specialized task, and this single task can be done by unskilled workers. (See for example, Reder 1955).

Conversely, during a recession there is an increase in the supply of unskilled, relative to that of skilled, workers. Firms are reluctant to lay off their skilled workers for fear of being unable to re-hire them when prosperity returns. Consequently, they employ them at unskilled tasks and lay off the unskilled. The reserve of unemployed, unskilled workers depresses the unskilled wage, thereby widening the wage differential during a recession. The demand for skilled workers is also somewhat maintained during a recession because they can perform the

variety of tasks occasioned by the shorter production runs that accompany a recession.

To the extent that females tend to be less skilled than males, male-female wage differentials should narrow in prosperity when both the supply of skilled and the demand for unskilled are increased. In the narrowly defined occupations analysed in this study, it is more reasonable to assume that males and females do substantially similar work. Consequently, the differential may not narrow during prosperity; or if it does, it would not narrow as much as in more-broadly-defined job categories where males may do skilled work and females the unskilled work.

In addition to reflecting the changing supply and demand conditions of skilled and unskilled workers, the minority hiring policies of employers may be more directly altered during periods of prosperity. Quite simply, in tight labour markets, employers may be forced to seek and hire females because no males are available. Fretz and Hayman (1973, p. 136) cite one employer's reaction to hiring females: «We'd be doing a lot more in the area of affirmative action for women if the labour market were tight. But since we can pick and choose, we don't find it necessary to go out of our way to increase women in our work force.» Furthermore, as Ashenfelter (1970, p. 41) points out, «a tight labor market provides a better environment for dissolving the restrictive practices of some crafts and unions.»

The cyclical participation of secondary workers, especially females, may also effect the cyclical pattern of the male-female wage differential. In prosperity, females who were previously «discouraged» from looking for work may now enter the labour force and look for work, exerting a downward pressure on female wages. On the other hand, females who previously «added» themselves to the labour force to maintain family income may no longer need to work. Their leaving the labour force would tend to raise female wages. The net result of this added and discouraged worker effect on female labour force participation, and hence on male-female wage rates, is ultimately an empirical proposition.

Ontario's unemployment rate is used to reflect the tight and loose labour markets associated with prosperity and recession. Although the cyclical pattern of male-female wage differentials is ultimately an empirical proposition, the differential is expected to narrow during prosperity and widen during recessionary periods of high unemployment. Unem-

ployment rates for Ontario were obtained from the *Ontario Statistical Review*.

### **Equal Pay Impact, Post 1968**

By raising the cost of wage discrimination, equal pay legislation should lead to a reduction in the amount of such discrimination. The additional legal costs resulting from equal pay legislation include court costs and the expected fine, which is the product of the probability of being caught and the expected value of the fine if caught. Firms that discriminate may also receive adverse publicity if they are brought to court for their actions. Even if faced with customer or co-worker discrimination, profit-seeking firms would rationally discriminate less when the cost of discrimination is greater.

The impact of equal pay legislation is narrowed by the fact that it applies only to workers in the same establishment. However, the scope of the legislation is broadened by the fact that the work does not have to be identical, but rather, substantially similar, and substantially similar work has generally been interpreted rather broadly by the courts. Nevertheless, there are problems in enforcing the legislation. Concerning U.S. equal pay legislation, Bergmann and Adelman (1973, p. 513) state: «Enforcement efforts have been almost nil, despite the fact that very few if any firms, universities, or even government offices are in compliance. What enforcement efforts have been made have raised up loud of reverse discrimination.» In Canada, the Royal Commission on the Status of Women (1970, p. 75) observed: «In the provinces with equal pay laws only a handful of complaints has been received. Obviously the legislation is not effective.»

In spite of the alleged lack of enforcement, equal pay legislation may serve as an educational device, highlighting for employers the more obvious inequities in their pay structures. The legislation may also encourage women to revalue their labour market worth and raise their reservation wage. Even without effective enforcement, equal pay legislation may narrow male-female wage differentials.

Although by increasing the costs of discrimination and by serving as an educational device equal pay legislation should narrow male-female wage differentials, there are reasons to suggest it could have the opposite impact. Equal pay legislation may result in an adverse employment effect for females, and it could reduce training options for women who would accept reduced wages to acquire training or experience. These factors may lead to the crowding of females into low-



productivity jobs, which in turn would reduce their wages. In this indirect way, equal pay legislation may actually lead to a widening of male-female wage differentials. To cite Sawhill (1973, p. 384): «Equal pay legislation may actually increase such crowding [of women into low-productivity jobs] and thus lower the earnings of women.»

