

Changes in Relative Female-Male Unemployment : a Canadian-United States Comparison

Le chômage chez les hommes et les femmes au Canada et aux États-Unis

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Résumé de l'article

L'auteur du présent article se propose d'examiner les principales variables qui déterminent la structure des taux relatifs de chômage chez les hommes et chez les femmes aux États-Unis et au Canada. Ces deux variables sont le niveau de l'activité économique et le taux de participation respectif des hommes et des femmes aux deux marchés du travail.

L'auteur a de plus sectionné les séries statistiques en sous-périodes de façon à détecter et quantifier les changements qui se sont produits au cours des années. Ces changements, il les attribue à trois facteurs: les modifications dans la structure du chômage, les modifications du degré de discrimination dans l'emploi par rapport au sexe de l'employé et les variations dans le taux de participation à la main-d'oeuvre. Comme premier facteur, on retrouve évidemment le chômage, plus précisément le chômage structurel qui existe lorsqu'une personne est sans travail alors qu'il y a des emplois vacants que cette personne ne peut occuper. À ce propos, on pourrait s'attendre à ce que le chômage structurel soit plus élevé chez les femmes que chez les hommes, si celles-ci sont moins qualifiées, moins expérimentées ou moins mobiles que les hommes. Cette conclusion ne s'avère juste que dans la mesure où les taux de participation se rapprochent.

Le deuxième élément serait la discrimination que pourraient exercer les employeurs dans l'embauchage des femmes. Sur ce point, il est vraisemblable que cette discrimination s'accroît en période de récession, mais cette pression a tendance à diminuer du fait que les emplois féminins ont plus de stabilité que les emplois masculins.

Le troisième facteur qui pourrait influencer le rapport entre le chômage chez les hommes et le chômage chez les femmes est le taux de participation à la main-d'oeuvre. Ainsi, une augmentation du taux de participation d'une des deux catégories aurait pour conséquence l'accroissement du chômage au sein de ce groupe. Mais, ici, il faut noter que les hommes et les femmes ne postulent pas les mêmes postes de travail, d'où il s'ensuit qu'un accroissement du nombre de femmes sur les marchés du travail peut être la cause d'un chômage plus prononcé dans certaines occupations et dans certaines industries à prédominance d'emplois féminins.

Quand on compare la situation du Canada à celle qui existe aux États-Unis, on découvre que le taux de chômage est plus élevé chez les femmes que chez les hommes aux États-Unis, alors que l'on observe le phénomène contraire au Canada. L'explication plausible de cette situation provient du fait que le taux de participation des femmes est plus haut aux États-Unis qu'au Canada, alors que le taux de participation des hommes est à peu près le même dans les deux pays.

Au fur et à mesure des années, le taux de participation des femmes s'accroît dans les deux pays, mais il y a une différence marquée dans le taux de croissance. Parti d'un niveau plus bas, le taux de participation croît deux fois plus vite au Canada. On peut dire qu'un même que les femmes sont moins exposées au chômage au Canada qu'aux États-Unis, la raison en étant un taux de participation plus faible. À mesure que le taux de participation des femmes se rapprochera du taux des États-Unis, on peut penser que le risque de chômage pour elles ira en augmentant.

En regard du chômage cyclique, l'auteur observe que, d'une façon générale, les femmes sont moins touchées que les hommes. Il attribue cette situation aux motifs suivants: la main-d'oeuvre féminine est concentrée dans des secteurs d'activité moins instables; les femmes, en plus grand nombre, appartiennent à ce que l'on désigne sous le nom de main-d'oeuvre secondaire qui se retire du marché dans les périodes creuses de sorte que la position apparemment plus favorable des femmes en périodes de crise économique serait illusoire en un certain sens.

L'auteur remarque que, quand le taux de participation des femmes est très bas par rapport à celui des hommes, l'augmentation initiale du taux de participation des femmes provient de femmes qui, à cause de la discrimination ou de leurs obligations familiales, sont demeurées à l'écart du marché du travail, ce qui explique que celui-ci les absorbe facilement lorsqu'elles décident d'y rentrer. Ce moment passé, une fois que les femmes les plus qualifiées ont trouvé de l'emploi, toute nouvelle addition est formée de sujets de moindre qualification que le marché du travail a plus de difficulté à absorber.

Dans la dernière partie de son étude, l'auteur étudie l'aspect des changements dans le chômage structurel. Il reconnaît qu'il est difficile de mesurer l'ampleur de cette forme de chômage à cause de l'insuffisance de la demande et des conséquences du chômage cyclique. De plus, étant donné le fait des variations de l'activité économique, il faut tenir compte que le désir d'entrer sur le marché du travail peut influencer sur le taux de chômage. Le taux de participation lui-même n'est pas à l'abri des influences structurelles et cycliques. La volonté de la femme d'entrer sur le marché du travail est soumise à deux forces contraires. Elle peut être poussée à y entrer par des contraintes d'ordre économique, pour accroître le revenu de la famille; elle peut également être amenée à s'en abstenir parce qu'elle considère qu'il est trop difficile, dans les périodes de récession, de trouver un emploi. Elle peut enfin décider de ne pas se mettre à la recherche d'emploi parce qu'elle ne se croit pas suffisamment compétente ou à cause de ses obligations familiales.

Bref, sa volonté de faire partie de la main-d'oeuvre subit l'influence de considérations diverses. On peut aussi ajouter qu'elle redoute parfois la discrimination à cause de son sexe.

