# Comparable Worth Comes to the Private Sector: The Case of Ontario [1]

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July 2000
First version: April 1999

[1] We thank Joanne Roberts for helpful discussions, Barry Hirsch, Caroline Weber and seminar participants at the BALE Workshop (Spring 1999), Chicago, the SOLE (1999) annual meetings, the University of Washington and Yale for comments, and Garnett Picot, René Morissette, and Steve Roller of Statistics Canada for facilitating our access to the data. Ali Bejaoui and Elisabeth Reynolds provided excellent research assistance and bibliographic assistance, respectively. Financial support was provided by CIRANO, Human Resources and Development Canada, the Social Sciences and Humanities Research Council of Canada (Baker: Grants #410-96-0187 and #410-99-0112, Fortin: Grant #410-96-0651), FCAR Québec and UC-Davis. All opinions expressed in this paper are the authors'.

# Abstract

We investigate the effect of pro-active comparable worth legislation—covering both the public and private sectors—on wages, the gender wage gap and the gender composition of employment. Our focus is the pay equity initiative of the Canadian province of Ontario in the early 1990s. We find that the legislation fell well short of its ultimate goal of reducing gender wage differentials. The primary reason is lapses in compliance and problems with the implementation of the law, especially among small firms. This evidence provides important lessons about the obstacles to extending pay equity to the private sector of a decentralized labor market. When we focus on those sectors of the labor market where compliance was most complete, our results suggest that any positive effects on the wages of women in female jobs were very modest. Our most consistently estimated effects of the law on wages are negative: slower wage growth for women in male jobs and for men in female jobs.

# 1. Introduction

In developed economies, pay equity/comparable worth programs are a common public policy response to gender wage differentials. Equal pay for work of equal value is a "basic right" in the European Union and is enshrined in Community law. The wage tribunals in Australia have long paid heed to the principle of comparable worth in wage determination. Pay equity is synonymous with the public sector in Canada and is now being extended to the private sectors of her two largest provinces. Finally, comparable worth has made many inroads in state and local governments in the United States. All but five states have initiated some level of pay equity activity, and eight states have actually implemented pay equity programs for their employees (Gardner and Daniel (1998)). Also, after more than a decade of neglect, comparable worth is re-emerging as a policy option at the federal level. For example, the *Paycheck Fairness Act* was endorsed in the State of the Union Address of January 2000.[2]

Proponents have long viewed comparable worth legislation as an essential remedy to historical labor market discrimination against women and minorities. The U.S. National Committee on Pay Equity (NCPE) argues that the "wage gap exists because most women and people of color are still segregated into a few low-paying occupations".[3] Furthermore, these "jobs have historically been undervalued and continue to be underpaid because of the gender and race of the people who hold them".

Despite such endorsement and the widespread adoption of comparable worth policies, there is little direct evidence of whether pay equity programs reduce the gender wage gap. Many of the arguments against the policy are theoretical (e.g., Killingsworth (1987)) or based in simulations (e.g., Beider, Bernheim, Fuchs and Shoven (1988), Ehrenberg and Smith (1987); Hundley (1992)). Many of the arguments for the policy are extrapolations

[2]The *Paycheck Fairness Act* would amend the *Equal Pay Act*, enhancing remedies for discrimination under the Act, providing more resources to the Equal Employment Opportunity Commission and allowing employees to freely discuss their salaries with their co-workers. The last decade has also seen the *Fair Pay Act* repeatedly submitted to Congress. This legislation would enable a more liberal interpretation of "equal value" (in the *Equal Pay Act* sense) than the courts have permitted.

[3]www.feminist.com/fairpay.htm.

from isolated applications of comparable worth in the local public sector to the entire labor market.

Some key questions are *i)* does a significant part of the gender wage differential result from the occupational segregation of males and females?, and if so *ii)* is comparable worth the appropriate policy response?, and if so *iii)* is comparable worth legislation a viable labor market regulation? There are a number of studies addressed to the first question, offering both larger (e.g., Johnson and Solon (1986)) and smaller (e.g., Macpherson and Hirsch (1995), Baker and Fortin (forthcoming)) estimates of the relationship between wages and the gender composition of employment. The answer to the second question is not clear, as some studies argue that an important component of the gender wage gap is due to wage differences across firms and industries, and thus outside the purview of comparable worth policies as traditionally conceived. Evidence to the third question is at best indirect. Comparable worth appears to "work" in the public sector, or centralized labor markets such as Australia's. This is not to say the way is straight and clear: a recent \$3+ billion pay equity settlement awarded to federal public sector workers in Canada was 16 years of negotiation and litigation in the making.

In this paper we offer new evidence which should put predictions of the potential effects of comparable worth policy on firmer ground. Our focus is a recent extension of pay equity to the private sector in the Canadian province of Ontario. Through the *Pay Equity Act*, Ontario legislated a pro-active application of comparable worth to public sector employers and all private sector employers of 10 or more employees. Ontario is a large province (11 million people) with a diversified economy. This episode, therefore, provides a unique opportunity to obtain direct evidence of the effect of comparable worth on a decentralized labor market.

The first part of the paper focuses on the much neglected issue of how employers comply with comparable worth policies. Whether viewed positively or negatively, to be effective pay equity must be practical. This issue is less important for other labor market regulations such as minimum wages or overtime rates. In each of these cases the regulation is conceptually simple and external to the firm. Therefore, lapses in compliance are primarily the result of employer malfeasance. The difference here is that comparable worth involves

the conceptually difficult step of making male and female jobs commensurate. The legislation can prescribe the principles by which these jobs should be compared, but not the specifics of the mechanism or the awards. Many previous applications of this policy have been to single employers or to labor markets with centralized wage determination or strong centralized unions. We know very little of how this policy functions in a decentralized labor market.

Our findings here are striking: comparable worth appears to be a complicated and unwieldy labor market regulation. We document the resulting lapses in compliance with the Act that were substantial, especially among small firms. Not coincidently, it is these firms that lack the clearly delineated job classifications and personnel systems needed to perform pay equity comparisons. Commentary on the Ontario legislation reveals that the effective bite of the legislation was blunted by the lack of male comparators for female jobs and the heterogeneity of comparable worth evaluation plans used by employers. These problems are far less likely to arise when pay equity is implemented in the public sector or in centralized labor markets, and a uniform pay equity plan can by applied to a large group of employees.

The second part of the paper is an empirical investigation of the effect of the Ontario law on wages, the gender wage gap, and the gender composition of employment. This is, to our knowledge, the first direct evaluation of the impact of comparable worth legislation on a decentralized labor market. Given the lapses in compliance, it is not surprising that we find the law had virtually no effect on the aggregate wages in female jobs or the gender wage gap. Focusing on those sectors of the labor market where the legislation appeared to have the greatest bite, however, we find that any effects of the law tended to be negative rather than positive: it suppressed wage growth for women working in blue-collar male jobs.

In our evaluation we take advantage of the fact that other Canadian provinces can serve as a natural control group for evaluating the effect of the Ontario legislation. We also exploit systematic lapses in compliance with firm size to control for province specific trends. These are important considerations, as the lack of a suitable control group has hindered evaluation of past economy-wide implementations of pay equity (e.g., Killingsworth (1990)).

## 2. How does Comparable Worth Work in a Decentralized Labor Market?

### *2.1. The Ontario Legislation*

Comparable worth was extended to the private sector of the Canadian province of Ontario through *Pay Equity Act* of 1987.[4] The legislation covers both the public sector and firms in the private sector with 10 or more employees. It is pro-active, and provides a detailed timetable for employers to both post pay equity plans and to provide the initial payments of any necessary wage adjustments. It also guides implementation of comparable worth defining male and female job classes, acceptable methods of wage comparison and establishes the Pay Equity Commission as a overseer and arbiter of the legislation.

The details of this pay equity law are fairly standard. Female job classes are those with 60% or more female workers while male jobs are at most 30% female. The remaining jobs are integrated. For the purposes of comparison the "value" of a job is determined on a gender neutral basis, using an index of skill, effort and responsibility requirements, as well as working conditions. Initially, male/female job comparisons were to be made within establishments on a job-to-job basis, between work of equal or comparable value. By 1993, the more common "wage-line" method (called "proportionate value") was allowed to accommodate situations where direct job-to-job comparisons were not possible.[5] In addition, a proxy comparator method, restricted to the broader public sector, was implemented allowing male comparators to be found outside the establishment in cases that job-to-job or proportionate value comparisons failed.[6] Differences in pay between jobs are tolerated on the following bases: seniority, temporary training assignments, merit pay, red-circling and

[4]The Act received Royal Assent in June 1987 and was proclaimed on January 1, 1988.

[5]In 1993 the Act was amended to permit both proportional value comparisons and the proxy method of locating comparators outside an organization. These amendments were announced by the Ontario Minister of Labor in December 1990. Employers were directed to use these new methods for all female job classes that were without a male comparator under the job-to-job method.

[6]A 1996 provincial act—The *Saving and Restructuring Act*—legislated a phase out of the proxy method starting in January 1997. In September 1997, however, the Ontario Court of Justice ruled that repealing the proxy method violated the Canadian Charter of Rights and Freedoms, and thus the repeal was "of no force or effect".

skill shortages. Employers must be ready to justify any pay differences for these reasons. Finally, compensation cannot be reduced to attain pay equity.

The implementation of the Act was staggered across sectors and across private firms of different sizes. It consisted of 1) the posting of a pay equity plan,[7] and 2) the initiation of any wage adjustments. Pay equity plans were to be negotiated in establishments with bargaining units. In other establishments, the employer prepared and posted the plan which was then subject to review and possible appeal by employees. In either case, if the process ended in stalemate the Pay Equity Commission decided all outstanding issues.[8]

The deadlines for different sectors and firms of different sizes are reported in Table 1. The tightest deadlines were for the public sector. In the private sector smaller firms received longer periods to comply with the law. The one twist was for firms of less than 100 employees. They had a choice of posting a pay equity plan and making the initial pay equity awards one year later, or not posting a plan but paying the total award to achieve equity by this later deadline. For example, firms with 50-99 employees could post by January 1, 1993, and then make an initial award by January 1, 1994, or not post but make the total award by January 1, 1994. Finally, establishments with less than 10 employees were exempt from the Act.[9]

The initial pro-active stage has been followed by a complaints stage in which firms are directed to maintain pay equity in the workplace. Changes in compensation that widen any differences in compensation between male and female jobs are prohibited. Finally, firms are directed to continue paying any outstanding awards until pay equity is achieved.[10]

[7]A pay equity plan sets out the comparison system used, the job classes used, the results of the comparison, how compensation will be adjusted to compensate underpaid classes and the date of the first adjustment.

[8]Awards in a given year were limited to a maximum of one percent of the previous year's payroll. The method of adjustment is to be "bottom up" in the sense that the most severely underpaid female jobs are to receive larger increases. Payment of awards was to continue, however, until equity was achieved.

[9]The subsequent introduction of proportionate value and proxy comparators was also according to a deadline. Firms were required to both post a plan for implementation and make any initial awards by January 1, 1994. Firms with 50 or more employees were required to make awards retroactive to January 1, 1993.

[10]There are special rules governing the continuation of a pay equity plan on the sale of a business.

## *2.2. Enforcement and Compliance*

There is a sense in which the entire structure of the Ontario legislation is motivated by the failure of previous complaint-based pay equity laws to have any bite.[11] In these programs, employees must register a complaint to trigger a comparison of male and female jobs and any consequent award. Fears that most employees would be too intimidated to register a complaint led to criticism that these sorts of policies were impotent. The Ontario law is instead pro-active. Employers must draw up a pay equity plan and make comparisons of male and female jobs whether or not any complaint has been made. Therefore, in principle, any inequities should be uncovered since the onus is on employers.

The responsibility for enforcement of the Act is given to the Pay Equity Commission which has two constituent parts: 1) the Pay Equity Office (PEO) charged with educating employers and employees about pay equity, monitoring compliance, providing dispute resolution services and issuing orders to resolve disputes, and 2) the Pay Equity Hearings Tribunal, which rules on disputes that arise under the Act, typically on reference from the PEO. The legislation specifies fines for both individuals and firms that ignore the Pay Equity Tribunal orders, impede a review officer, or coerce or penalize anyone acting under the legislation. To the dismay of some, there is no requirement that employers file their pay equity plans with the Commission. Firms are required, however, to inform the PEO of any female job classes that are ineligible for pay equity evaluation due to the lack of a male comparator, either on a job-to-job or proportional value basis.[12] The system is intended to be "self-monitoring", much like other labor market regulations.

Direct documentation on early compliance with the Act is provided by surveys commissioned by the PEO (SPR 1991, Canadian Facts 1992 and 1993, ISR 1994).[13] Each

[11] Important here are the early experiences of the complaint based programs in Quebec and the federal sector. See, for example, Symes (1990) on the disappointment with this legislation.

[12] The cases are then referred to a Review Officer. The dispute resolution services of the PEO appear to be widely used, with between 1400 and 1700 open cases in a given month between January 1990 and December 1995 (Read 1996). Monthly inflows and outflows averaged 50-100 cases during this period.

[13] Overviews of some or all of these surveys are provided in Gunderson (1995), Read (1996) and MacDonald and Thornton (1998). MacDonald and Thornton conducted their own survey of 27 firms in the Toronto area in 1994. They document instances on non- compliance and manipulation

survey focuses on establishments of a specific size, and was conducted roughly 6-12 months after the relevant deadline for posting a pay equity plan.[14] Unfortunately, it is difficult to compare the results across surveys due to differences in sample design and interviewing methods. The information collected on compliance with the posting deadline, however, appears to have a common basis.[15]

In table 1 we report measures of compliance with the posting deadline by establishment size. The story here is that public sector employers and large private sector employers were much more likely to comply with the Law. Under 10 percent of these employers, compared to 20 percent of 50-99 employee firms and 80 percent of 10-49 employee firms, reported doing "no work" on pay equity. In fact, these statistics likely overstate the compliance of the smallest firms. Roughly 37 percent of interviews of the smallest employers were abandoned because there was "little or no awareness about the legislation" (p. 30, ISR 1994). As a consequence the proportion of these employers who had done no work on pay equity is probably closer to 90 percent.