Prior to 1969, equal pay in Ontario was the responsibility of the Human Rights Commission. Having few enforcement resources and a wide range of responsibilities, the Commission was compelled to spread its limited resources over various aspects of human rights, in addition to that of equal pay for equal work. Usually acting only on complaints, the commission relied mainly on persuasive tactics rather than on the courts. To provide more effective enforcement, the equal pay provisions were transferred to Ontario's Employment Standards Act, effective January 1, 1969. Investigations by the Employment Standards Branch are carried out on a routine basis as well as on a complaint basis. Furthermore, the onus for following through on a complaint rests on the Branch rather than on the persons making the complaint. And persons making complaints are protected both by anonymity and by strong provisions in the act to prevent reprisals by employers. In a sense, the transfer of the legislation represented a change in enforcement tactics from persuasion to more formal legal sanctions. To the extent that the legal sanctions of the Employment Standards Act are more effective than the persuasive tactics of the Human Rights Act, we would expect a narrowing of male-female wage differentials in the period after January 1, 1969.

Other factor could also be at work to alter the differential at that particular time. For example, the recession of 1970 would possibly widen the differential. However, the multiple regression analysis employed in this study controls for the impact of the recession by using the cyclical unemployment rate as an explanatory variable. More importantly, there were a series of minimum wage increases in Ontario after January 1, 1969. To the extent that females tend to be paid less than males, the minimum wage increase should raise female wages more than male wages. In the time series data used in our analysis, however, both male and female wages were usually well above the minimum wage in 1969. Consequently, the minimum wage increase should not cause a shift in the differential after January 1, 1969. Any change in the differential at that time could be attributed to the equal pay legislation.

To reflect any narrowing in the differential that occurred after the transferral of equal pay provisions, a dummy variable was created, coded one for wages in the post-legislation period (1969-1971), and zero

for wages in the pre-legislation period (1946-1968). The regression coefficient indicates the shift in the differential resulting from the transfer of equal pay provisions from the Human Rights Act to the Employment Standards Act.

#### DATA AND EMPIRICAL RESULTS

Post World War II time series data on male-female wage rates for the same narrowly-defined occupation were obtained from the annual reports, *Wage Rates, Salaries and Hours of Labour*, published by the Economics and Research Branch of the Canada Department of Labour. Only nine occupations in Ontario had continual data from 1946 to 1971. The nine occupations with their industry affiliation and average wage differential are listed at the bottom of table 1. A data appendix is available from the author on request.

Since the occupations are extremely-narrowly defined it is reasonable to assume that males and females do substantially similar work within each occupation. Male-female work characteristics need not be the same. All that matters is that they can do the work outlined in the job description for each occupation. If, on the average, females cannot perform the job as well as males, then they tend to be categorized in a slightly lower occupation.

Even if males and females do not have identical marginal productivities in those occupations where their job descriptions are identical, it is still possible to test for the impact of equal pay for equal work legislation. It seems reasonable to assume that the marginal productivity of females relative to males in a given occupation is fairly constant over time, or at most exhibits some slight trend and cyclical pattern. If the trend and cycle are controlled for, as they are via the multiple regression analysis used in this study, then there should be no change in relative marginal productivity before and after January 1, 1969 — the date of the equal pay legislation. Consequently any shift in the wage differential could be attributed to the equal pay legislation, even though not all of the differential represented sex discrimination.

As table 1 illustrates, none of the occupations exhibited any statistically significant narrowing of the male-female wage differential over time. In five of the nine occupations, the differential exhibits a significant upward trend of about 1 to 2 percentage points per year. It appears that the passage of time will not narrow the male-female wage gap: in fact it is widening over time.

As the regression coefficient for the unemployment rate variable indicates, the cyclical pattern of male-female wage differentials is mixed. In two occupations (one and four) the differential narrows in prosperity when the unemployment rate is low. In three occupations (five,

TABLE I

**Regression results for Male-Female Wage Differentials in  
9 Select Occupations, 1946-71  
— Dependent Variable ( $W_m - W_f$ ) /  $W_f$  —**

Occup.	Constant	Time	Unemployment	Equal Pay	R <sup>2</sup>	D.W.
1.	.3107 (3.49)	-.0010 (-.59)	.0266** (2.79)	-.0724 (-2.02)	.36*	1.73
2.	-.1210 (-.85)	.0084** (3.05)	-.0073 (-.47)	-.1027 (-1.80)	.32*	1.74
3.	.2473 (1.96)	.0030 (1.23)	-.0140 (-1.04)	.0590 (1.16)	.21	2.01
4.	-.3917 (-2.40)	.0115** (3.64)	.0428* (2.49)	-.0181 (-.28)	.67**	1.84
5.	-.6197 (-3.14)	.0202** (5.23)	-.0764** (-3.62)	.0612 (2.03)	.72*	.78+++
6.	.1979 (1.24)	.0065* (2.12)	-.0741** (-4.34)	.1412* (2.20)	.55**	1.41+
7.	-.7651 (-3.95)	.0232** (6.19)	-.0623** (-3.01)	-.0346 (-.44)	.69**	1.03++
8.	.1472 (1.43)	.0007 (.33)	-.0029 (-.26)	-.0439 (-1.06)	.06	2.13
9.	.5228 (4.30)	-.0045 (-1.93)	.0071 (.54)	.0849 (1.73)	.17	1.68

Notes: The regression equation is  $(W_m - W_f)/W_f = b_0 + b_1T + b_2U + b_3L$

Sample size is 26, based on years 1946-71.