En conclusion de cette analyse des séries statistiques pour la période de 1950 à 1973, l'auteur conclut que le niveau du chômage dans son ensemble et le taux de participation respectif des hommes et des femmes au marché du travail expliquent en bonne partie les pourcentages de variations dans le taux de chômage pour l'un et l'autre sexes dans les deux pays. Quand le taux de chômage général s'accroît, la situation des hommes est pire des deux côtés de la frontière. L'examen des statistiques démontre que, en période de récession, l'amélioration relative de la situation des femmes par rapport à celle des hommes est un peu moins marquée au Canada qu'aux États-Unis. D'un autre côté, le taux de participation à la main-d'oeuvre de l'un et l'autre sexes joue un rôle important au Canada pour expliquer le rapport entre le chômage chez les hommes et chez les femmes. Ce fait est attribuable principalement au bas niveau au départ du taux de participation des femmes, puis à son accélération rapide au cours des dernières années.

Il est difficile d'isoler les changements de structure dans l'économie nationale. Ceci est vrai quand il s'agit d'analyser la situation du marché du travail en tant que les hommes et les femmes sont concernés. Il semble, cependant, que, depuis 1957 environ, des changements structurels plus significatifs se soient produits, changement qui proviennent de l'action combinée du taux général de chômage et la variation des taux de participation à la main-d'oeuvre pour les hommes et les femmes, et qui expliquent les variations dans les taux de chômage pour les travailleurs de l'un et l'autre sexe.

Changes in Relative Female Male Unemployment

A Canadian-United States Comparison

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and

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This paper seeks to examine the impact of the level of cyclical economic activity and of the relative female-male participation rates on the structure of the relative unemployment rates of women and men.

In this paper we intend to examine the impact of two major variables which determine the structure of the relative unemployment rates of women and men. These variables are the level of cyclical economic activity, as measured by the overall unemployment rate, and the relative female-male participation rates. Empirical tests will be conducted for Canada and the United States so that comparisons of the two labour markets can be made. The data for each country will also be broken into subperiods in an attempt to detect and quantify any structural shifts that may have occurred in the level of female-male unemployment rates.

We will call S the ratio which measures the relative unemployment level of the sexes so that $S = \frac{U_w}{U_m}$, where U_w and U_m are the respective unemployment rates of women and men. Under perfectly competitive conditions the expected value of S would be one. If men and women were equally skilled and mobile, and if the labour market was free of discrimination by sex, the two unemployment rates would be the same regardless of the cyclical state of the economy. It would also be true that if $\frac{dS}{dt} > 0$, women's relative unemployment would be worsening

over time, and conversely if $\frac{dS}{dt} < 0$, women's relative unemployment would be improving. For purposes of discussion, changes in the measure of relative unemployment (S) can be attributed to three factors —

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changes in structural unemployment, changes in the degree of discrimination by sex, and changes in relative participation rates.

In the strictest sense of the concept, a person is structurally unemployed if he or she is unemployed despite the existence of job openings which that person is not qualified to fill. Under the strict definition of structural unemployment, we would expect a relatively greater percentage of women to be unemployed if women are less educated, less skilled and less mobile than men. This conclusion would hold true only under the strong assumption that the participation rates for both sexes were the same. If structural unemployment exists, and if either men or women are more subject to the influence of structural bottlenecks, then structural unemployment can be a contributing factor to the deviation of S from unity.

The second factor, which is related to structural unemployment and which affects the female-male unemployment ratio, is the possible existence of a bias in hiring on the part of employers. Thus, given identical education, skill, mobility and participation characteristics, S may differ from unity due to the existence of labour market discrimination by sex, e.g. employer bias against hiring women would result in S being greater than one. Other things being equal, the existence of this discrimination is likely to be increasing during an economic downturn. With a high level of total unemployment, employers will find it easier and less costly to discriminate against women in their hiring policy if they so desired. Counteracting this potential discriminatory pressure is the fact that the industrial distribution of women's jobs tends to make their employment less cyclically volatile than men's employment.¹

The third factor which may influence the female-male unemployment ratio is the relative participation rate of the two groups, $\frac{P_w}{P_m}$, where

¹ This conclusion, regarding the greater stability of women's employment due to the different industrial distribution of the labour force by sex in both countries, is supported by several authors. Examining Canadian data on unemployment, Sylvia OSTRY and Mahmood Z. ZAIDI (1972) state that «The lower female rate reflects, in part, the greater concentration of women in jobs that are less susceptible to unemployment-white collar work, service-producing industries.» (p. 133). Regarding the United States case, Beth NIEMI (1974), observes «...the differing industrial distribution of the male and female labor forces, with women tending to be concentrated in less cyclically volatile sectors, lowering the unemployment rate of women relative to that of men.» (p. 331)

P_w and P_m are the participation rates of women and men, respectively, We will let P^* represent $\frac{P_w}{P_m}$. Assuming no change in the level of economic activity, we would expect that an increase in the participation rate for one group will be associated with an increased unemployment rate for that group, under the assumption of a non-homogeneous labour force. In the case of a homogeneous labour force in a perfectly competitive market, an increase in the participation rate of women would have an equal impact on both men's and women's unemployment. Given the same total demand for labour, the increased supply of women should lead to a proportionate increase in the unemployment rate in both sectors. Thus the relative unemployment rate would be unchanged. However, under the more realistic assumption of a non-homogeneous labour force, an increase in the participation rate of one group should put relatively more pressure on the unemployment rate of that group. Women and men frequently do not compete for the same jobs. Therefore, an influx of women into the labour market will put relatively more unemployment pressure in certain occupations and industries. It follows that a change in relative participation rate (P^*) would lead to a change in the relative unemployment rate (S). We would therefore expect that when the participation rate for women increases with respect to that of men, there will be some pressure for S to increase.