Similar inference is obtained from the numbers for full compliance: roughly one-half of public and large private establishments complied fully versus only 12-30 percent of smaller firms. The higher compliance of the largest private firms is even more impressive when weighted by female employment. For example, 91 percent of women working in establishments with 500 or more employees were employed in establishments that had posted some or all of their plans. Recall that smaller employers had to decide by the posting deadline whether to post a plan. At the time of the survey, 45 percent of 50-99 employee firms and 83 percent of 10-49 employee firms had not yet made this decision. The strong message here is a lack of enthusiasm for, or perhaps defiance of, the law in smaller firms.[16]

of the rules, as well as some positive influences of the process.

[14]The survey of firms with 10-49 employees (ISR 1994) was conducted 15-18 months after the posting deadline.

[15]The survey of public sector employers and private sector employers with 500+ employees was primarily completed by mail, although certain "key facts" on compliance were retrieved from non-respondents by telephone, courier and fax. In the surveys of smaller firms initial telephone surveys canvassed information on compliance, while further detail was collected by mail surveys which had a lower response rate.

[16]Within the public sector almost all firms who had done no work on pay equity had 99 or

Compliance is also correlated with union status. Some illustrative numbers for public and large private establishments are also reported in table 1. In both the private and public sectors non-union firms were more likely to have all their plans posted. One reason for this discrepancy is that pay equity plans were negotiated in union shops.[17]

What were the reasons for these lapses in compliance? The surveys suggest that confusion about the law and the resource costs of pay equity plans played a role. First, there were problems conducting the surveys because interviewees lacked understanding of the key requirements of the law and key dimensions of comparable worth such as "gender neutrality". These problems were particularly severe in small firms (Institute for Social Research (1994)). Second, the surveys also include information on factors impeding progress on pay equity for firms with 50-499 employees. Twenty-five (22) percent of firms with 100-499 (50-99) employees report resource costs as a factor. Seven (10) percent report confusion about the law as a problem. Finally, 17 (15) percent report the fact that no pay equity awards are needed as a reason, a proportion that is particularly high among firms that had done no work on pay equity!

Further inference from these surveys is limited. Additional information from firms with 50-499 employees (Canadian Facts (1992) and Canadian Facts (1993)) was collected by a subsequent mail survey, and the response rate appears to be correlated with compliance.[18] That said, there are a few points worth noting. First, external consultants were an important input to compliance. In samples of firms that had done work on pay equity, roughly two-thirds of public and large private employers, 54 percent of firms with 100-499 employees and 37 percent of firms with 50-99 employees reported hiring external consultants. In contrast less than one-quarter of the very small number of 10-49 employee firms that had completed some pay equity plans reported similar reliance on external help. Other criteria (e.g., purchase of new job comparison system) also indicate that smaller firms relied more on in-house expertise.[19] Second, within the sample of firms with plans, clerical workers

fewer employees.

[17]In firms of 100-499 employees 73 percent of non-union firms compared to 50 percent of union firms had posted all their plans. These results are from a mail survey (see below).

[18]For example, by the telephone survey 51 percent of 100-499 employee firms had posted all their plans (table 2) compared to 64 percent according to the mail survey.

[19]For example, 37 percent of 100-499 employee firms who had done some work on pay equity

were the job group most often cited as eligible or having received an award. The percentage of firms (or plans) reporting this ranges from 44 percent to 75 percent.

The surveys also document problems finding male comparators in samples of firms with completed plans. For example, in private firms of 500+ employees 27 percent of female job classes (FJC) representing 30 percent of employees in these classes lacked a comparator. In public firms, 41 percent of FJC's corresponding to also 41 percent of FJC employees had no comparator.[20] In firms with 50-99 employees the relevant proportions are 32 percent and 36 percent. Finally, in the small sample of 10-49 employee firms with plans, 21 percent of FJC's representing 52 percent of employees in these classes had no comparator. It is also interesting to note that these problems led to amendment of the legislation to allow proportional value comparisons and proxy comparators.[21]

The review of the legislation commissioned by the PEO in 1996 (Read 1996) provides interesting anecdotal evidence about compliance. Through consultation Read reports learning of "extensive non-compliance among small to medium size employers" (p. 4). A survey of 4800 members of the Canadian Federation of Independent Business (an organization of small to medium size businesses) submitted to the review, reveals that just 20 percent of employers covered by the Act had completed any of the required steps (Read 1996, p.38).[22] The reasons for non-compliance included "lack of time and money" and the "requirements are too complicated/difficult". This level of compliance is consistent with the results from the survey of 10-49 employee firms.

A final source of information is the commentary of pay equity advocates and critics over the period. A review of pay equity practitioners in trade unions laments that the

report purchasing a new job comparison system compared to just 2 percent of 10-49 employee firms who had posted some plans.

[20]These results are almost exclusively driven by the lack of male comparators in small public firms. For example, just 15 percent of employees in FJC's at public firms of 1000+ employees were without a comparator versus 54 percent of employees in FJC's at public firms of $< 100$ employees.

[21]The surveys also report estimates of administrative costs per employee, the percentage of female job classes receiving adjustments, and the total costs of the adjustment as a percentage of total payroll. These numbers are difficult to interpret, however, due to non-response and differences in the way the questions were asked across surveys.

[22]Consistent with the evidence reviewed above, however, the survey also reveals that compliance was positively correlated with firm size.

Ontario legislation restricts comparisons and negotiations over pay equity plans within establishments (Genge 1994). It favorably cites public sector applications of comparable worth in other provinces where central bargaining is the norm. In an attempt to reduce the number of female jobs with no male comparator, the PEO proposed "external average adjustment": female job classes in the private sector lacking male comparators would receive the average pay equity adjustment within their industry. Finally, free collective bargaining could also lead to complications: once pay equity is achieved the legislation permits gender wage differentials to re-emerge if they result from differences in power across bargaining units. Robb (1990) argues that this provision in tandem with gender differences in union membership could serve to widen the male-female wage gap.

A common thread here is that the Act's accommodation of a decentralized labor market was an obstacle to compliance. First, gender segregation by establishment limited the comparison of male and female jobs. The suggested solution was to widen the definition of an establishment and allow local or province wide bargaining in union environments. Second, free bargaining between unions and employers was viewed as potentially undermining pay equity. Third, the exceptions for compensation differences based on productivity related attributes were viewed as an escape hatch for employers. Robb (1990, p.18) identified the tension here: "Clearly, allowing such exceptions is a double-edged sword. While many of these provisions are essential if the labor market is to be allowed to operate efficiently, it is also recognized that they can be used by employers to circumvent the legislation". Finally, pay equity was enacted as a mostly self-managed program, consistent with the operation of many other labor market regulations in North America. More stringent reporting obligations and monitoring may have led to higher rates of compliance but would also entail higher administrative costs.

The evidence, therefore, is that compliance was a substantial problem, especially in small firms. Although seldom acknowledged in discussions of pay equity, or in simulations of its effects, this, perhaps, is not surprising. The reasons are likely the same as those that exempted firms with less than 10 employees from the legislation in the first place. Pay equity comparisons work best in large samples. Small firms are more likely to have trouble finding male comparators, and wage line methods would seem to pre-suppose some

minimum number of observations. The job evaluation systems necessary to carry out comparable worth evaluations can be expensive, and therefore are less burdensome when they can be amortized over a large number of employees. Finally, the underlying principle of comparable worth, of making disparate jobs commensurate, is perhaps better suited to debate, or the administrative compensation systems of large firms, than to the daily life of the small employer. These issues may become even more important in the future as firms adopt non-traditional job design, such as self-directed work teams and non-standard employment, in the context of labor market restructuring (see Betchermand, McMullen, Leckie and Caron (1994), Piore (1986)).

# 3. What Are the Effects of Comparable Worth Policies on a Decentralized Labor Market?

## *3.1. The Potential Impacts of Comparable Worth*

Proponents of comparable worth argue that the impact of the law should be a straightforward increase in wages in female jobs, and therefore a reduction in the gender wage gap. Economic models of the labor market yield quite different predictions. Killingsworth (1987) explores the effects of a pay equity policy in a two sector model of low wage female jobs and high wage male jobs. Comparable worth prescribes wages in female jobs above the equilibrium level. Moving up along the demand curve in the low wage sector entails a decrease in employment. The direct effect, therefore, is similar to the predicted impact of minimum wages or unionization, or more generally any intervention that raises the wage above the level indicated by the intersection of supply and demand in the relevant market.

The increase in the wages of female jobs leads to substitution and scale effects. Since female and male jobs are typically defined along occupational lines the elasticity of substitution between the two job classes is arguably small. This increases the likelihood that the the negative scale effect for male jobs outweighs any positive substitution effect, leading to a decline in demand in the high wage sector.

The initial distribution of the sexes across the two job types in this model is due to a taste for discrimination among employers of high wage jobs. Their psychic income

from employing males is an increasing, concave function of the male wage bill. A decline in demand for these jobs reduces the wage bill, and thus increases the amount they "discount" male wages. Therefore, the negative scale effect increases the male/female wage differential within this sector; at least in the short run in which the supply of males and females to the two sectors are fixed.

In the longer run, the destination of individuals released from the female jobs can be important. Their subsequent movement into jobs that are not covered by the legislation will be attenuated by the re-training and qualification requirements of cross-occupational migration. In the present context an obvious destination is smaller firms where the law was largely ignored. There will be fewer impediments to this within-occupation movement, and it will allow individuals to preserve any occupational specific capital. The analogy is to a two-sector model of minimum wages or unions with covered and uncovered sectors. The migration of workers results in an outward shift in the supply of labor to this sector, that will depress the wages of female jobs in smaller firms.

The net effect of the law on female wages at the aggregate level is therefore ambiguous, reflecting the countervailing impacts on wages in firms that do and do not comply. The release of workers into the "uncovered" sector will be attenuated if some individuals decide to queue for the now higher paying female jobs in complying firms. In the much longer run, the supply of workers to these jobs may be further augmented by individuals in other occupations attracted to these female jobs by the higher wages.

In Killingsworth's model the initial increase in wages in female jobs, following the implementation of comparable worth, is given exogenously. In application, comparable worth policies tie the wages in female jobs to those in male jobs. This additional constraint on the firm's hiring decision would lead to a trade off between the cost and quality of individuals filling male jobs. Empirically, this would turn up as a decline in the wages in male jobs as lower "quality" candidates were hired.

Another issue not captured in this model is that male/female job comparisons may affect employee morale and productivity. Akerlof and Kranton (forthcoming) provide a framework to consider these effects in their analysis of "economics and identity". They cite examples of men in male jobs, such as coal handling, finding their masculinity treatened

by the presence of female co-workers and relieving "their anxiety by taking action against women co-workers" (p. 21).[23] Similar resentment could be generated by comparable worth comparisons that argue that these jobs are equal to traditionally female jobs. The result is increased taste discrimination against women in male jobs by co-workers and, in turn, by employers. Less dramatically, male resentment may manisfest itself as a lack of cooperation and less informal training of female co-workers. This would reduce the productivity and hence the wages of women in these male job classes. Empirically, we search for these sorts of "backlash" effects by focusing on "blue collar" work as a proxy for traditional male jobs.

### *3.2. Data and Empirical Strategy*

The data for our study are drawn from the Canadian Labor Force Survey (LFS), which is a monthly study of individuals' labor force status. At the end of the 1980's supplements, called the Labor Market Activity Survey (LMAS), were conducted collecting information on wages, union status, number of employees in the workplace (among other variables) for a subset of individuals in the LFS. In January 1997, these questions were made part of the monthly LFS. We combine data from two different waves of the LMAS, the years 1987 and 1988, and from the 1997 and 1998 LFS. The two-year periods 1987/88 and 1997/98 nicely bracket the introduction of the comparable worth legislation in Ontario.

The LMAS is a retrospective survey covering year-round labor market activity. To mimic a point-in-time survey, we select job information as of the third week of November in each year. Similarly, we use the November rotation of the 1997 and 1998 LFS. We sample all individuals who are 16-69 years of age. Wages are obtained from the main job at this time; they are the actual hourly wage for workers paid by the hour and the usual hourly earnings for other workers.[24]

These data do not include information on the femaleness of a particular individual's job. We therefore identify individuals "at risk" of receiving a pay equity award by merging

[23] Akerlof and Kranton (forthcoming) also cite the work of Padavic (1991) for more detail.

[24] Hourly wages are in 1997 dollars. In our analysis of wage data, we include all wage and salary workers who are not full-time students and are earning more than $1.00 an hour. We exclude full-time students because they are excluded from the legislation, when they work in connection to their studies.

information on the percentage of 4-digit occupational (1980 SOC[25]) employment that is female (PFEM) obtained from the 1991 Canadian Census using the occupation codes available in both data sets.[26] We therefore attribute to individuals, both in 1987/88 and in 1997/98, the proportion of employment in their occupation that is female computed at the provincial level from the 1991 Census (these percentages are reported in Table A-1). We then use this variable to determine whether a sample member works in a female, integrated or male job according to the definitions in the Ontario legislation.[27]

Our empirical strategy is to compare changes in different measures of wages and employment in Ontario before and after the law was implemented to changes in these variables in a control jurisdiction. To effectively difference out other changes in the economic environment that affect the labor market and were co-incident with the implementation of the law, the control jurisdiction must be a good match for Ontario in all dimensions except the evolution of pay equity legislation. Our initial choice is workers in the province of Quebec. This adjacent province is most comparable to Ontario in both population and economic activity.

Some average characteristics of individuals in the two provinces are provided in Tables 2a (females) and 2b (males). The statistics reveal many similarities. That said, an important difference is the higher unionization rate (of approximately 10 points) in the province of Quebec. Another interesting Ontario/Quebec difference is the greater growth of educational attainment in Quebec. The percentage of workers with a university degree

[25]The occupation codes comprise approximately 500 categories. In the 1996 Census, occupational coding followed a totally different classification system, the 1990 NOC, which is not compatible with the previous system.