\*\*Significant at .01 level, \*Significant at .05 level (t values in parentheses)

+++Positive serial correlation at .01 level, ++Positive serial correlation at .05 level but inconclusive at .01 level, + inconclusive at .05 level but no serial correlation at .01 level.

The 9 occupations (and industry affiliation) and mean proportionate wage difference are:

1. General bakery helper (Bakeries) .33
2. Circular knitter (Hosiery and knitted goods) .33
3. Hand operator (Hosiery and knitted goods) .38
4. Cutter (Hosiery and knitted goods) .42
5. Assembler (motor vehicle parts and accessories) .33
6. Inspector (motor vehicle parts and accessories) .35
7. Machine Operator (motor vehicle parts and accessories) .39
8. Assembler (Household radio and television receivers) .17
9. Coil winder (Electrical industrial equipment) .29

A significant F-statistic for the overall relationship is denoted by \* or \*\* on the R<sup>2</sup>.

six and seven) the differential widens during prosperity. For the remaining four occupations there is no significant cyclical pattern. Furthermore, the narrowing of the differential during prosperity is small (about .03 and .04) in occupations one and four compared to the widening (about .08, .07 and .06) in occupations five, six and seven. Overall, it seems that full employment policies associated with periods of prosperity will do little to narrow male-female wage differentials. In fact, the differentials may even tend to widen during prosperity.

The results for the equal pay variable are also mixed. Only occupation six has a statistically significant shift in the male-female wage differential, with the gap widening in the post-legislation period. However, at a lower (.10) level of significance, the wage differential in occupations one and two narrowed significantly, and in occupations five and nine the gap widened. The transferral of equal pay provisions from the Human Rights Act to the Employment Standards Act has not had a market effect on reducing male female wage differentials, at least in the occupations analysed in this study. This conclusion is supported by a cross-section analyses of a larger number of occupations (See Gunderson, forthcoming).

The overall picture that emerges from the time series analysis is rather negative. The male-female wage differential appears to be growing over time. Full employment policies cannot be relied upon to narrow the differential. And most important from a policy point of view, equal pay legislation does not appear to be capable of narrowing the differential.

These conclusions are not substantially altered by alternative forms of the regression model. (Results are available from the author on request). Correcting for the positive serial correlation in occupations five and seven, barely alters the magnitude of the regression coefficients: neither the sign nor statistical significance of any coefficients change. Lagging the unemployment rate in the nine occupations has no appreciable effect, except that the time trend variable for occupation nine becomes significantly negative.

Using a nonlinear time variable represented by two regressors — time and time squared — does alter the results slightly. In general, the nonlinear time pattern exhibits a narrowing of the male-female wage differential in the early 1950's and widening in the late 1950's and 1960's. Presumably, this reflects a relative scarcity of females in the post-war period as they tended to leave the labour force and return to the house-

hold; and it reflects the relative abundance of female workers in the 1960's as they entered the labour force in large numbers.

The effect of unemployment is substantially the same whether we use a nonlinear or linear time trend, except that under nonlinear time the unemployment rate for occupations four and seven lose their statistical significance. Since they are of opposite sign, this does not alter the basic conclusion that the male-female wage differential does not narrow during periods of prosperity.

When the time trend is entered in a nonlinear fashion the equal pay variable does show a significant narrowing of the male-female wage differential for occupations two and seven. In addition, at a lower (.10) level of significance, occupations five and six also exhibit a significant narrowing of the wage gap. This suggests that we can be less certain of the conclusion that equal pay has not had a significant impact in narrowing male-female wage differentials.

Based on the limited evidence of this study, the following conclusions emerge. The male-female wage differential has widened over time, especially during the 1960's. There is no narrowing of the differential during periods of prosperity; in fact, it may even widen in such times. There is no clear narrowing of the differential in response to the equal pay legislation of 1969\*.