TRENDS IN UNEMPLOYMENT AND PARTICIPATION RATES

An examination of Tables 1 and 2 provides an overview of the relative performance of the relevant data for both countries from 1950 to 1973. It is immediately evident that with the exception of one year (1958, when they were equal) the rate of women's unemployment exceeds that of men in the United States, while for every year Canadian women's unemployment was less than that of Canadian men. This difference is reflected in the fact that the relative female-male unemployment rate (S) averages 1.31 for the United States and .59 for Canada. In addition to having a lower average unemployment rate than their United States counterparts (3.2 vs. 5.5), Canadian women have had a relative advantage with respect to Canadian males. This has not been the situation with respect to the female-male unemployment rates in the United States.

The probable explanation for this phenomenon lies on the supply side of the labour market as represented by female-male participation

rates in both countries. At the beginning of the time period studied the participation rate for Canadian women was 23.2%, a figure considerably lower than the corresponding United States rate of 33.9%. However, at that time, and throughout the period studied, the corresponding male participation rates did not differ significantly. In both countries, the male participation rates fell at almost the identical pace (-.45% for United States and -.47% for Canada). On the other hand, the female participation rate in both countries was growing but there was a significant difference in their rates of growth.

TABLE 1

**Absolute and Relative Unemployment and Participation Rates
in Canada by Sex: 1950-1973 (Percentages)**

	U_w	U_m	S	P_w	P_m	P^*
1950	2.4	4.2	57.1	23.2	84.0	27.6
1951	2.1	2.8	75.0	23.5	83.9	28.0
1952	2.2	3.2	68.8	23.7	83.4	28.4
1953	1.6	3.4	47.1	23.4	82.9	28.2
1954	2.6	5.1	51.0	23.7	82.2	28.8
1955	2.6	4.9	53.1	23.9	82.1	29.1
1956	1.9	3.8	50.0	24.9	82.2	30.3
1957	2.3	5.3	43.4	25.8	82.3	31.3
1958	3.6	8.2	43.9	26.2	81.7	32.1
1959	3.0	7.0	42.9	26.7	81.0	33.0
1960	3.6	8.2	43.9	27.9	80.7	34.6
1961	3.7	8.4	44.0	28.7	79.8	36.0
1962	3.3	6.9	47.9	29.0	79.1	36.7
1963	3.3	6.4	51.6	29.6	78.5	37.7
1964	3.1	5.3	58.5	30.5	78.1	39.1
1965	2.7	4.4	61.4	31.3	77.9	40.2
1966	2.6	4.0	65.0	32.8	77.8	42.2
1967	3.0	4.6	65.2	33.8	77.5	43.6
1968	3.4	5.5	61.8	34.4	77.0	44.7
1969	3.6	5.2	69.2	35.2	76.6	46.0
1970	4.5	6.6	68.2	35.5	76.4	46.5
1971	5.1	7.0	72.9	36.5	76.1	48.0
1972	5.3	6.8	77.9	37.1	76.2	48.7
1973	5.1	5.8	87.9	38.7	76.8	50.4
AVERAGE	3.2	5.5	58.7	29.4	79.8	37.1

Note: U_w = Women's Unemployment Rate.

U_m = Men's Unemployment Rate

P_w = Participation Rate for Women.

P_m = Participation Rate for Men.