[26]The number of observations in our provincial sub-samples of the 1987/88 LMAS and 1997/98 LFS are too limited to provide reliable estimates of the percentage female by occupation at the 4-digit level. Even in the 20 percent extract of the Census we use, there are some occupations that are not represented in each province.

[27]Our analysis abstracts from any changes in percentage female, and therefore job type, endogenous to the law. We have examined changes in the percent female by major (2-digit) occupational groups using our LMAS87/88 and LFS97/98 data. While some occupations become more female (e.g., managerial, administrative and related occupations) and others less (e.g., clerical occupations) over the period, there were no changes in the job type—female, integrated or male—among the major occupational groups, with the exception of artistic, literary occupations that, in Ontario, changed from female in 1987/88 to integrated in 1997/98.

rises from 14 to 21 percent among women and from 15 to 19 percent for men; in Ontario the corresponding changes are 17 to 21 percent for women and 18 to 20 percent for men.[28]

During the period we examine, 1987-1998, Quebec's pay equity provisions were contained in its human rights code.[29] The resulting system was complaint based and in principle covered all workers outside the federal jurisdiction. Enforcement was the responsibility of the Quebec Human Rights Commission. Despite the seemingly wide-ranging jurisdiction of these provisions, Weiner and Gunderson (1990) report that the legislation was rarely used. Likewise, Cihon (1988) reports that in the period preceding 1984 there were 77 complaints, 28 of which were either dismissed or ultimately withdrawn.[30] Complaints in the period 1982-1986 were even less frequent. Cihon argues that the provisions were not well publicized by the Human Rights Commission in this period, due to the limited resources available for their enforcement.[31] Quebec has recently (1996) enacted pay equity legislation with many similarities to the Ontario Act, but the first awards are not due until 2001, which falls outside our period of analysis. Therefore, in the period of interest the existing comparable worth provisions in Quebec were little used, and there were no significant, new initiatives in the period.

Our empirical investigation begins with the base specification, for individual $i$,

$$y_{it} = \alpha_T T_{it} + \alpha_O ON_{it} + \alpha_{TO} T_i \cdot ON_{it} + X_{it}\beta + \varepsilon_{it}, \tag{1}$$

where $T_{it} = 1$ for observations from 1997 or 1998 and 0 otherwise, $ON_{it} = 1$ if the individual $i$ lives in Ontario and 0 otherwise, the $X_{it}$ are controls for demographic and job/firm characteristics, and $y_{it}$ is the logarithm of the wage or a measure of employment in a partic-

[28]While the education classes between the two periods considered are not fully comparable, 'university degree' is an exception. Starting in 1989, the LFS classified individuals with a trade degree in a separate category regardless of their level of formal education. In the education recode, these are counted in the post-secondary or trade certificate category.

[29]The concept of pay equity was introduced to the code in 1977.

[30]Successful claims resulted in settlements, which affected approximately 3500 workers.

[31]Symes (1990) argues that the disappointing results of enshrining pay equity provisions in the human rights codes of Quebec and the federal government (in 1978), were a prime motivation for lobby groups to seek pro-active legislation.

ular class of jobs.[32] The primary coefficient of interest is $\alpha_{TO}$ on the first order interaction $T_i \cdot ON_i$. This provides an estimate of the difference in the change in $y_{it}$ in Ontario and Quebec between 1987/88 and 1997/98, conditioning on the control variables: a quartic in age, six education classes, dummies for metropolitan area, industry(10), employment in the federal, provincial, and local public service, part time work, married, visible minority, tenure, union status, and firm size (4), where appropriate.

We start by estimating (1) (by weighted least-squares using survey weights) separately, by sex, for individuals in female jobs, male jobs and integrated jobs, respectively. The preceding discussion, however, revealed important lapses in compliance in some firms. Therefore, one way of more carefully isolating the impact of the legislation is to focus on workers in those firms where compliance was most complete. For example, we can focus on non-unionized workers in large firms. Because public sector workers are largely unionized in Canada, this also focuses on private sector applications.[33]

Incomplete compliance can also be used to address a potential flaw in our identification strategy: the presence of province specific labor market trends and/or shocks. If these are important, workers in Quebec will not provide the appropriate counterfactual. If we assume that the legislation was of no effect in small firms, we can use the experience of their workers to control for these shocks. As noted above, firms with less that 10 employees were exempt from the legislation. Any direct effect of the law on firms with 10-49 or 50-99 employees was clearly compromised by lapses in compliance.

A further consideration, however, is that any disemployment effects of the law in larger firms, could cause spillovers of workers into smaller firms thereby depressing wages there. These would be most severe if the disemployment effects were large and the resulting mobility was primarily within occupation. In this case, our estimate of the direct effect of the legislation on the wages in female jobs will be biased upwards as it will also include

[32] See Meyer (1995) for good summaries of our empirical strategy.

[33] While U.S. datasets typically include a variable called "class of worker" that identifies public and private sector workers, a similar variable is not available in our Canadian datasets. Our analysis of private vs. public sector is thus limited to proxy analysis. For example, we performed some analysis excluding public administration workers and found that it did not change our results.

the indirect negative effect on wages in female jobs in firms that did not comply with the legislation. Attenuating this bias will be any (greater) ability of large firms to absorb the increased wage costs mandated by the legislation due to, for example, more dominant market positions and the associated rents.

To implement this strategy we estimate the equation

$$
\begin{aligned}
y_{it} &= \alpha_T T_{it} + \alpha_O ON_{it} + \alpha_L L_{it} + \alpha_{TO} \cdot T_{it} \cdot ON_{it} + \alpha_{TL} \cdot T_{it} \cdot L_{it} + \\
&\quad + \alpha_{OL} \cdot ON_{it} \cdot L_{it} + \alpha_{TOL} \cdot T_{it} \cdot ON_{it} \cdot L_{it} + X_{it}\beta + \epsilon_{it},
\end{aligned} \tag{2}
$$

where $T_{it}$ and $ON_{it}$ are defined above, and, where $L_{it} = 1$ for workers employed in a sector assumed to be affected by the law and 0 otherwise. The coefficient of interest, $\alpha_{TOL}$, indicates the relative change in the Ontario/Quebec difference in the $y_{it}$ differential between workers for which the legislation is assumed to have had some effect and those for which it did not.

A remaining issue is whether, conditional on compliance, there was anything for the comparable worth law to remedy. Some previous studies report that at the aggregate level Canadian females do not face much of a penalty to work in female jobs, although there is an substantial penalty for males (Baker and Fortin (1999), Baker and Fortin (forthcoming)). We provide an initial description of this relationship for Ontario and Quebec in figure 1 where we plot kernel regressions of average occupational log wages on the femaleness of the occupations, weighting by occupation size.[34] The vertical line denotes the level of $PFEM$, 0.6, at which the job classification switches from integrated to female. For all levels of femaleness rates, there are large gender gaps evidenced by the distance between the men's and the women's regression lines for the corresponding years.[35] Any difference in the reduction in this gap over the period gives a visual impression of the potentially different impacts of the law at the various femaleness rates. For example, for any impacts on clerical workers, the focus should be on very high ($PFEM > 0.95$) femaleness rates.

We refine this inference in table 3 reporting the estimated (linear) effect of occupational

[34]We use a Gaussian weighing function and a bandwidth of 0.075 for both provinces.

[35]This result is consistent with new evidence by (Bayard, Hellerstein, Neumark and Troske 1999) that there is a sizeable within-occupation/establishment gender gap.

gender composition on women's and men's log hourly wages in both provinces. These estimates are from a two-step procedure in which we first regress log hourly wages on the indicated socio-demographic controls and occupation fixed effects. The estimated fixed effects are then regressed on PFEM, weighting by the sum of the individual level LMAS or LFS supplied weights by occupation.[36] At the aggregate level the estimates for both males and females are sometimes insignificant, and many are smaller than the estimates that are typically retrieved from US data. There is a fair amount of heterogeneity by sector, however. For example, in both provinces the estimated penalty is larger in the non-union sector than the union sector. The effect on female wages in Ontario's union sector is actually **positive** and statistically significant. This may indicate that unions had already been promoting the use of gender neutral pay systems in their negotiations, and may account for the slower compliance in this sector.

The point estimates by establishment size indicate that the penalty is generally greater in small firms than in larger establishments, at least for females. This suggests that the target for the law was largest in establishments where the law was largely ignored. The results for large establishments, however, reflect the counterbalancing influences of the penalties in the union and non-union sectors. Focusing on non-unionized workers in large establishments reveals a more substantial penalty to female jobs. For females in Ontario, the penalties were -0.202 (0.066) in 1987/88 and -0.197 (0.060) in 1997/98. Therefore, there was quite a substantial target in the firms where compliance was the highest. It is also interesting to note that these estimates are very similar to estimates of the penalty to female jobs in the United States over this period (Macpherson and Hirsch 1995).

Further information is provided by examining the distribution of wages across gender within a given job type. In figure 2, we plot the kernel density estimate of female and male wages in Ontario by job type in 1987/88 and in 1997/98 superimposing the female and male densities. Note that the distribution of female wages in each case lies to the left of the distribution of males wages. While we do not condition on any observables, it is clear by this metric that females hold the lower paid jobs of each type.

[36]See Baker and Fortin (2000) for a complete description of the procedure.

The comparison of the wage densities across years provides a simple view of the aggregate changes in wages for these groups. Both in Ontario and in Quebec, the women's wage distribution shifts rightward while the men's distribution is mostly unchanged. To the eye, the rightward shift of the women's distribution in female jobs in Ontario is not much greater than in Quebec. Following increases in minimum wages in 1997/98, there is a fattening of all wage distributions in Quebec around the level of the minimum wage. Interestingly, this does not happen in Ontario with the exception of the male wage distribution in female jobs. Are men being substituted for women in lower paying female jobs? They are some telling examples, which may or may not be related to the law. In Ontario, cashiers and tellers (occupation 4133) went from being 94 percent female in 1987/88 to 88 percent in 1997/98, and housekeepers and servants (occupation 6142) went from 80 percent female in 1987/88 to 72 percent in 1997/98, while the femaleness of these occupations did not change in Quebec.

### *3.3. Results*

An overview of the period in which the Ontario law came into effect is provided in figures 3 and 4. In figure 3 we plot the average real log hourly wages of women and men in Ontario and Quebec between 1985 to 1996 using data from the Survey of Consumer Finances.[37] We also plot the implied linear trends before and after 1990, the first year in which the law might be expected to have some impact. Despite the severe 1990 recession, the wages of women continue to grow in the 1990s. In contrast, the wages of men start on a downward trend in this period. In either period men and women in Ontario earn more on average than their counterparts in Quebec.

In figure 4, we plot the employment rates of women and men in the two provinces (the solid lines for Ontario and the dashed lines for Quebec).[38] Consistent with the stylized

[37]The Survey of Consumer Finances is comparable to the CPS March supplements. The reported statistics are the logarithm of the ratio of annual earnings in reference year to annual hours defined by the product of weeks worked in the reference year and hours worked in the reference week. Therefore, only individuals who worked both in the reference year and reference week are included in the samples for the calculations. Nominal wages were converted to 1997 dollars using the Consumer Price Index.

[38]Again we use data from the Survey of Consumer Finances. The reported statistics are

facts, in the earlier period women's employment rates, fueled by the higher labor market participation of young women, show a positive trend.[39] Following the severe recession of 1990/92, many groups exhibit negative employment growth rates in the 1990s. The trend in women's employment rates in Ontario after the law is however, the only one which is statistically significantly negative.[40] This is in contrast to Quebec where women's employment rates stabilize in the 1990s. For men, employment rates after the law display similar trends in both provinces.

In table 4 we report mean wages for women and men, as well as the female/male wage ratio for all jobs and by job types, for Ontario and Quebec in 1987/88 and in 1997/98. The time difference for location represents the relative wage or gap growth in Ontario versus Quebec. The numbers show that the increase in mean wages for all jobs was slightly higher in Ontario than in Quebec for both women and men. For Ontario women, changes in mean wages in integrated jobs were slightly higher, while changes in male jobs lagged. For Ontario men, the growth of wages in integrated jobs were again slightly higher, while growth in female jobs trailed. A difference–in–difference calculation reveals that the decrease in the overall gender wage ratio was not greater in Ontario than in Quebec over the period.

Differences begin to emerge, however, when we consider the gender gap change by job type. In Ontario greater progress was made in female jobs, while in Quebec greater progress was made in male jobs. The mechanics of pay equity link the wages in female jobs to the wages in male jobs. Therefore, another gender gap addressed by the policy is the ratio of average wages in female jobs to average wages in males jobs. In the last line of table 4 we report the ratio of average female wages in female jobs to average male wages in male jobs. By this measure, Ontario's performance was marginally worse than Quebec's.

The more formal analysis begins in table 5, where we report estimates of (1) using hourly wages as the dependent variable. In the first row we report estimates of $\alpha_{TO}$, by

employment rates in the reference week for individuals 16-69.

[39] As female labor market participation reaches an "upper bound", the upward trend may begin to abate as it did in the 1990s in the United States.

[40] Regressing the employment rates on a constant plus a time trend gives a coefficient of -0.0048 (0.0020) for Ontario women and of -0.0020 (0.0035) for Ontario men. Admittedly, these coefficients are not statistically different.

sex, for all workers and by job type. The results for all jobs indicate that between 1987/88 and 1997/98 the wage growth of both men and women in Ontario was about a 5 percent higher than their counterparts in Quebec. The results by job type in the next columns indicate this advantage was widespread. This common advantage suggests the presence of a province specific trend.

In the next four rows we break down this inference by firm size and union status. Distinguishing the workers by firm size is motivated by the evidence on compliance. Distinguishing the workers by union membership is motivated both by the information on compliance and the evidence that female jobs in Ontario's union sector were already relatively well paid. These estimates do reveal relatively higher wage growth among non-unionized women in female jobs at large firms, although not for their male counterparts. Note, however, that if we were to attibute this effect to the legislation, we would also conclude that the pay equity law benefited workers in integrated jobs at large non-union firms. This is not impossible: some integrated jobs at the 4-digit occupational level may be female jobs at the firm level, and therefore our integrated category contains some female jobs.[41] However, given that the estimated effect for integrated jobs is larger than the estimated effect for female jobs, we would need to assume that our integrated category is dominated by female jobs at the firm level, or perhaps the very lowest paid female jobs that received very large pay equity awards.