### **L'évolution des écarts de salaire entre hommes et femmes en Ontario de 1946 à 1971**

Bien qu'il existe aujourd'hui des études plus nombreuses sur les causes déterminantes des différences de salaires entre les hommes et les femmes, on en compte que peu, s'il y en a, qui soient approfondies sur l'effet du facteur temps en rapport avec ces différences. L'écart s'est-il resserré avec les années? Se resserre-t-il ou s'élargit-il à la pointe d'un cycle économique? S'est-il resserré au cours des dernières années par suite d'une application plus rigoureuse de la législation en matière d'égalisation des salaires? L'article précédent tente d'y répondre à partir des statistiques publiées en Ontario pendant la période 1946-1971.

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\* This paper is based on a larger study prepared for the Ontario Ministry of Labour. Since authors are encouraged to express their own judgment freely, the report does not necessarily represent the Ministry's opinion or policy. Without implicating then for what remains, I am grateful for helpful comments from Jack Carr, David Foot, John Sawyer and Gerald Starr. For excellent research assistance, I am indebted to John Ham, Norman Li and Rita Martin.

Depuis la fin de la deuxième guerre, les séries de statistiques sur les taux de salariés payés aux hommes et aux femmes pour une occupation rigoureusement décrite sont disponibles dans les rapports annuels, taux de salaires, traitements et heures de travail publiés par le ministère du travail du Canada. Pour la période 1946-1971, la série n'est continue que dans le cas de neuf fonctions.

De rapport théorique entre la différence de salaire et le passage du temps, le cycle économique et la législation sur l'égalisation des salaires y est d'abord établie. Ensuite, il fut procédé à une analyse de régression de la différence proportionnelle de salaire entre les hommes et les femmes pour chacune des neuf fonctions, selon le taux de chômage et une variable artificielle indiquant les années où la législation relative à l'égalisation des salaires se trouvait en vigueur.

Les résultats arithmétiques ont démontré qu'aucune des occupations n'indiquait au point de vue statistique un quelconque resserrement significatif dans le temps des différences de salaire entre les hommes et les femmes. En réalité, sur cinq des neuf emplois, l'écart montre une tendance vers la hausse de un à deux pour cent par année. Il ressort de là que, avec les années, loin de se resserrer, l'écart s'accroît.

Lorsque l'on considère les faits en fonction des cycles économiques, les résultats s'enchevêtrent. En période d'abondance, quand le taux de chômage est bas, l'écart se resserre légèrement dans deux fonctions, s'élargit considérablement dans trois autres et ne bouge à peu près pas dans les quatre dernières. D'une façon générale, il semble que les politiques de plein emploi associées à des périodes de prospérité n'aient que peu d'effet sur les différences de salaire entre les hommes et les femmes. Plus, les écarts peuvent tendre à s'accroître durant les époques de prospérité.

En ce qui concerne la variable de la législation relative à l'égalisation des salaires, une seule occupation permet de constater un changement significatif après l'adoption de la mesure, changement qui démontre vraiment un élargissement de l'écart.

Le transfert des stipulations concernant l'égalisation des salaires du *Human Rights Act* à l'*Employment Standards Act* n'a pas eu d'effet marqué sur la réduction de la différence entre les salaires des hommes et ceux des femmes, du moins pour les occupations qui sont analysées dans cette étude. Cette conclusion est confirmée par un travail concomitant de l'auteur fondé sur l'analyse d'un échantillonnage d'un nombre plus considérable de fonctions.

Ces conclusions ne sont pas substantiellement modifiées par des modifications à l'analyse de régression. La correction de la corrélation sérielle dans le cas de deux occupations et la suppression du taux de chômage dans l'ensemble des occupations n'a pas d'effet appréciable. L'utilisation d'une variable chronologique non linéaire ne change pas beaucoup les résultats. D'une façon générale, le modèle chronologique non linéaire indique un resserrement de l'écart au commencement de la décennie 1950 et son élargissement vers la fin de la même période ainsi qu'au cours des années 1960. Il se peut que cela refléchisse une pénurie relative de femmes pendant la période d'après-guerre alors qu'elles avaient tendance à abandonner le marché du travail et à retourner au foyer, tout comme on peut y reconnaître l'abondance relative des femmes dans les années 1960 alors qu'elles retournaient en grand nombre sur le marché du travail. Lorsqu'on fait intervenir l'élément temps d'une façon non linéaire, malgré les mesures d'égalisation des salaires entre hommes et femmes, force est de constater un resserrement des écarts pour deux fonctions. Ceci laisse entrevoir que nous devons être moins sûr de l'impact qu'ont pu avoir ces mesures.

En se fondant sur les résultats limités de cette étude, il est possible d'en tirer les conclusions suivantes. La différence de salaire entre les hommes et les femmes s'est élargie avec les années, surtout pendant la décennie 1960. L'écart tend à s'amenuiser durant les périodes de prospérité. En réalité, elle peut augmenter à certaines époques. De toute façon, il n'en ressort pas clairement que la politique d'égalisation des salaires ait favorisé la diminution de l'écart.

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