$$S = \frac{U_w}{U_m}$$

$$P^* = \frac{P_w}{P_m}$$

TABLE 2

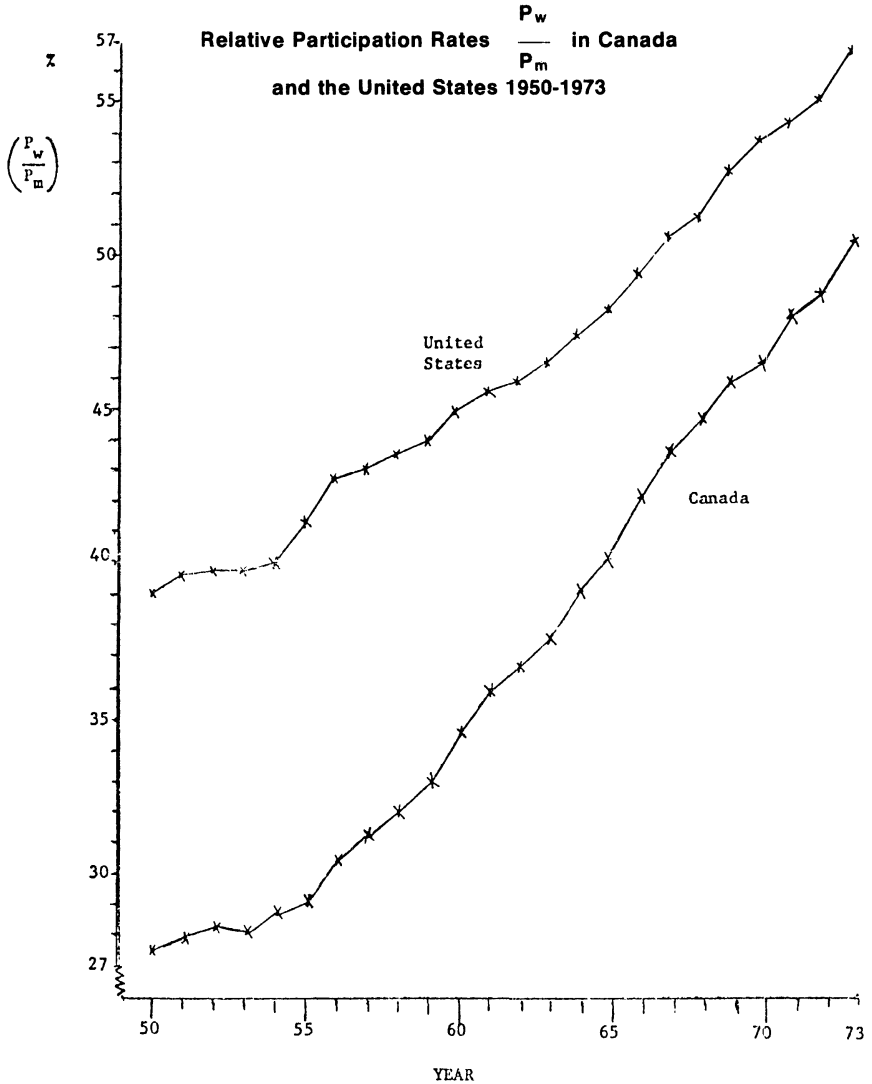
**Absolute and Relative Unemployment and Participation Rates
in the U.S. by Sex : 1950-1973 (Percentages)**

	U_w	U_m	S	P_w	P_m	P^*
1950	5.7	5.1	111.7	33.9	86.8	39.1
1951	4.4	2.8	157.1	34.7	87.3	39.7
1952	3.6	2.8	128.6	34.8	87.2	39.9
1953	3.3	2.8	117.9	34.5	86.9	39.7
1954	6.0	5.3	113.2	34.6	86.4	40.0
1955	4.9	4.2	116.7	35.7	86.2	41.4
1956	4.8	3.8	126.3	36.9	86.3	42.7
1957	4.7	4.1	114.6	36.9	85.5	43.1
1958	6.8	6.8	100.0	37.1	85.0	43.6
1959	5.9	5.3	111.3	37.2	84.5	44.0
1960	5.9	5.4	109.3	37.8	84.0	45.0
1961	7.2	6.4	112.5	38.1	83.6	45.6
1962	6.2	5.2	119.2	38.0	82.8	45.9
1963	6.5	5.2	125.0	38.3	82.2	46.6
1964	6.2	4.6	134.8	38.7	81.9	47.3
1965	5.5	4.0	137.5	39.3	81.5	48.2
1966	4.8	3.2	150.0	40.3	81.4	49.5
1967	5.2	3.1	167.7	41.2	81.5	50.7
1968	4.8	2.9	165.5	41.6	81.2	51.2
1969	4.7	2.8	167.9	42.7	80.9	52.8
1970	5.9	4.4	134.1	43.4	80.6	53.8
1971	6.9	5.3	130.2	43.4	80.0	54.3
1972	6.6	4.9	134.7	43.9	79.7	55.1
1973	6.0	4.1	146.3	44.7	78.8	56.7
AVERAGE	5.5	4.4	130.5	38.7	83.4	46.5

Notes : for symbols see Table 1.

After starting at a lower level, the participation rate for Canadian women increased over twice as fast as the participation rate for women in the United States (2.42% for Canada and 1.19% for the United States). Despite the fact that female participation is still lower in Canada than it is in the United States, the faster rate at which Canadian women are entering the labour force has significantly narrowed the gap between the two rates. In 1950 the female participation rate in the United States was 46.1% greater than the comparable Canadian figure, while by 1973 the difference had been reduced to 15.5%. The above described levels and trends in the male and female participation rates in both countries resulted in a relatively lower but faster rising P^* in Canada. (See Figure 1).

FIGURE 1



The apparent advantage that Canadian women have with respect to being employed may have resulted from the lower level of their labour force participation. The above described changes may negate this advantage and may now increase their probability of being unemployed. That hypothesis will be examined in our empirical tests.

EMPIRICAL RESULTS

The results of the empirical tests for the regression of relative unemployment (S) on total unemployment (U_T) and relative participation rates (P^*) for Canada and the United States for the total period 1950-73 are reported in Tables 3 and 4. (In the regressions U_T is entered as a percentage and S and P^* as ratios).

The simple regression of S on U_T for both countries does not yield significant results for the Canadian case. However, with the addition of participation rates, both independent variables are significant at the 99% level for both countries.

TABLE 3

Regression Results for Relative Unemployment (S) on Total Unemployment (U_T) and Relative Participation Rates (P^*) for Canada (1950-1973)

	<i>Constant</i>	U_T	P^*	P^{*2}	R^2	F
(1)	.677 (.127) ^A	-.018 (.019) ^B			.04	.88
(2)	.312 (.081) ^A	-.050 (.014) ^A	1.401 (.243) ^A		.63	17.75
(3)	2.214 (.055) ^A	-.036 (.010) ^A	-9.247 (2.133) ^A	13.821 (2.760) ^A	.84	33.75

The standard errors are given in parentheses.