More generally, these disaggregate results provide further confirmation of the common advantage of Ontario's workers. One exception, however, is non-unionized women in male jobs at large firms. They experienced a roughly 17 percent relative decrease in wages over the ten year period, while their female counterparts in male jobs at the other firms experienced a roughly 9 percent relative increase. Finally, there is some evidence of a different result for non-unionized men in female jobs at large firms and in male jobs at small firms, but here the difference across firm type is not as large.

To address the evidence of a Ontario specific effect, in table 6 we present estimates of (2). Drawing on the evidence from section 1, we assume that small firms in Ontario

[41] Another possibility emerging from the firms' experience is that pay equity plans promoted the use of administrative pay system for all types of jobs.

were untreated by the pay equity law due to their lack of compliance, and the greater difficulties finding male comparators. We assume workers in establishments with up to 99 workers to be "untreated" by the law, while those at establishments of 100+ employees to be "treated". The pattern of the results is not greatly affected if we define untreated firms as those with less than 20 employees, deleting those with 20 to 99 employees from the analysis.[42] Recall that firms with less than 10 employees were exempt from the legislation.

The results are reported in the first panel of table 6. For all female workers, this differencing strategy eliminates any Ontario specific advantage across all jobs. Breaking the result down by job type, we see that workers in larger establishments in female and integrated jobs did no better than their counterparts in Quebec. Therefore, once we account for province specific trends there is little evidence that the pay equity law increased the wages in female jobs in Ontario. Formalizing the inference from table 5, however, we obtain further confirmation that the relative wages of women in male jobs in Ontario fell. Over the 10 year period, the decline in female wages in males jobs at large firms in Ontario is 15 percent. For men there is still evidence of an Ontario specific advantage that is driven by workers in male jobs. These workers gained just over 5 percent relative to their Quebec counterparts over the period.

In the next two rows these results are broken down by union status. For women of either status there is no evidence of an advantage to workers in female jobs from the legislation. The new result here is that the negative effect on wages in male jobs is primarily among non-union workers. Here the estimated relative 10-year deficit in wages is sizable at just over 30 percent, although the standard error is also larger. The new inference in the results for men is that non-union workers in female jobs also appear to have suffered a relative wage loss, although the estimate is much smaller than the result for non-unionized women in male jobs and the standard error is large. Also, this inference must be viewed through the lens of the relatively higher wage growth we observe for men in integrated and male jobs in Ontario which, given our identification strategy, we attribute to a province specific effect.

[42]The standard errors, however, are correspondingly larger. See the estimates in appendix table A-2.

In the next two rows (rows 4 and 5), we provide evidence of further heterogeneity in the results among non-union workers in larger establishments. Searching for the backlash effects of Akerlof and Kranton (forthcoming), we break down the results by white/blue collar jobs.[43] For women, the estimates indicate that the negative effect on wages in male jobs is primarily a blue collar phenomenon. The point estimate also suggests some advantage to blue collar workers in female jobs, although this is also observed in integrated jobs. For men, the negative wage effect in female jobs also appears to be a blue collar effect, but the standard error is very large and there are still signs of province specific effects in the estimates for the other job types.

Given the information on compliance and the implementation of the Act, we have access to another identification strategy. We can simply use larger/smaller establishment differences in Ontario, dropping the Quebec data. A justification for this approach would be that province specific effects are more important than firm size or sector specific effects that the cross province strategy addresses. A corresponding set of results using only the Ontario data is provided in rows 6 through 10. The pattern of the results is generally similar, although the magnitude of the estimates differ in some cases. For women there is little evidence of a relative increase in the wages in female jobs. Where we do obtain a positive estimate for these jobs it is accompanied by a positive estimate for integrated jobs. We also obtain a negative estimate for women in male (primarily blue collar) jobs. One difference here is the effect also turns up in the union sector. For men the negative estimate in female jobs shows up more consistently, although it is still primarily a blue collar effect. There is also more consistent evidence that we are differencing out any effect in integrated jobs, with the exception of the estimates for blue collar workers.

We have tried other splits of the data to explore the sensitivity of this inference. Commentators on the Ontario legislation such as Read (1996) provide specific examples of pay equity awards to female jobs. Why, then, is there no evidence of relative growth in the wages of female jobs in Ontario? Of course any increases in wages resulting from specific

[43]White collar jobs are those whose 4-digit code is below 5000 (see table A-1); they include managerial, professional, technical and clerical jobs. Blue collar jobs are those with a 4-digit code of 5000 and higher; they include sales, service, farming, fishing, forestry, mining, processing, machining, product fabricating, construction, tranportation and craft jobs.

awards could have come at the cost of lower wage growth from other sources, or have been counterbalanced by lower wage growth in subsequent years. The law prescribes no reductions in wages to achieve pay equity, but (of course) can say little about wage growth over a period of the length we examine. We have re-estimated equations (1) and (2) adding a dummy variable for a) clerical workers or b) very female jobs ($PFEM \geq 0.9$) along with a full set of interactions. The first specification is motivated by the evidence from the firm surveys that clerical workers were most likely to receive awards, while the second is an attempt to focus on workers most likely to be in female jobs at the firm level. In either case (estimates not reported and available on request) we find little consistent evidence of relative growth in female jobs of these types in Ontario.[44] The estimates switch signs across specifications and are largely insignificant.

How do these changes in wages map into changes in the male/female wage gap? In table 7 we report estimates of equation (1) pooling men and women, and adding a dummy variable for gender, along with a full set of interactions with $ON_{it}$ and $T_{it}$. The overall effect on the law on the aggregate gender wage gap is given by the gender, Ontario, year interaction in the second column of the first row. There is no statistically significant relative change in the wage differential in Ontario. Reference to table 5 reveals that the almost equal relative advantage of both men and women in Ontario over the period lies behind this result. A similar conclusion, with a similar rationale, is found in the estimates by job type in the succeeding entries of the row.

In rows 2 through 4 we focus on workers at establishments that complied with the law. Consistent with the inference from table 5, among non-unionized workers at larger establishments we find relative decreases in the gender wage gap in female jobs and relative increases in the gender wage gap in male jobs. The former is a result of the relative decrease in the wages of Ontario men working in female jobs while the latter is due to the relative decrease in the wages of Ontario women working in male jobs. The results in rows 5 and 6 provide further confirmation of this inference, adding in the additional control of

[44]Note also that over the period considered, clerical work declined from 32 percent of the Ontario female workforce in 1987/88 to 24 percent in 1997/98, which would reduce any aggregate effect of increases in the wages of clerical workers. A similar decline has been observed in the United States, and may be related to technological change.

smaller establishments in Ontario. Therefore, in the complying firms any relative gain in the stature of women—in female jobs—came through the negative effect on the wages of men, while there was a relative deterioration in the status of women in male jobs. More generally there is no evidence here that Ontario's extension of pay equity to the private sector had an aggregate effect on the relative compensation of women.

One way to determine the employment effects of the legislation is to examine the flows of workers out of female jobs over the period the law came into effect, using the experiences of other provinces or other types of jobs as a control. This sort of analysis is not possible with the cross-section data we use here, and panel data spanning the period is not available. Examining the overall employment rates of men and women is not necessarily appropriate, as individuals released from now higher paying female jobs may find employment in other types of jobs where markets clear.

What we examine here is the share of employment represented by female jobs. One reason this might decline in response to comparable worth legislation for a given gender is purely administrative. Firms may alter their hiring practices to integrate jobs and thus remove them from the purview of the law. Any more general reductions in the share of employment for both men and women would result from the disemployment effects of pay equity awards to female jobs dominating the net substitution and scale effects on other types of jobs.

In the first panel of table 8 we report estimates of equations (1) using a dummy variable for working in female jobs as the dependent variable, for workers in large and small establishments respectively. For women, the estimate for all workers in large establishments is negative but not significant. Breaking this down by union status shows that the effect among union workers drives the aggregate result. In smaller establishments the share of female jobs increases uniformly in the two sectors. For males, there is little to distinguish the estimates for the large and small establishments. The share of female jobs in either case displays no substantive change.

In the second panel are the estimates using the identification strategy of equation (2). Both estimates using small firms as an additional control group indicate small reductions in the share of employment in female jobs for women. For men, the estimates are consistently

small and statistically insignificant, again indicating no strong relative changes in the share in female jobs.

Put together, the results of both panels indicate that there might have been a shift in women's employment in female jobs from larger establishments, the covered establishment to the smaller ones, the uncovered ones. More generally though, the inference is that the impact of pay equity awards on employment in female jobs were very small from the perspective of a 10 year period.

### *3.4. Interpretation*

The preceding analysis indicates that Ontario's comparable worth act had little positive effect on the overall stature of women in the province. There is no economically or statistically significant difference between the trends in the gender wage gap in Ontario and Quebec over the period. We are also unable to uncover any robust evidence of a positive effect of the law on the wages in female jobs. In those cases where we do find relatively higher wage growth in female jobs in Ontario, we also find relatively higher wage growth in integrated jobs which were not directly affected by the legislation. We attribute this coincidence to an Ontario specific trend. In specifications that attempt to accommodate Ontario specific effects, the wage growth for women in female jobs in Ontario and Quebec is very similar.

The primary factors contributing to the aggregate impotence of the law were the lapses in compliance and the problems with implementation in small firms. The Ontario experience provides important new evidence that the design and implementation of comparable worth law for the private sector of a decentralized economy is not a straightforward extension of what may work in applications to the public sector. The practice of comparing male and female jobs would appear to demand resources and pools of employees that exceed those of most small employers. This proved to be a severe limitation. Only 33 percent of working women and 5 percent of working men are employed in female jobs at large firms where compliance was relatively complete.

Commentators also allude to possible manipulation of the design of pay equity programs by employers. While we have no direct evidence of this, it is important to note that

the latitude granted to employers under the Act is consistent with maintaining a well functioning decentralized labor market. Simply put, many critics pointed out that the law would work better and could be more easily monitored if the labor market were more centralized.[45]

Other factors that may contribute to our failure to find an aggregate impact of the law include the small, negative effect of gender composition on female wages in some sectors of the labor market, possible spillover effects on untreated sectors and backlash effects on females in male jobs. When we focus on large firms, however, to try to more effectively isolate the impact of the legislation, we remain hard pressed to find a lasting advantage to women in female jobs. Our most consistently estimated effect is that women in male jobs would appear to have been hurt by the legislation, by some estimates quite substantially. Men in female jobs would also appear to have lost some of the advantage they previously enjoyed. As a consequence we observe a relative decrease in the gender wage differential in female jobs and a relative increase in the differential in male jobs. This inference is certainly not that expected by proponents of pay equity, although the latter is a prediction of Killingsworth (1987). It is also at odds with previous studies of pay equity in state and local governments or in Australia (but see Killingsworth 1990).

One account of these results is composition effects. As noted above, comparable worth policies tie the wages of male and female jobs. Once equity is achieved, the legislation explicitly forbids any actions that raise the wage differential between these jobs. This puts an extra constraint on firms' hiring decisions, and could lead to a trade off between the cost and quality of individuals filling male jobs. Why then would this affect women in male jobs but not men in male jobs (as our results suggest)? Here again the provisions of the legislation can be instructive. It directs employers to compare female jobs to the lowest paid comparable male job and/or class. That is, the wages in female jobs are tied to the wages in the lowest paid comparable male job. Who holds these lower paid male jobs? The information in figure 1 and table 4 reveals that females are more likely to hold

[45]Coincidently, if this advice were followed then it would also address the problem of addressing wage differences between male and female jobs across firms, as emphasized by Johnson and Solon (1986).

the lower paying jobs.

These changes in composition can be in observable or unobservable dimensions. To address the former, in table 9 we present estimates of some specifications of equation (2), re-weighting the 1997/98 data to match the distribution of the various economic and demographic characteristics in the 1987/88 sample. To re-weight we use the procedure of DiNardo, Fortin and Lemieux (1996).[46] The results in row 1 should be compared to row 1 of table 6. Focusing on firms where there was higher levels of compliance, the estimates in rows 2, 3 and 4 of table 9 should be compared to rows 3, 5 and 8 of table 6. For women, reweighting modestly reduces the (absolute) magnitude of most of the point estimates. This suggests that some small part of the relative gain or decline in wages in these different jobs is due to a improvement or deterioration in the characteristics of the females who hold them. Of particular interest here is the small reduction in the estimates for male jobs. For men, there are similar modest reductions in the estimates for female jobs. In integrated and male jobs, the reweighting leads to increases in the estimated effects. Given the small size of these changes and the sizeable standard errors, however, there is no robust evidence that changes in the composition of observable individual level characteristics account for our results.

Another possibility is changes in the composition of occupations within the different job types, as employers attempt to "integrate" jobs. In the second panel of table 9 we present estimates of equation (2) reweighting the 1997/98 data to match the distribution of occupations in 1987/88.[47] Here the comparison of rows 6 through 10 should be to rows 1, 3, 5, 8 and 10 of table 6. For women, the re-weighting has almost no effect on the estimates. For men we do observe a reduction in the (absolute value of the) estimates for female jobs (rows 6, 7 and 9 of table 9) that is consistent with the integration story. The estimated relative wage growth in female (in fact all) jobs is now greater, although the

[46] More precisely, data from the before and after periods are pooled and individual probabilities of belonging to the after period are estimated from a probit model of individual characteristics. The later period data is then reweighted using the ratio of the predicted before and after probabilities for each observation in the after sample.

[47] Here predicted probabilities belonging to either time period are obtained from a linear probability model where the only explanatory variables are the occupation dummies, which is equivalent to reweighing with the ratio of the proportions of the workforce in occupation in each time period.

standard errors are large. The results for blue collar workers, however, change very little or are larger after re-weighting.

Alternative accounts of the results are not directly testable in our data. The legislation tied the wages in female and low wage male jobs perhaps leading to a decline in the unobservable "quality" of individuals who filled them. Even in the absence of these sorting effects, females are more likely to hold the lower wage male jobs that would be used in pay equity comparisons. The fact that the negative effect for females in male jobs is concentrated in blue collar work may indicate the sort of backlash effects suggested by Akerlof and Kranton (forthcoming). The negative effects for males in female jobs may be due to the fact that comparable worth evaluations led to greater uniformity in wages by job class.

## 4. Conclusions

We empirically investigate the introduction of comparable worth to the Ontario labor market in the early 1990s. This was a comprehensive, pro-active, initiative that applied to public sector employers and private sector employers of 10 or more employees.

Our first finding is of substantial lapses in compliance with and implementation of the law in small firms. These employers appear to have lacked the resources to construct the necessary job evaluation programs, well-delineated job classification systems, and sufficient samples of male and female jobs to make meaningful comparisons. As a consequence, the policy had little effect in a sector of the labor market that employs roughly 65 percent of working females and nearly 60 percent of working males. While some of these problems may be peculiar to Ontario, there are more general lessons for applications of comparable worth to the private sector. This is certainly the reading of critics of the Ontario experience. Their prescriptions, however, are largely for the labor market rather than for the legislation. The decentralized nature of the Ontario labor market, the proliferation of small firms, the prevalence of free collective bargaining, all appear to have worked against the policy. The suggested antidote was inter-firm job comparisons and pay equity awards, centralized collective bargaining, and centralized enforcement and monitoring of the pay equity plans

used by firms.

Our second finding follows almost trivially from the first. Because much of the Ontario labor force was untreated by the law, we find no robust evidence that the pay equity legislation transferred a general benefit to women in Ontario over a six to eight year period. Any relative increases in wages in Ontario over the period were enjoyed in all types of jobs: female, integrated and male. Furthermore, at the aggregate level the gender wage gap closed at a similar rate in Ontario and Quebec. Likewise, the penalty to female jobs in both provinces grew by comparable amounts since the law was introduced.

Our third finding flows from an analysis of those sectors where compliance with the law was relatively complete. Any direct, positive effects on the wages of females working in female jobs are modest and typically statistically insignificant. The pay equity awards documented in reports from the Pay Equity Office do not appear to have had a lasting effect. Our most consistently estimated effect of the law is that it instead suppressed wage growth: for women working in male jobs, especially in blue collar jobs, and to a lesser extent males working in female jobs.

The lessons from this investigation are at least two-fold. First, comparable worth would appear to be a unwieldy and complicated regulation for a decentralized labor market. The logistics of implementing comparable worth in the private sector has not been closely examined in previous studies. There would appear to be substantial obstacles to the effectiveness of this policy in this sector. Furthermore, suggested improvements to the Ontario law to increase compliance inevitably involve centralization of wage determination or externally (to the firm) imposed evaluation/award programs. This is an important message, for pay equity is not costless to firms that do comply. If pay equity is adopted as a goal, any deviation from full "treatment" implies that the costs and any benefits of the program are being unfairly distributed.[48]

Second, the evidence here is that the law was more likely to have unintended, rather than intended, consequences. Any advantage to women in female jobs might have been at the expense of women in male jobs, who appear to have lost by the law. While inferences

[48]Similar, "unfairness" of treatments have been reported in Iowa (Gardner and Daniel (1998)), where pay adjustments raised individual employees's salairies above those of their supervisors.

from a public policy intervention are in some sense specific to the jurisdiction where it occurred, the law in Ontario likely had it greatest effect among non-unionized workers in large establishments, a sector of the labor market where there is a substantial penalty to work in female jobs (comparable to estimates for the United States) and that is relatively flexible.

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TABLE 1
IMPLEMENTATION DEADLINES AND COMPLIANCE WITH THE ONTARIO *Pay Equity Act*

| Type of Employer | Deadline for Posting Plans | Deadline for Initial Awards | Proportion of Firms with[a] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | All Plans Posted | | | Some Plans Posted | Plans in Development | No Work Done | Not Stated |
| | | | All | Union | Non-Union | | | | |
| PUBLIC SECTOR: | | | | | | | | | |
| All Establishments | 1990 | 1990 | 46 | | | 24 | 12 | 10 | 8 |
| (>1000 Employees) | | | | 12.5 | –[b] | | | | |
| (500-999 Employees) | | | | 20 | – | | | | |
| PRIVATE SECTOR: | | | | | | | | | |
| Larger Establishments | | | | | | | | | |
| >499 Employees | 1990 | 1991 | 50 | | | 26 | 20 | 4 | |
| (>1000 Employees) | | | | 38 | 77 | | | | |
| (500-999 Employees) | | | | 51 | 77 | | | | |
| 100-499 Employees | 1991 | 1992 | 51 | 50 | 73 | 15 | 22 | 6 | 6 |
| Smaller Establishments "Opt In"/"Opt Out" | | | | | | | | | |
| 50-99 Employees | 1992/NA | 1993/1993[c] | 30 | | | 16 | 28 | 20 | |
| 10-49 Employees | 1993/NA | 1994/1994[c] | 12 | | | 3 | 5 | 80 | |

*Notes:* Source for deadlines: CCH Canadian Limited (1997). All deadlines were to be posted on the January 1st of the indicated year. NA is not applicable. Source for proportions: SPR (1991), Canadian Facts (1992, 1993) and ISR (1994). The information was collected by telephone survey 6-12 months after the relevant posting deadline (15-18 months for private firms with 10-49 employees) with the exception of the proportion by union status for private firms with 100-499 employees. These were collected through a subsequent mail survey, the response to which was correlated with compliance.

[a] The reported statistics are the proportion of the firms of the relevant type and/or size who reported the indicated level of compliance with the posting deadlines for their pay equity plans.

[b] Too few firms in the population to calculate a relevant proportion.

[c] Smaller firms that "opted out" of posting a plan had to make **all** pay equity awards by this date.

TABLE 2A

MEANS OF SELECTED VARIABLES – WOMEN

| | Ontario | | Québec | |
|---|---|---|---|---|
| Variable | 1987/88 | 1997/98 | 1987/88 | 1997/98 |
| Log Wage (1997 CAN$) | 2.51 | 2.62 | 2.49 | 2.57 |
| Age | 36.9 | 38.6 | 36.3 | 38.7 |
| Education:[a] | | | | |
| Primary | .063 | .028 | .103 | .052 |
| Some High School | .098 | .051 | .119 | .072 |
| High School Grad | .365 | .274 | .349 | .208 |
| Some Post-Secondary | .108 | .093 | .083 | .072 |
| Post-Secondary or Trade (in 1997) Certificate | .197 | .343 | .204 | .385 |
| University Degree | .168 | .211 | .140 | .211 |
| Part-time | .206 | .215 | .214 | .225 |
| Married | .668 | .687 | .674 | .703 |
| Metropolitain Area | .760 | .808 | .703 | .727 |
| Industrial Sector: | | | | |
| Agriculture, Forestry Fisheries and Mining | .012 | .009 | .007 | .007 |
| Construction | .017 | .009 | .013 | .011 |
| Manufacturing | | | | |
| Nondurable | .082 | .067 | .109 | .103 |
| Durable | .082 | .070 | .037 | .042 |
| Transportation and public utilities | .047 | .048 | .045 | .050 |
| Trade | .152 | .154 | .158 | .143 |
| FIRE | .097 | .089 | .081 | .084 |
| Business and professional services | .073 | .085 | .046 | .067 |
| Consumer services | .101 | .119 | .123 | .118 |
| Medical, welfare, and educational services | .269 | .292 | .310 | .300 |
| Public administration | .066 | .057 | .069 | .070 |
| Federal | .019 | .039 | .021 | .034 |
| Provincial (State) | .019 | .015 | .028 | .032 |
| Local | .016 | .019 | .014 | .018 |
| Union coverage | .322 | .283 | .431 | .402 |
| Tenure | 5.61 | 7.52 | 6.72 | 8.43 |
| Establishment Size: | | | | |
| $s < 20$ | .338 | .330 | .364 | .339 |
| $20 <= s < 100$ | .310 | .311 | .307 | .300 |
| $100 <= s < 500$ | .228 | .225 | .208 | .219 |
| $s >= 500$ | .123 | .134 | .121 | .141 |
| No. of observations | 7059 | 13807 | 4750 | 7792 |

*Notes:* [a] The classification of education changed between 1987/88 and 1997/98. Starting in 1989, individuals with a trade degree were classified in a separate category regardless of their level of formal education. In the education recode, these are counted in the post-secondary or trade certificate category.

TABLE 2B

MEANS OF SELECTED VARIABLES – MEN

| | Ontario | | Québec | |
|---|---|---|---|---|
| Variable | 1987/88 | 1997/98 | 1987/88 | 1997/98 |
| Log Wage (1997 CAN$) | 2.80 | 2.82 | 2.73 | 2.74 |
| Age | 37.0 | 38.6 | 37.1 | 39.1 |
| Education:[a] | | | | |
| Primary | .096 | .042 | .149 | .080 |
| Some High School | .125 | .069 | .153 | .100 |
| High School Grad | .348 | .287 | .325 | .194 |
| Some Post-Secondary | .102 | .083 | .076 | .064 |
| Post-Secondary or Trade (in 1997) Certificate | .147 | .317 | .149 | .374 |
| University Degree | .183 | .202 | .147 | .187 |
| Part-time | .032 | .049 | .045 | .056 |
| Married | .695 | .676 | .713 | .687 |
| Metropolitain Area | .746 | .797 | .622 | .701 |
| Industrial Sector: | | | | |
| Agriculture, Forestry Fisheries and Mining | .027 | .023 | .035 | .031 |
| Construction | .083 | .075 | .083 | .060 |
| Manufacturing | | | | |
| Nondurable | .109 | .099 | .128 | .124 |
| Durable | .213 | .208 | .165 | .172 |
| Transportation and public utilities | .107 | .105 | .104 | .107 |
| Trade | .144 | .158 | .152 | .155 |
| FIRE | .047 | .051 | .041 | .037 |
| Business and professional services | .050 | .067 | .035 | .055 |
| Consumer services | .050 | .067 | .063 | .078 |
| Medical, welfare, and educational services | .084 | .079 | .104 | .107 |
| Public administration | .083 | .065 | .088 | .075 |
| Federal | .039 | .059 | .042 | .053 |
| Provincial (State) | .017 | .013 | .030 | .026 |
| Local | .034 | .030 | .036 | .030 |
| Union coverage | .420 | .341 | .531 | .449 |
| Tenure | 8.21 | 8.71 | 8.33 | 9.32 |
| Establishment Size: | | | | |
| $s < 20$ | .263 | .273 | .280 | .284 |
| $20 <= s < 100$ | .321 | .310 | .330 | .320 |
| $100 <= s < 500$ | .256 | .240 | .258 | .240 |
| $s >= 500$ | .159 | .178 | .132 | .156 |
| No. of observations | 8318 | 15048 | 6216 | 9104 |

*Notes:* [a] The classification of education changed between 1987/88 and 1997/98. Starting in 1989, individuals with a trade degree were classified in a separate category regardless of their level of formal education. In the education recode, these are counted in the post-secondary or trade certificate category.

TABLE 3
CHANGES IN THE EFFECT OF GENDER COMPOSITION ON LOG WAGES

| Specification | Ontario | | | Quebec | | | |
|---|---|---|---|---|---|---|---|
| | Before law | After law | Time Diff. | Before law | After law | Time Diff. | Time Diff. for Location |
| 1. All Workers | | | | | | | |
| *Women:* | -.080** | -.108** | -.028 | -.082* | -.115** | -.033 | .005 |
| | (.037) | (.043) | (.057) | (.045) | (.047) | (.065) | (.086) |
| | [7059] | [13805] | | [4750] | [7796] | | |
| *Men:* | -.099** | -.052 | .047 | -.026 | -.037 | -.011 | .060 |
| | (.036) | (.045) | (.058) | (.039) | (.045) | (.058) | (.083) |
| | [8318] | [15045] | | [6216] | [9071] | | |
| 2. Union Workers | | | | | | | |
| *Women:* | .100** | .106** | .006 | -.014 | -.001 | .013 | -.007 |
| | (.049) | (.044) | (.066) | (.058) | (.055) | (.080) | (.104) |
| | [2369] | [4248] | | [2122] | [3307] | | |
| *Men:* | -.058* | -.034 | .024 | .036 | .012 | -.024 | .048 |
| | (.034) | (.036) | (.050) | (.036) | (.041) | (.055) | (.074) |
| | [3708] | [5682] | | [3457] | [4335] | | |
| 3. Non-Union Workers | | | | | | | |
| *Women:* | -.168** | -.208** | -.040 | -.126** | -.209** | -.054 | .036 |
| | (.042) | (.049) | (.065) | (.054) | (.050) | (.079) | (.105) |
| | 4690 | 9557 | | 2628 | 4489 | | |
| *Men:* | -.134* | -.058 | .076 | -.078 | -.079 | -.001 | .077 |
| | (.047) | (.054) | (.072) | (.057) | (057) | (.081) | (.108) |
| | 4610 | [9365] | | [2759] | [4736] | | |
| 4. Workers in Larger Establishments ($s \geq 100$) | | | | | | | |
| *Women:* | -.039 | -.056 | -.017 | -.037 | -.105* | -.068 | .051 |
| | (.048) | (.048) | (.068) | (.061) | (.058) | (.084) | (.118) |
| | [2339] | [4892] | | [1470] | [2612] | | |
| *Men:* | -.083* | -.020 | .063 | -.058 | -.053 | .005 | .058 |
| | (.043) | (.052) | (.067) | (.045) | (.050) | (.067) | (.095) |
| | [3477] | [6402] | | [2383] | [3497] | | |
| 5. Workers in Smaller Establishments ($s < 100$) | | | | | | | |
| *Women:* | -.096** | -.133** | -.037 | -.114** | -.122** | -.008 | -.029 |
| | (.042) | (.049) | (.065) | (.051) | (.050) | (.071) | (.096) |
| | [4720] | [8913] | | [3280] | [5184] | | |
| *Men:* | -.094** | -.084* | .010 | .001 | -.050 | -.051 | .061 |
| | (.042) | (.046) | (.062) | (.045) | (.048) | (.066) | (.091) |
| | [4841] | [8643] | | [3833] | [5574] | | |

*Notes:* Before the law corresponds to 1987/88, after the law to 1997/98. Other controls include a quartic in age, six education classes, dummies metropolitan area, industry(10), employment in the federal, provincial and local public service, part time work, married, tenure, union coverage and firm size (4) where appropriate. The estimates presented are from a feasible GLS strategy where the sum of the individual level (i.e., LMAS or LFS) weights (by occupation) are used as weights in the second stage). Estimated standard errors are in parentheses. Number of observations are in brackets. Double asterik (**) indicates significance at the 5% level. Single asterik (*) indicates significance at the 10% level.