(A) indicates a 99% significance level; (B) indicates an insignificant coefficient.

TABLE 4

Regression Results for Relative Unemployment (S) on Total Unemployment (U_T) and Relative Participation Rates (P^*) for United States (1950-1973)

	<i>Constant</i>	U_T	P^*	P^{*2}	R^2	F
(1)	1.812 (1.62) ^A	-.107 (0.31) ^A			.35	12.01
(2)	.818 (.104) ^A	-.122 (.020) ^A	2.294 (.400) ^A		.75	31.20
(3)	-.777 (.104) ^A	-.126 (.020) ^A	9.187 (8.072) ^B	-7.267 (8,501) ^B	.76	20.78

The standard errors are given in parentheses.

(A) indicates a 99% significance level; (B) indicates an insignificant coefficient.

Following the discussion set forth in the previous section on the rapid increase in women's participation in Canada, we introduced participation rates in a non-linear form in equation 3. The non-linear impact of P^* is justified since its more rapid growth rate imposes an accelerated pressure on the labour market for women in Canada. Since both P^* and P^{*2} are significant in the Canadian case we have evidence of the hypothesized non-linear relationship between relative unemployment and relative participation rates in Canada. The first and second partial derivatives of equation 3 for Canada indicate that the relationship between S and participation rates is one that is increasing at an increasing rate, i.e. $\frac{\partial S}{\partial P^*} > 0$, and $\frac{\partial^2 S}{\partial P^{*2}} > 0$, starting at the point where $P^* = .335$. This point will be pursued later.

The introduction of a similar non-linear relationship does not add anything to the explanatory power of the participation variable in the United States, since the coefficients for both P^* and P^{*2} are insignificant in equation (3). The insignificant increase in the R^2 , and the fall in the F values from equation (2) to equation (3) imply that multicollinearity exists between P^* and P^{*2} . That being the case, we can say that the linear form of the participation variable best describes the United States situation. Using the coefficients of determination, and the t and F values, as our criteria Equation 2, Table 4 best describes the relationship between relative unemployment, total unemployment and participation rates for the United States. Under the same criteria, Equation 3, Table 3 yields the most significant results for Canada. A further examination of both of these equations reveals a negative coefficient for the unemployment variable. This result is consistent with our earlier discussion with respect to the relative stability of women's unemployment vis-à-vis cyclical fluctuations in the economy. As the unemployment rate rises in both countries, the unemployment rate for men rises faster than the unemployment rate for women. Conversely, women become relatively worse off in economic upswings. It is interesting to note that the unemployment coefficient is not as great in Canada as it is in the United States indicating that S is less sensitive to cyclical fluctuations in Canada. However, as we will see shortly, participation rates play the more important role in the Canadian case.

The inverse relationship between S and U can be attributed in part to the relative cyclical insensitivity of women's unemployment due to the concentration of women in sectors of the economy which are less cyclically volatile. In addition, since women make up a large percentage of the secondary labour force we might expect a negative

coefficient if, on balance, the discouraged worker effect outweighed the additional worker effect in both countries. If this is the case, as several authors have suggested², then the apparent improvement in the unemployment position of women with respect to men in economic downturns is to some extent illusory. That is to say, on net balance more women leave the labour force than enter it, and thus their reported unemployment rate understates their «real» unemployment rate.

The above results also suggest that the combination of the relative cyclical insensitivity of women's unemployment, and the discouraged worker effect outweigh the influence of any increased discrimination by sex that may occur in the labour market during an economic downswing.

It was previously stated that under perfectly competitive conditions we would not expect any correlation between relative participation and relative unemployment. However, due to the actual non-homogeneity of the two sectors (male-female) we anticipate a positive relationship between P^* and S . This positive relationship is based on the difficulty that one sector would have in absorbing additional workers without an increase in that sector's unemployment.