TABLE 4
MEAN HOURLY WAGES AND FEMALE/MALE WAGE RATIO
BY JOB TYPES

| | Ontario | | | Quebec | | | |
|---|---|---|---|---|---|---|---|
| | Before law | After law | % Time Diff. | Before law | After law | % Time Diff. | % Time Diff. for Location |
| WOMEN'S WAGES: | | | | | | | |
| All jobs | 13.87 | 15.34 | .106 | 13.39 | 14.66 | .095 | .011 |
| Female jobs | 13.64 | 15.03 | .102 | 13.12 | 14.37 | .095 | .007 |
| Integrated jobs | 14.05 | 15.62 | .112 | 13.95 | 15.17 | .087 | .024 |
| Male jobs | 14.74 | 15.93 | .081 | 13.18 | 14.39 | .092 | -.011 |
| MEN'S WAGES: | | | | | | | |
| All jobs | 18.42 | 18.77 | .019 | 17.14 | 17.32 | .011 | .008 |
| Female jobs | 16.42 | 16.66 | .015 | 16.81 | 17.21 | .024 | -.009 |
| Integrated jobs | 18.79 | 19.54 | .040 | 17.68 | 18.36 | .038 | .001 |
| Male jobs | 18.51 | 18.66 | .008 | 16.91 | 16.72 | -.011 | .019 |
| FEMALE/MALE WAGE RATIO: | | | | | | | |
| All jobs | .753 | .817 | .085 | .781 | .846 | .083 | .002 |
| Female jobs | .831 | .902 | .086 | .780 | .835 | .070 | .016 |
| Integrated jobs | .748 | .799 | .069 | .789 | .826 | .047 | .022 |
| Male jobs | .796 | .854 | .072 | .779 | .861 | .104 | -.032 |
| Women in female jobs/ men in male jobs | .737 | .805 | .093 | .776 | .859 | .108 | -.015 |

*Note:* In 1997 Canadian dollars. Before the law corresponds to 1987/88, after the law to 1997/98. Women make up approximately 45% of the workforce Integrated jobs comprise from (45%-15%=30% to 45%+15%=60%) of women in the occupations Female job classes are 60% or more female and male job classes are at most 30% female.

TABLE 5

ESTIMATED EFFECT ON LOG HOURLY WAGES OF WORKING IN ONTARIO VS. QUÉBEC IN 1997/98 VS. 1987/88

| Sample | Women | | | | Men | | | |
|---|---|---|---|---|---|---|---|---|
| | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs |
| 1. All Workers | .045** | .043** | .064** | .023 | .045** | .057** | .053** | .040** |
| | (.008) | (.010) | (.014) | (.029) | (.008) | (.026) | (.015) | (.009) |
| | [32412] | [19004] | [11450] | [2958] | [38686] | [3120] | [11947] | [23619] |
| 2. Workers in Larger Establishments | .041** | .047** | .071** | -.044 | .073** | .060* | .071** | .072** |
| | (.013) | (.016) | (.026) | (.044) | (.011) | (.036) | (.022) | (.013) |
| | [11313] | [6343] | [3365] | [1410] | [15779] | [1315] | [4472] | [9992] |
| 3. Union Workers in Larger Establishments | .027* | .029* | .032 | .095** | .077** | .072* | .058** | .077** |
| | (.015) | (.018) | (.035) | (.048) | (.012) | (.022) | (.026) | (.013) |
| | [6524] | [4294] | [1516] | [714] | [9904] | [933] | [2295] | [6676] |
| 4. Non-Union Workers in Larger Establishments | .045* | .083** | .109** | -.172** | .051** | -.000 | .080** | .062** |
| | (.024) | (.034) | (.038) | (.078) | (.022) | (.081) | (.037) | (.030) |
| | [4789] | [2046] | [2047] | [696] | [5875] | [382] | [2177] | [3316] |
| 5. Union Workers in Smaller Establishments | .044** | .038* | .050 | .096 | .038** | .054 | .016 | .041** |
| | (.016) | (.020) | (.033) | (.067) | (.014) | (.054) | (.029) | (.017) |
| | [5522] | [3732] | [1473] | [317] | [7299] | [761] | [1853] | [4685] |
| 6. Non-Union Workers in Smaller Establishments | .048** | .043** | .058** | .092* | .010 | .030 | .041* | -.006 |
| | (.012) | (.015) | (.020) | (.049) | (.013) | (.053) | (.024) | (.017) |
| | [16577] | [8932] | [6414] | [1231] | [15608] | [1044] | [5622] | [8942] |

*Notes:* Calculations are from the LMAS for 1987 and 1988 and from the Ingoing Rotation Group of the LFS for 1997 and 1998. Larger establishments employ at least 100 employees. Other explanatory variables include dummies for Ontario and for 1997/98, a quartic in age, six education classes, dummies for metropolitan area, industry(10), employment in the federal, provincial, and local public service, union status, part time work, married, visible minority, tenure, and firm size (4), where appropriate. Standard error are in parentheses. Sample size are in brackets.

TABLE 6

ESTIMATED EFFECT ON LOG HOURLY WAGES OF WORKING IN TREATED SECTOR IN 1997/98 VS. 1987/88

| Sample | Women | | | | Men | | | |
|---|---|---|---|---|---|---|---|---|
| | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs |
| *A. Treated Sector: Larger Establishments in Ontario vs. Québec* | | | | | | | | |
| 1. All Workers | -.011 | .005 | .002 | -.150** | .046** | -.015 | .044 | .055** |
| | (.017) | (.021) | (.031) | (.059) | (.016) | (.053) | (.030) | (.019) |
| | [32412] | [19004] | [11450] | [2958] | [38686] | [3120] | [11947] | [23619] |
| 2. Union Workers | -.022 | -.014 | .029 | -.023 | .036* | .005 | .046 | .034 |
| | (.022) | (.027) | (.042) | (.082) | (.018) | (.064) | (.039) | (.021) |
| | [12046] | [8026] | [8461] | [1031] | [17203] | [1694] | [4148] | [11361] |
| 3. Non-Union Workers | -.016 | .037 | .029 | -.316** | .036 | -.080 | .041 | .054 |
| | (.026) | (.037) | (.042) | (.088) | (.026) | (.099) | (.044) | (.033) |
| | [21366] | [10978] | [8461] | [1927] | [21483] | [1426] | [7799] | [12258] |
| 4. White Collar | -.017 | .020 | -.000 | -.104 | .066 | -.033 | .079 | .113 |
| Non-Union Workers | (.033) | (.040 | (.059) | (.146) | (.041) | (.108) | (.055) | (.071) |
| | [13168] | [8246] | [4208] | [714] | [8185] | [921] | [4393] | [2871] |
| 5. Blue Collar | .031 | .133 | .113 | -.339** | -.005 | -.138 | -.065 | .030 |
| Non-Union Workers | (.043) | (.091) | (.054) | (.113) | (.034) | (.264) | (.077) | (.037) |
| | [8198] | [2732] | [4253] | [1213] | [13298] | [505] | [3406] | [9387] |
| *B. Treated Sector: Larger Establishments within Ontario* | | | | | | | | |
| 6. All Workers | .008 | .010 | .027 | -.076** | .016 | -.060* | .007 | .030** |
| | (.010) | (.013) | (.019) | (.034) | (.010) | (.034) | (.019) | (.012) |
| | [20866] | [11603] | [7526] | [2007] | [23366] | [1880] | [7244] | [14242] |
| 7. Union Workers | -.008 | .001 | .003 | -.105* | .016 | -.066 | .046** | .016 |
| | (.011) | (.018) | (.033) | (.052) | (.012) | (.045) | (.026) | (.014) |
| | [6617] | [4385] | [1571] | [661] | [9391] | [873] | [2222] | [6296] |
| 8. Non-Union Workers | .028** | .033* | .039* | -.077* | .016 | -.054 | -.003 | .030 |
| | (.014) | (.019) | (.023) | (.047) | (.015) | (.052) | (.026) | (.019) |
| | [14249] | [7218] | [5685] | [1346] | [13975] | [1007] | [5022] | [7946] |

TABLE 6 (CONTINUED)

| Sample | Women | | | | Men | | | |
|---|---|---|---|---|---|---|---|---|
| | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs |
| *B. Treated Sector: Larger Establishments within Ontario* | | | | | | | | |
| 9. White Collar | .058** | .047** | .057* | -.011 | .022 | -.023 | .030 | .027 |
| Non-Union Workers | (.017) | (.021) | (.030) | (.081) | (.023) | (.056) | (.033) | (.039) |
| | [8918] | [5551] | [2871] | [496] | [5509] | [644] | [2856] | [2009] |
| 10. Blue Collar | -.026 | .005 | .009 | -.121** | -.045** | -.294** | -.187** | .010 |
| Non-Union Workers | (.024) | (.048) | (.031) | (.055) | (.019) | (.133) | (.044) | (.021) |
| | [5331] | [1667] | [2814] | [850] | [8466] | [363] | [2166] | [5937] |

*Notes:* Calculations are from the LMAS for 1987 and 1988 and from the Ingoing Rotation Group of the LFS for 1997 and 1998. Larger establishments employ at least 100 employees. Other explanatory variables include dummies for Ontario and for 1997/98, a quartic in age, six education classes, dummies for metropolitan area, industry(10), employment in the federal, provincial, and local public service, union status, part time work, married, visible minority, tenure, and firm size (4), where appropriate. Standard error are in parentheses. Sample size are in brackets.

TABLE 7

ESTIMATED EFFECT ON THE GENDER WAGE GAP OF WORKING IN ONTARIO VS. QUÉBEC IN 1997/98 VS. 1987/88

| Sample | All Jobs | | Female Jobs | | Integrated Jobs | | Male Jobs | |
|---|---|---|---|---|---|---|---|---|
| Estimates for | Gender * 1997/98 | Gender * Ontario * 1997/98 | Gender * 1997/98 | Gender * Ontario * 1997/98 | Gender * 1997/98 | Gender * Ontario * 1997/98 | Gender * 1997/98 | Gender * Ontario * 1997/98 |
| 1. All Workers | .059** (.009) [72098] | .003 (.011) | .049** (.010) [22124] | -.011 (.026) | .026 (.017) [23397] | .015 (.021) | .058** (.023) [26577] | -.005 (.029) |
| 2. Workers in Larger Establishments | .089** (.014) [27092] | -.032* (.017) | .079** (.028) [7655] | .016 (.037) | .057** (.028) [8035] | -.013 (.034) | .097** (.034) [11402] | -.095** (.040) |
| 3. Union Workers in Larger Establishments | .100** (.014) [16428] | -.054** (.019 | .108** (.029) [5227] | -.034 (.042) | .068** (.032) [3811] | -.033 (.043) | .013 (.018) [7390] | .018 (.045) |
| 4. Non-Union Workers in Larger Establishments | .068* (.029) [10664] | -.002 (.026) | -.036 (.071) [2428] | .131 (.082) | .043 (.045) [2428] | .010 (.054) | .193** (.066) [4012] | -.207** (.077) |

| Estimates for | Gender * 1997/98 * Treated Sector | Gender * Ontario * 1997/98 * Treated Sector | Gender * 1997/98 * Treated Sector | Gender * Ontario * 1997/98 * Treated Sector | Gender * 1997/98 * Treated Sector | Gender * Ontario * 1997/98 * Treated Sector | Gender * 1997/98 * Treated Sector | Gender * Ontario * 1997/98 * Treated Sector |
|---|---|---|---|---|---|---|---|---|
| *A. Treated Sector: Larger Establishments* | | | | | | | | |
| 5. All Workers | .046** (.018) [72098] | -.060** (.023) | .058 (.041) [22124] | .034 (.052) | .048 (.035) [23397] | -.050 (.044) | .067 (.048) [26577] | -.169** (.058) |
| 6. Non-Union Workers | .063* (.032) [42849] | -.060 (.038) | -.051 (.039) [12404] | .167 (.096) | .039 (.051) [16260] | -.021 (.062) | .223** (.076) [14185] | -.331** (.090) |

*Notes:* Calculations are from the LMAS for 1987 and 1988 and from the Ingoing Rotation Group of the LFS for 1997 and 1998. Larger establishments employ at least 100 employees. Other explanatory variables include dummies for Ontario and for 1997/98, a quartic in age, six education classes, dummies for metropolitan area, industry(10), employment in the federal, provincial, and local public service, union status, part time work, married, visible minority, tenure, and firm size (4), where appropriate. Standard error are in parentheses. Sample size are in brackets.

TABLE 8

ESTIMATED EFFECT ON SHARE OF EMPLOYMENT IN FEMALE JOBS IN ONTARIO VS. QUEBEC IN 1997-98 VS. 1987-88

| | Women | | Men | |
|---|---|---|---|---|
| Establishment Sample | Large | Small | Large | Small |
| 1. All Workers | -.030 | .028** | -.004 | .009 |
| | (.017) | (.013) | (.009) | (.013) |
| 2. Union Workers | -.032 | .030 | -.009 | .021 |
| | (.021) | (.024) | (.011) | (.013) |
| 3. Non-Union Workers | .003 | .034** | .007 | .003 |
| | (.032) | (.015) | (.015) | (.008) |
| *A. Treated Sector: Larger Establishments* | | | | |
| 4. All Workers | -.052** | | -.009 | |
| | (.022) | | (.011) | |
| 5. Non-Union Workers | -.027 | | .008 | |
| | (.034) | | (.017) | |

*Notes:* Calculations are from the LMAS for 1987 and 1988 and from the Ingoing Rotation Group of the LFS for 1997 and 1998. Larger establishments employ at least 100 employees. Other explanatory variables include dummies for Ontario and for 1997/98, a quartic in age, six education classes, dummies for metropolitan area, industry(10), employment in the federal, provincial, and local public service, union status, part time work, married, visible minority, tenure, and firm size (4), where appropriate. Standard error are in parentheses.

TABLE 9

ESTIMATED EFFECT ON LOG HOURLY WAGES OF WORKING IN TREATED SECTOR IN 1997/98 VS. 1987/88 UNDER ALTERNATIVE COUNTERFACTUALS

| Sample | Women | | | | Men | | | |
|---|---|---|---|---|---|---|---|---|
| | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs |
| I. Holding Individual Characteristics at 1987/88 levels | | | | | | | | |
| *A. Treated Sector: Larger Establishments in Ontario vs. Québec* | | | | | | | | |
| 1. All Workers | -.003 | .008 | .001 | -.096* | .061 | -.010 | .055 | .070** |
| | (.017) | (.021) | (.030) | (.058) | (.015) | (.015) | (.030) | (.018) |
| | [33412] | [19004] | [11450] | [2958] | [38686] | [3120] | [11947] | [23619] |
| 2. Non-Union Workers | -.007 | .027 | .025 | -.286** | .076** | -.003 | .076 | .087** |
| | (.027) | (.039) | (.041) | (.088) | (.026) | (.096) | (.045) | (.034) |
| | [21366] | [10978] | [8461] | [1927] | [21483] | [1426] | [7799] | [12258] |
| 3. Blue Collar | .022 | .096 | .080 | -.289** | .019 | -.082 | -.112 | .064 |
| Non-Union Workers | (.043) | (.089) | (.053) | (.114) | (.034) | (.263) | (.076) | (.037) |
| | [8198] | [2732] | [4253] | [1213] | [13298] | [505] | [3406] | [9387] |
| *B. Treated Sector: Larger Establishments within Ontario* | | | | | | | | |
| 4. Non-Union Workers | .005 | .009 | .018 | -.075* | .000 | -.072 | -.027 | .016 |
| | (.014) | (.019) | (.022) | (.045) | (.015) | (.051) | (.026) | (.019) |
| | [14249] | [7218] | [5685] | [1346] | [13975] | [1007] | [5022] | [7946] |
| 5. Blue Collar | -.031 | -.002 | .009 | -.090* | -.062 | -324** | -.222** | -.002 |
| Non-Union Workers | (.024) | (.031) | (.031) | (.054) | (.020) | (.140) | (.045) | (.021) |
| | [5331] | [1667] | [2814] | [850] | [8466] | [363] | [2166] | [5937] |
| II. Holding the Distribution of Occupations at 1987/88 level | | | | | | | | |
| *A. Treated Sector: Larger Establishments in Ontario vs. Québec* | | | | | | | | |
| 6. All Workers | -.010 | .005 | .001 | -.146** | .050 | .027 | .045 | .056** |
| | (.017) | (.021) | (.031) | (.061) | (.015) | (.053) | (.031) | (.019) |
| | [33412] | [19004] | [11450] | [2958] | [38686] | [3120] | [11947] | [23619] |
| 7. Non-Union Workers | -.005 | .013 | .048 | -.319** | .081** | .085 | .093 | .080 |
| | (.027) | (.038) | (.042) | (.093) | (.026) | (.099) | (.045) | (.034) |
| | [21366] | [10978] | [8461] | [1927] | [21483] | [1426] | [7799] | [12258] |
| 8. Blue Collar | .032 | .117 | .117** | -.362** | -.045** | -.248** | -.149** | -.003 |
| Non-Union Workers | (.044) | (.090) | (.055) | (.122) | (.016) | (.106) | (.036) | (.017) |
| | [8198] | [2732] | [4253] | [1213] | [13298] | [505] | [3406] | [9387] |

TABLE 9 (CONTINUED)

| Sample | Women | | | | Men | | | |
|---|---|---|---|---|---|---|---|---|
| | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs |
| *B. Treated Sector: Larger Establishments within Ontario* | | | | | | | | |
| 9. Non-Union Workers | .017 | .024 | .051** | -.102** | .020 | -.016 | .008 | .030 |
| | (.014) | (.019) | (.023) | (.047) | (.015) | (.051) | (.026) | (.019) |
| | [14249] | [7218] | [5685] | [1346] | [13975] | [1007] | [5022] | [7946] |
| 10. Blue Collar | -.023 | .017 | .017 | -.107* | -.045 | -.261* | -.180** | .009 |
| Non-Union Workers | (.024) | (.050) | (.032) | (.057) | (.019) | (.133) | (.045) | (.021) |
| | [5331] | [1667] | [2814] | [850] | [8466] | [363] | [2166] | [5937] |

*Notes:* Calculations are from the LMAS for 1987 and 1988 and from the Ingoing Rotation Group of the LFS for 1997 and 1998. Larger establishments employ at least 100 employees. Other explanatory variables include dummies for Ontario and for 1997/98, a quartic in age, six education classes, dummies for metropolitan area, industry(10), employment in the federal, provincial, and local public service, union status, part time work, married, visible minority, tenure, and firm size (4), where appropriate. Standard error are in parentheses. Sample size are in brackets.

TABLE A-1

LIST OF OCCUPATIONS (1980 SOC) AND PERCENT FEMALE (CENSUS 1990)

| SOC Number | Occupation Title | Percent Female Ontario | Québec |
|---|---|---|---|
| | *Managerial, Administrative and Related Occupations* | | |
| 1111 | Members of legislative bodies | .4116 | .3528 |
| 1113 | Government administrators | .4053 | .3245 |
| 1115 | Post office management occupations | .5128 | .606 |
| 1116 | Inspectors and regulatory officers, government | .3099 | .2767 |
| 1119 | Officials and administrators, government | .4813 | .4531 |
| 1130 | General managers and other senior officials | .2413 | .184 |
| 1131 | Management occs, natural sciences and engineering | .1741 | .1415 |
| 1132 | Management occs, social sciences and related fields | .62 | .5985 |
| 1133 | Administrators in teaching and related fields | .4219 | .3779 |
| 1134 | Administrators in medicine and health | .6998 | .522 |
| 1135 | Financial management occupations | .4732 | .4077 |
| 1136 | Personnel and industrial relations management occ. | .4547 | .3903 |
| 1137 | Sales and advertising management occupations | .3473 | .3296 |
| 1141 | Purchasing management occupations | .3346 | .2092 |
| 1142 | Services management occupations | .4132 | .379 |
| 1143 | Production management occupations | .163 | .1679 |
| 1145 | Management occupations, construction operations | .0611 | .0544 |
| 1146 | Farm management occupations | .3197 | .3133 |
| 1147 | Management occs, transport and communications | .2523 | .234 |
| 1149 | Others managers | .4154 | .5513 |
| 1171 | Accountants, auditors and other financial officers | .4779 | .4653 |
| 1173 | Organization and methods analysts | .3085 | .3046 |
| 1174 | Personnel and related officers | .5388 | .5639 |
| 1175 | Purchasing officers and buyers, except trade | .4668 | .3041 |
| 1176 | Inspectors and regulatory officers, n.e.c | .3631 | .2175 |
| 1179 | Occs related to management and administration, n.e.c | .5575 | .4574 |
| | *Occupations in Natural Sciences, Engineering and Mathematics* | | |
| 2111 | Chemists | .2869 | .3247 |
| 2112 | Geologists | .1034 | .0868 |
| 2113 | Physicists | .1335 | .2003 |
| 2114 | Meteorologists | .1242 | .151 |
| 2117 | Physical sciences technologists and technicians | .2678 | .325 |
| 2119 | Occupations in physical sciences, n.e.c. | .1741 | .24 |
| 2131 | Agriculturists and related scientists | .2395 | .3024 |
| 2133 | Biologists and related scientists | .3919 | .4093 |
| 2135 | Life sciences technologists and technicians | .4279 | .2944 |
| 2139 | Occupations in life sciences, n.e.c. | .1929 | .3225 |
| 2141 | Architects | .176 | .2398 |
| 2142 | Chemical engineers | .1284 | .1701 |
| 2143 | Civil engineers | .0834 | .0911 |
| 2144 | Electrical engineers | .0976 | .1071 |
| 2145 | Industrial engineers | .1668 | .2432 |
| 2146 | Agricultural engineers | .1939 | .2247 |
| 2147 | Mechanical engineers | .0548 | .0822 |
| 2151 | Metallurgical engineers | .0304 | .0537 |
| 2153 | Mining engineers | .0449 | .0534 |
| 2154 | Petroleum engineers | .0521 | .0353 |
| 2155 | Aerospace engineers | .0363 | .0586 |
| 2156 | Nuclear engineers | .0813 | .2247 |
| 2157 | Community planners | .3226 | .2716 |
| 2159 | Professional engineers, n.e.c. | .1038 | .0702 |

TABLE A-1 (CONTINUED)

LIST OF OCCUPATIONS (1980 SOC) AND PERCENT FEMALE (CENSUS 1990)

| SOC Number | Occupation Title | Percent Female Ontario | Québec |
|---|---|---|---|
| 2160 | Supervisors: other engineering occ. | .0988 | .1159 |
| 2161 | Surveyors | .0909 | .0769 |
| 2163 | Draughting occupations | .2058 | .1857 |
| 2164 | Architectural technologists and technicians | .192 | .2573 |
| 2165 | Engineering technologists and technicians | .1588 | .0911 |
| 2169 | Other occupations in arch. and engineer. | .1833 | .1568 |
| 2181 | Mathematicians, statisticians and actuaries | .4241 | .3034 |
| 2183 | Systems analysts, computer programmers | .3041 | .3104 |
| 2189 | Occupations in mathematics, statistics, etc. | .4217 | .3684 |
| | *Occupations in Social Sciences and Related Fields* | | |
| 2311 | Economists | .3475 | .3659 |
| 2313 | Sociologists, anthropologists and related social | .4742 | .5116 |
| 2315 | Psychologists | .6645 | .6305 |
| 2319 | Occupations in social sciences, n.e.c. | .5902 | .5033 |
| 2331 | Social workers | .7431 | .7164 |
| 2333 | Occupations in welfare and community services | .7736 | .66 |
| 2339 | Occupations in social work and related fields, n.e.c. | .6936 | .5804 |
| 2341 | Judges and magistrates | .1934 | .1483 |
| 2343 | Lawyers and notaries | .2721 | .3369 |
| 2349 | Occupations in law and jurisprudence, n.e.c. | .7 | .6882 |
| 2350 | Supervisors:Library, museum and archival science | .6884 | .6662 |
| 2351 | Librarians, archivists and conservators | .8227 | .7842 |
| 2353 | Technicians in library, museum and archival scie | .6053 | .7418 |
| 2359 | Library, museum and archival science, n.e.c. | .6227 | .824 |
| 2391 | Educational and vocational counsellors | .6832 | .5196 |
| 2399 | Other occs in social science and related fields | .6845 | .5053 |
| | *Occupations in Religion* | | |
| 2511 | Ministers of religion | .1325 | .0708 |
| 2513 | Nuns and brothers | .6723 | .6371 |
| 2519 | Occupations in religion, n.e.c. | .4754 | .3363 |
| | *Teaching and Related Occupations* | | |
| 2711 | University teachers | .282 | .3113 |
| 2719 | University teaching and related occupations, n.e.c | .4719 | .5042 |
| 2731 | Elementary and kindergarten teachers | .7999 | .8487 |
| 2733 | Secondary school teachers | .4828 | .4871 |
| 2739 | Elem. and secondary school teaching, related occ. | .8411 | .6923 |
| 2791 | Community college and vocational school teachers | .4682 | .4305 |
| 2792 | Fine arts teachers, n.e.c. | .714 | .6763 |
| 2793 | Post-secondary school teachers, n.e.c. | .6385 | .7088 |
| 2795 | Teachers of exceptional students, n.e.c. | .8026 | .721 |
| 2797 | Instructors and training officers, n.e.c. | .4438 | .363 |
| 2799 | Other teaching and related occupations, n.e.c. | .6166 | .5246 |
| | *Occupations in Medicine and Health* | | |
| 3111 | Physicians and surgeons | .2678 | .2908 |
| 3113 | Dentists | .1591 | .1925 |
| 3115 | Veterinarians | .3291 | .3635 |
| 3117 | Osteopaths and chiropractors | .2679 | .2909 |
| 3119 | Health diagnosing and treating occupations, n.e.c. | .6425 | .6035 |
| 3130 | Supervisors:Nursing, therapy and related assist. | .9177 | .8646 |
| 3131 | Nurses, registered, graduate and nurses-in-training | .964 | .9109 |
| 3132 | Orderlies | .2025 | .1529 |

TABLE A-1 (CONTINUED)