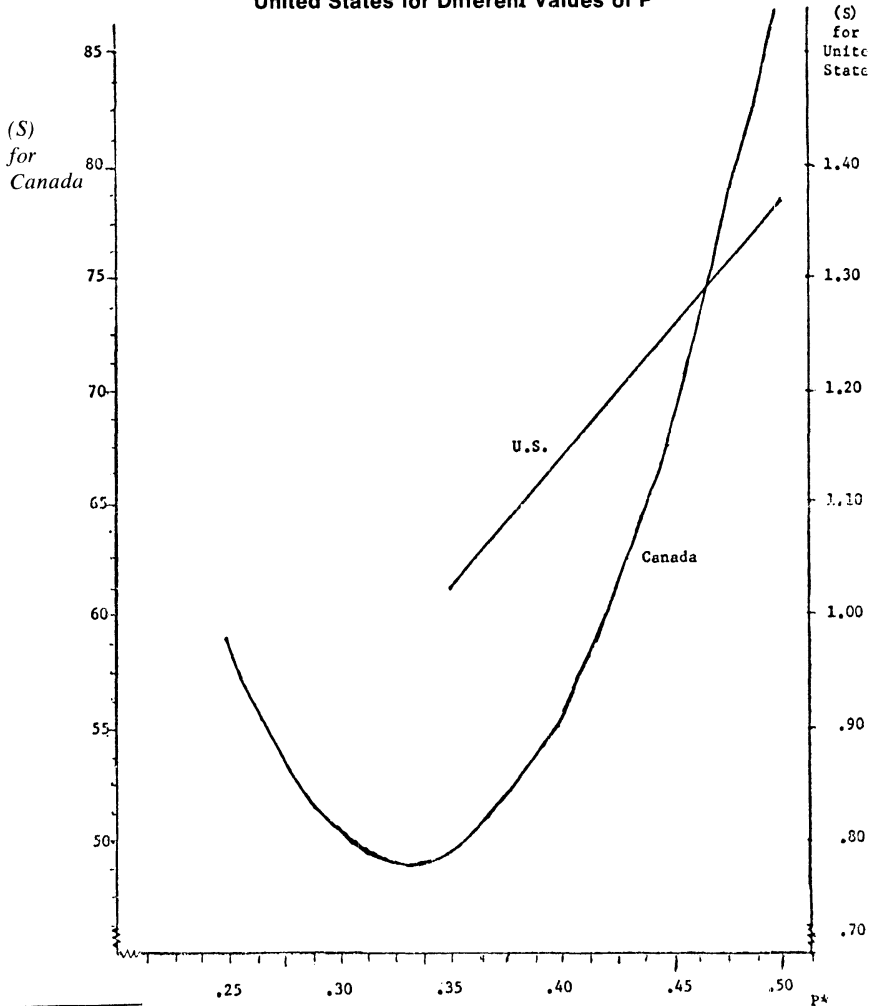
Figure 2 shows the relationship between P^* and S for both countries as generated by their respective regression equations (Equation 2, Table 4 for United States, Equation 3, Table 3 for Canada). The estimated values of S were calculated with the overall unemployment rate fixed at 4.9 percent, the average unemployment rate for Canada for the total time period studied. As can be readily seen, the United States curve describes a positive and linear relationship between P^* and S . However, the Canadian curve is non-linear, and initially has a negative slope before turning positive.

In our discussion on the existence of a positive relationship between P^* and S we mentioned the dichotomy of the labour market, and the potential difficulty of a sector's absorbing an increase in its labour force without causing a worsening of its relative position. We therefore have not as yet introduced any possibility for a negative relationship between P^* and S and must now consider a condition which could lead to such a negative relationship.

² For an example of the United States results, see Jacob MINCER (1966). For an example of the Canadian case, see J.T. MONTAGUE and J. VANDERKAMP (1966).

FIGURE 2

Estimated Values¹ for S in Canada and United States for Different Values of P*



1) Estimated from Equation 3 Table 3 for Canada; Table 4 Equation 2 for United States holding U_T at 4.9%.

It would seem likely that when the participation rate for women is very low relative to men's, the initial increase in women's participation is made mainly by those women who remained out of the labour force because of discrimination, family obligations, etc. *despite being*

relatively well trained.³ Thus, when they do decide to enter into the labour force, they are easily absorbed because of their relatively high skill levels. Consequently, S falls as these relatively higher skilled women begin to enter the labour force. After the initial introduction of the higher skilled workers, new additions to the labour force will be made by less skilled female workers. The labour market will find it more difficult to absorb these women, thereby worsening women's position. The change from a negative to a positive relationship between S and P^* occurs in the Canadian situation when the relative participation rate is approximately .335. A reason that this phenomena does not occur in the United States case is simply that observations do not exist for very low levels of relative participation for that country during the time period studied. Therefore, given the discussion on entry skill levels described above, the negatively sloped portion of the curve in Canada is caused by the very low participation rate of Canadian women relative to Canadian men that existed at the beginning of our time period.

CHANGES IN STRUCTURAL UNEMPLOYMENT: YES, NO, OR MAYBE?

The debate in the literature on the existence and measurement of structural unemployment has not resulted in a consensus answer to either question, although several authors have presented their alternative positions with varying degrees of certitude.⁴ The rigid definition of structural unemployment presented earlier would imply that a person is structurally unemployed if a job exists which he is unable to fill. Measuring the magnitude of structural unemployment, however, is first complicated by the existence of deficient demand and frictional unemployment. Secondly, in addition to the adjustment made for the cyclical changes in the economy, one could argue that a group's willingness to participate in the labour force could influence the level of that group's unemployment. Hence, a case can be made for the removal of participation rates from total unemployment in order that we might arrive at the structural component of that unemployment. Unfortunately, partic-

³ We are not primarily concerned here with why women decide to enter the labour force. It should be pointed out, however, that many explanations have been offered to explain their increasing participation. Among the reasons given are expanding job opportunities, decreased time necessary for housework, smaller family size, and seeking job fulfillment outside of the traditional family structure.

⁴ e.g., C. KILLINGSWORTH (1965); E. GILPATRICK (1966); Pierre-Paul PROULX (1964); L.E. GALLAWAY (1963); V. STOIKOV (1966); A.D. BUTLER (1967); Richard G. LIPSEY (1965); Mahmood Z. ZAIDI (1969).

icipation rates themselves are not free of cyclical and structural influences. A woman's willingness to enter the labour force may be influenced by two conflicting behavioural patterns with respect to the overall unemployment rate. First, she may enter the labour force to supplement family income (the additional worker hypothesis). Secondly, she may be reluctant to enter, or induced to leave the labour force, if she thinks that finding a job will be too difficult in recessionary periods (the discouraged worker hypothesis).

In terms of the structural components of participation rates, one can cite many instances where a woman's willingness to enter the labour force will be influenced by factors which normally are considered to be structural in origin. She may feel that she lacks the skills and education necessary to compete for existing job vacancies. If she is married, she may decide not to enter the labour force because of obligations imposed upon her by the traditional family structure. In short, her volition to participate in the labour force is certainly influenced by structural considerations.

The third factor which influences the overall level of women's unemployment is discrimination in hiring by sex. However, as is the case of discrimination by age or race, discrimination by sex can be considered to be a form of structural unemployment.⁵ The fear of being discriminated against may discourage some women from entering the labour force. Hence, the participation variable would once again contain an element of structural unemployment.

From the above discussion, which only represents a small part of the debate on measuring structural unemployment, one can understand why the controversy has not been resolved. It is not our intention to resolve that issue here, but our results may shed some light on the shift in structural unemployment that some authors claim to have taken place in the late fifties.

As 1957 was considered by many structural shift advocates to be a key year, we decided to examine the 1958-1973 subperiod and compare these results to the total time period. Taking the final equations for Canada and the United States (Equation 3, Table 3 for Canada and Equation 2, Table 4 for the United States) we tested both of them for the 1958-1973 time period.

The results were as follows : —

⁵ For a discussion of this point, see Richard PERLMAN (1969), pp. 177-195.

For Canada (1958-1973):

$$S = 2.111 - .032 U_T - 8.742P^* + 13.114P^{*2} \quad R^2 = .97$$

(.025) (.009) (2.690) (3.224) F = 143.5

For United States (1958-1973):

$$S = 1.362 - .159 U_T + 1.594P^* \quad R^2 = .90$$

(.072) (.020) (.486) F = 58.9

The standard errors are given in brackets, and all coefficients are significant at the 99% level.

In both the Canadian and United States case the R^2 increases significantly in the post-1957 period. (The R^2 for the United States goes from .75 to .90, and for Canada from .84 to .97). Using the coefficient of determination and F values as our criteria, we find that in the 1958-1973 model the unemployment and participation variables better explain the relative female-male unemployment rates in both countries. The increased explanatory power of our independent variables in the post 1957 period indicate that these variables are playing a greater role as determinants of relative unemployment in that period. In so far as those variables may have been subjected to the changing structural influences that were outlined earlier, this increased explanatory power may reflect a change in the structure of the female-male labour market. However, due to the difficulties described earlier in isolating the structural influences on the participation rate and the overall unemployment rate, it would be impossible to state categorically whether a structural shift did or did not take place. All we can state is that the combination of total unemployment and relative participation works better in explaining the more recent time period, and we offer this information as additional fuel for the continuing debate on changes in structural unemployment in both countries.

CONCLUSIONS

Our analysis indicates that the level of total unemployment and the relative female-male participation rate explain a large percentage of the movement in the ratio of the unemployment rates of the two sexes in both Canada and the United States.⁶ As total unemployment

⁶ In a recent article entitled «The Decline in the Female-Male Unemployment Differential in Canada 1961-72» appearing in *Notes on Labour Statistics 1973*, Statistics Canada Cat. No. 72-207E, March 1975, N. K. TANDAN looks at the determinants of changes in this differential. He includes factors that potentially effect participation rates (one of our major variables). However our concern is more with the role played by changes in participation rates rather than determinants of participation rates. He therefore

increases, men are made relatively worse off in both countries. An examination of the empirical results suggests that the relative improvement in the female position in cyclical downswings is not as great in Canada as it is in the United States.

Participation rates, on the other hand, play a more important role in explaining the movements in relative female-male unemployment in Canada. This fact, as well as the non-linear relationship between relative participation rates and relative unemployment in Canada, was attributed mainly to the initially low level and more rapid recent acceleration of women's participation in the labour force in Canada.

Any structural changes in an economy are, as most authors on the subject have pointed out, very difficult to isolate. This conclusion is particularly true for the female-male labour markets. Our results show, however, that the combination of total unemployment and relative participation rates explain the movements in the relative female-male unemployment rate more significantly in the post 1957 period in both countries. That result raises the question of potential structural shifts having occurred in the latter time period.

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Le chômage structurel chez les hommes et chez les femmes au Canada et aux États-Unis

L'auteur du présent article se propose d'examiner les principales variables qui déterminent la structure des taux relatifs de chômage chez les hommes et chez les femmes aux États-Unis et au Canada. Ces deux variables sont le niveau de l'activité économique et le taux de participation respectif des hommes et des femmes aux deux marchés du travail.

L'auteur a de plus sectionné les séries statistiques en sous-périodes de façon à détecter et quantifier les changements qui se sont produits au cours des années. Ces changements, il les attribue à trois facteurs: les modifications dans la structure du chômage, les modifications du degré de discrimination dans l'emploi par rapport au sexe de l'employé et les variations dans le taux de participation à la main-d'œuvre.

Comme premier facteur, on retrouve évidemment le chômage, plus précisément le chômage structurel qui existe lorsqu'une personne est sans travail alors qu'il y a des emplois vacants que cette personne ne peut occuper. À ce propos, on pourrait s'attendre à ce que le chômage structurel soit plus élevé chez les femmes que chez les hommes, si celles-là sont moins qualifiées, moins expérimentées ou moins mobiles que les hommes. Cette conclusion ne s'avère juste que dans la mesure où les taux de participation se rapprochent.

Le deuxième élément serait la discrimination que pourraient exercer les employeurs dans l'embauchage des femmes. Sur ce point, il est vraisemblable que cette discrimination s'accroît en période de récession, mais cette pression a tendance à diminuer du fait que les emplois féminins ont plus de stabilité que les emplois masculins.

Le troisième facteur qui pourrait influencer le rapport entre le chômage chez les hommes et le chômage chez les femmes est le taux de participation à la main-d'œuvre. Ainsi, une augmentation du taux de participation d'une des deux catégories aurait pour conséquence l'accroissement du chômage au sein de ce groupe. Mais, ici, il faut noter que les hommes et les femmes ne postulent pas les mêmes postes de travail, d'où il s'ensuit qu'un accroissement du nombre de femmes sur les marchés du travail peut être la cause d'un chômage plus prononcé dans certaines occupations et dans certaines industries à prédominance d'emplois féminins.

Quand on compare la situation du Canada à celle qui existe aux États-Unis, on découvre que le taux de chômage est plus élevé chez les femmes que chez les hommes aux États-Unis, alors que l'on observe le phénomène contraire au Canada. L'explication plausible de cette situation provient du fait que le taux de participation des femmes est plus haut aux États-Unis qu'au Canada, alors que le taux de participation des hommes est à peu près le même dans les deux pays.

Au fur et à mesure des années, le taux de participation des femmes s'accroît dans les deux pays, mais il y a une différence marquée dans le taux de croissance. Parti d'un niveau plus bas, le taux de participation croît deux fois plus vite au Canada. On peut dire quand même que les femmes sont moins exposées au chômage au Canada qu'aux États-Unis, la raison en étant un taux de participation plus faible. À mesure que le taux de participation des femmes se rapprochera du taux des États-Unis, on peut penser que le risque de chômage pour elles ira en augmentant.

En regard du chômage cyclique, l'auteur observe que, d'une façon générale, les femmes sont moins touchées que les hommes. Il attribue cette situation aux motifs suivants: la main-d'œuvre féminine est concentrée dans des secteurs d'activité moins instables; les femmes, en plus grand nombre, appartiennent à ce que l'on désigne sous le nom de main-d'œuvre secondaire qui se retire du marché dans les périodes creuses de sorte que la position apparemment plus favorable des femmes en périodes de crise économique serait illusoire en un certain sens.

L'auteur remarque que, quand le taux de participation des femmes est très bas par rapport à celui des hommes, l'augmentation initiale du taux de participation des femmes provient de femmes qui, à cause de la discrimination ou de leurs obligations familiales, sont demeurées à l'écart du marché du travail, ce qui explique que celui-ci les absorbe facilement lorsqu'elles décident d'y rentrer. Ce moment passé, une fois que les femmes les plus qualifiées ont trouvé de l'emploi, toute nouvelle addition est formée de sujets de moindre qualification que le marché du travail a plus de difficulté à absorber.

Dans la dernière partie de son étude, l'Auteur étudie l'aspect des changements dans le chômage structurel. Il reconnaît qu'il est difficile de mesurer l'ampleur de cette forme de chômage à cause de l'insuffisance de la demande et des conséquences du chômage cyclique. De plus, étant donné le fait des variations de l'activité économique, il faut tenir compte que le désir d'entrer sur le marché du travail peut influencer sur le taux de chômage. Le taux de participation lui-même n'est pas à l'abri des influences structurelles et cycliques. La volonté de la femme d'entrer sur le marché du travail est soumise à deux forces contraires. Elle peut être poussée à y entrer par des contraintes d'ordre économique, pour accroître le revenu de la famille; elle peut également être amenée à s'en abstenir parce qu'elle considère qu'il est trop difficile, dans les périodes de récession, de trouver un emploi. Elle peut enfin décider de ne pas se mettre à la recherche d'emploi parce qu'elle ne se croit pas suffisamment compétente ou à cause de ses obligations familiales.

Bref, sa volonté de faire partie de la main-d'œuvre subit l'influence de considérations diverses. On peut aussi ajouter qu'elle redoute parfois la discrimination à cause de son sexe.

En conclusion de cette analyse des séries statistiques pour la période de 1950 à 1973, l'Auteur conclut que le niveau du chômage dans son ensemble et le taux de participation respectif des hommes et des femmes au marché du travail expliquent en bonne partie les pourcentages de variations dans le taux de chômage pour l'un et l'autre sexes dans les deux pays. Quand le taux de chômage général s'accroît, la situation des hommes

est pire des deux côtés de la frontière. L'examen des statistiques démontre que, en période de récession, l'amélioration relative de la situation des femmes par rapport à celle des hommes est un peu moins marquée au Canada qu'aux États-Unis.

D'un autre côté, le taux de participation à la main-d'œuvre de l'un et l'autre sexes joue un rôle important au Canada pour expliquer le rapport entre le chômage chez les hommes et chez les femmes. Ce fait est attribuable principalement au bas niveau au départ du taux de participation des femmes, puis à son accélération rapide au cours des dernières années.

Il est difficile d'isoler les changements de structure dans l'économie nationale. Ceci est vrai quand il s'agit d'analyser la situation du marché du travail en tant que les hommes et les femmes sont concernés. Il semble, cependant, que, depuis 1957 environ, des changements structurels plus significatifs se soient produits, changement qui provient de l'action combinée du taux général de chômage et la variation des taux de participation à la main-d'œuvre pour les hommes et les femmes, et qui expliquent les variations dans les taux de chômage pour les travailleurs de l'un et l'autre sexe.