LIST OF OCCUPATIONS (1980 SOC) AND PERCENT FEMALE (CENSUS 1990)

| SOC Number | Occupation Title | Percent Female Ontario | Québec |
|---|---|---|---|
| 3134 | Registered nursing assistants | .9255 | .9039 |
| 3135 | Nursing attendants | .9072 | .7424 |
| 3136 | Audio and speech therapists | .9002 | .8969 |
| 3137 | Physiotherapists | .8636 | .7973 |
| 3138 | Occupational therapists | .876 | .8974 |
| 3139 | Nursing, therapy and related assisting occs, n.e.c. | .8262 | .3518 |
| 3151 | Pharmacists | .5358 | .5974 |
| 3152 | Dietitians and nutritionists | .9464 | .9437 |
| 3153 | Optometrists | .4159 | .5209 |
| 3154 | Dispensing opticians | .4839 | .5493 |
| 3155 | Radiological technologists and technicians | .7823 | .8276 |
| 3156 | Medical laboratory technologists and technicians | .7289 | .7716 |
| 3157 | Denturists | .2043 | .2101 |
| 3158 | Dental hygienists and dental assistants | .9731 | .9659 |
| 3161 | Dental laboratory technicians | .3476 | .4132 |
| 3162 | Respiratory technicians | .624 | .7577 |
| 3169 | Other occupations in medicine and health, n.e.c. | .7943 | .7685 |
| | *Artistic, Literary and Related Occupations* | | |
| 3311 | Painters, sculptors, and related artists | .4248 | .5028 |
| 3313 | Product and interior designers | .5231 | .631 |
| 3314 | Advertising and illustrating artists | .3895 | .4129 |
| 3315 | Photographers and camera operators | .1799 | .2512 |
| 3319 | Occs in fine and commercial art, photography | .4483 | .4564 |
| 3330 | Producers, directors, performing and audio-visua | .3612 | .388 |
| 3331 | Conductors, composers and arrangers | .1163 | .2929 |
| 3332 | Musicians and singers | .2867 | .3199 |
| 3333 | Occs related to music and musical entertainment, | .1047 | .222 |
| 3334 | Dancers and choreographers | .8412 | .7987 |
| 3335 | Actors/actresses | .4565 | .3748 |
| 3337 | Radio and television announcers | .3004 | .1937 |
| 3339 | Occupations in performing and audio-visual arts, | .2648 | .3844 |
| 3351 | Writers and editors | .4671 | .4879 |
| 3355 | Translators and interpreters | .6416 | .6462 |
| 3359 | Occupations in writing, n.e.c. | .7012 | .4385 |
| 3360 | Supervisors:Occupations in sports and recreation | .3359 | .338 |
| 3370 | Coaches, trainers and instructors, sports and recreation n.e.c. | .4896 | .62 |
| 3371 | Referees and related officials | .1642 | .0769 |
| 3373 | Athletes | .1857 | .1013 |
| 3375 | Attendants, sports and recreation | .219 | .2908 |
| 3379 | Occupations in sports and recreation, n.e.c. | .2259 | .2083 |
| | *Clerical and Related Occupations* | | |
| 4110 | Supervisors:Stenographic and typing occupations | .9408 | .9074 |
| 4111 | Secretaries and stenographers | .9825 | .9845 |
| 4113 | Typists and clerk-typists | .9318 | .9469 |
| 4130 | Supervisors:Bookkeeping, account-recording occ. | .803 | .7791 |
| 4131 | Bookkeepers and accounting clerks | .8324 | .815 |
| 4133 | Cashiers and tellers | .8779 | .8819 |
| 4135 | Insurance, bank and other finance clerks | .8116 | .8434 |
| 4137 | Statistical clerks | .6752 | .6619 |
| 4139 | Bookkeeping, account-recording and related occs | .7115 | .6653 |
| 4140 | Supervisors:Office machine and EDP equipment op. | .5081 | .4945 |

TABLE A-1 (CONTINUED)

LIST OF OCCUPATIONS (1980 SOC) AND PERCENT FEMALE (CENSUS 1990)

| SOC Number | Occupation Title | Percent Female | |
|---|---|---|---|
| | | Ontario | Québec |
| 4141 | Office machine operators | .613 | .6217 |
| 4143 | Electronic data-processing equipment operators | .7505 | .7727 |
| 4150 | Supers:Material recording, scheduling and distrib. | .2047 | .1599 |
| 4151 | Production clerks | .4141 | .3802 |
| 4153 | Shipping and receiving clerks | .2258 | .1925 |
| 4155 | Stock clerks and related occupations | .3098 | .2169 |
| 4157 | Weighers | .3511 | .2038 |
| 4159 | Material recording, scheduling and distributing occ. | .4922 | .6283 |
| 4160 | Supervisors: library, file and correspondence occ. | .7849 | .8617 |
| 4161 | Library and file clerks | .8402 | .7671 |
| 4169 | Library, file and correspondence clerks | .6068 | .8118 |
| 4170 | Supers:Reception, info, mail and message distribution | .4631 | .3301 |
| 4171 | Receptionists and information clerks | .9383 | .8781 |
| 4172 | Mail carriers | .2514 | .1551 |
| 4173 | Mail and postal clerks | .5599 | .4406 |
| 4175 | Telephone operators | .9125 | .8507 |
| 4177 | Messengers | .3834 | .21 |
| 4179 | Reception, info, mail and message distribution occ. | .6317 | .3511 |
| 4190 | Supervisors:Other clerical, related occs, n.e.c. | .6013 | .647 |
| 4191 | Collectors | .7191 | .5843 |
| 4192 | Claim adjusters | .6522 | .6391 |
| 4193 | Travel clerks, ticket, station, freight agents | .7321 | .6642 |
| 4194 | Hotel clerks | .653 | .621 |
| 4195 | Personnel clerks | .8107 | .7483 |
| 4197 | General office clerks | .8074 | .7983 |
| 4199 | Other clerical and related occupations, n.e.c. | .6478 | .5687 |
| | *Sales Occupations* | | |
| 5130 | Supervisors:Sales occupations, commodities | .3943 | .3187 |
| 5131 | Technical sales occupations and related advisers | .1815 | .1663 |
| 5133 | Commercial travellers | .2569 | .2073 |
| 5135 | Sales clerks and salespersons, commodities, n.e.c. | .5329 | .5002 |
| 5141 | Street vendors and door-to-door sales occupation | .5678 | .4863 |
| 5143 | Newspaper carriers and vendors | .2941 | .1464 |
| 5145 | Service station attendants | .1901 | .1549 |
| 5149 | Sales occupations: commodities, n.e.c | .6166 | .5327 |
| 5170 | Supervisors:Sales occupations, services | .4059 | .361 |
| 5171 | Insurance sales occupations | .4347 | .3967 |
| 5172 | Real estate sales occupations | .4311 | .4279 |
| 5173 | Sales agents and traders, securities | .315 | .3288 |
| 5174 | Advertising sales occupations | .4604 | .443 |
| 5177 | Business services sales occupations | .3498 | .3943 |
| 5179 | Sales occupations:Services, n.e.c. | .3528 | .3952 |
| 5190 | Supervisors:Other sales occupations | .2995 | .2989 |
| 5191 | Buyers, wholesale and retail trade | .4894 | .4459 |
| 5193 | Route drivers | .0916 | .038 |
| 5199 | Other sales occupations, n.e.c. | .6079 | .5571 |
| | *Service Occupations* | | |
| 6111 | Fire-fighting occupations | .0144 | .0092 |
| 6112 | Police officers and detectives, government | .1066 | .0805 |
| 6113 | Police agents and investigators, private service | .2499 | .173 |
| 6115 | Guards and related security occupations | .2229 | .3023 |
| 6119 | Protective service occupations, n.e.c. | .5338 | .4233 |

TABLE A-1 (CONTINUED)

LIST OF OCCUPATIONS (1980 SOC) AND PERCENT FEMALE (CENSUS 1990)

| SOC Number | Occupation Title | Percent Female Ontario | Québec |
|---|---|---|---|
| 6120 | Supers:Food and beverage preparation | .5996 | .3838 |
| 6121 | Chefs and cooks | .4532 | .4963 |
| 6123 | Bartenders | .5008 | .6541 |
| 6125 | Food and beverage serving occupations | .7675 | .8051 |
| 6129 | Food and beverage preparation and related service occ. | .7548 | .7167 |
| 6130 | Supervisors:Lodging and other accommodation | .6041 | .4232 |
| 6133 | Lodging cleaners, except private household | .8585 | .8825 |
| 6135 | Sleeping -car and baggage porters | .0807 | .1049 |
| 6139 | Occupations in lodging and other accomodation | .4395 | .1615 |
| 6141 | Funeral directors, embalmers and related occs | .1506 | .1604 |
| 6142 | Housekeepers, servants and related occupations | .9508 | .8463 |
| 6143 | Barbers, hairdressers and related occupations | .7903 | .8443 |
| 6144 | Guides | .6046 | .594 |
| 6145 | Travel and related attendants, except food and b | .8016 | .6748 |
| 6147 | Child-care occupations | .9662 | .9628 |
| 6149 | Personal service occupations n.e.c. | .5216 | .4936 |
| 6160 | Supervisors:Apparel and furnishings service occ. | .418 | .3889 |
| 6162 | Laundering and dry cleaning occupations | .7168 | .6043 |
| 6165 | Pressing occupations | .744 | .6061 |
| 6169 | Apparel and furnishings service occupations, n.e.c. | .3453 | .4831 |
| 6190 | Supervisors:Other service occupations | .3321 | .1621 |
| 6191 | Janitors, charworkers and cleaners | .4779 | .3281 |
| 6193 | Elevator-operating occupations | .2795 | .0514 |
| 6198 | Labouring and other elemental work:Other service | .4105 | .2211 |
| 6199 | Other service occupations n.e.c. | .2663 | .1714 |
| | *Farming, Horticulture and Animal Husbandry Occupations* | | |
| 7111 | Farmers | .2365 | .1676 |
| 7180 | Foremn/womn:Other farming | .2304 | .1194 |
| 7183 | Livestock farm workers | .3389 | .2788 |
| 7185 | Crop farm workers | .4808 | .4495 |
| 7195 | Nursery and related workers | .1634 | .131 |
| 7196 | Inspecting, testing, grading and sampling occ. | .6862 | .6698 |
| 7197 | Farm machinery operators | .0783 | .0799 |
| 7199 | Other farming, horticultural and animal husbandry | .3726 | .2653 |
| | *Fishing, Trapping and Related Occupations* | | |
| 7311 | Captains and other officers, fishing vessels | .0367 | |
| 7313 | Net, trap and line fishing occupations | .1061 | .087 |
| 7315 | Trapping and related occupations | .0964 | .1672 |
| 7319 | Fishing, trapping and related occupations, n.e.c | .18 | .3752 |
| | *Forestry and Logging Occupations* | | |
| 7510 | Foremen/women:Forestry and logging occupations | .0886 | .0498 |
| 7511 | Forestry conservation occupations | .0822 | .0269 |
| 7513 | Timber cutting and related occupations | .0312 | .01 |
| 7516 | Log inspecting, grading and related occs | .1493 | .1176 |
| 7517 | Log hoisting, sorting, moving and related occs | .0253 | .0121 |
| 7518 | Labouring and other elemental work | .3183 | .1785 |
| 7519 | Forestry and logging occupations, n.e.c. | .0641 | .3946 |
| | *Mining and Quarrying Occupations* | | |
| 7710 | Foremen/women:Mining and quarrying inc. oil and gas | .0274 | .0159 |
| 7711 | Rotary well-drilling and related occupations | .0215 | |
| 7713 | Rock and soil drilling occupations | .0132 | |

TABLE A-1 (CONTINUED)

LIST OF OCCUPATIONS (1980 SOC) AND PERCENT FEMALE (CENSUS 1990)

| SOC Number | Occupation Title | Percent Female Ontario | Québec |
|---|---|---|---|
| 7715 | Blasting occupations | .0171 | |
| 7717 | Cutting, handling and loading occupations | .0151 | .0072 |
| 7718 | Labouring and other elemental work | .0305 | .0556 |
| 7719 | Mining and quarrying occupations n.e.c. | .0363 | .0357 |
| | *Processing Occupations* | | |
| 8110 | Foremen/women: mineral ore treating occupations | .027 | |
| 8111 | Crushing and grinding occupations, mineral ores | .0412 | .0363 |
| 8113 | Mixing, separating, filtering and related occs | .1111 | .0144 |
| 8115 | Melting and roasting occupations: mineral ores | | .1328 |
| 8116 | Inspecting, testing, grading, etc.: mineral ores | .1138 | .0814 |
| 8118 | Labouring and other elementa work: mineral ores | .0331 | |
| 8119 | Mineral ores treating occupations, n.e.c. | .1028 | .0437 |
| 8130 | Foremen/women: metal processing and related occs | .0337 | .009 |
| 8131 | Metal smelting, converting and refining occs | .0479 | .0206 |
| 8133 | Metal heat-treating occupations | .0446 | .0788 |
| 8135 | Metal rolling occupations | .0654 | .1431 |
| 8137 | Moulding, coremaking and metal casting occupations | .0767 | .0285 |
| 8141 | Metal extruding and drawing occupations | .1582 | .0147 |
| 8143 | Plating, metal spraying and related occupations | .1109 | .0567 |
| 8146 | Inspecting, testing, grading and sampling occs | .1222 | .1095 |
| 8148 | Labouring and other elemental work:Metal process | .0963 | .037 |
| 8149 | Metal processing and related occupations, n.e.c. | .0525 | .1208 |
| 8150 | Foremen/women: clay, glass and stone processing occs | .0737 | .0047 |
| 8151 | Furnace and kiln workers: clay, glass and stone | .2125 | |
| 8153 | Separating, grinding, crushing and mixing: clay, ... | .0489 | |
| 8155 | Forming occupations:Clay, glass and stone | .1408 | .101 |
| 8156 | Inspecting, testing, grading and sampling:clay, ... | .4596 | .2272 |
| 8158 | Labouring and other elemental work:Clay, glass, ... | .1518 | .1318 |
| 8159 | Clay, glass and stone processing occ., n.e.c. | .1782 | .0602 |
| 8160 | Foremen/women: chemicals, ptrlm, rbbr and plstic | .0875 | .1148 |
| 8161 | Mixing and blending occs: chemicals and related mat. | .1482 | .0819 |
| 8163 | Filtering, straining and separating: chemicals | .2964 | .1671 |
| 8165 | Distilling, subliming and carbonizing occs | .0804 | .1261 |
| 8167 | Roasting, cooking and drying occs: chemicals | .1258 | .0398 |
| 8171 | Crushing and grinding occs: chemicals | .1297 | .1295 |
| 8173 | Coating and calendering occs: chemicals | .243 | .2542 |
| 8176 | Inspecting, testing, grading and sampling: chemcls | .3649 | .2668 |
| 8178 | Labouring and other elemental work: chemicals | .1867 | .2219 |
| 8179 | Chemicals and related materials processing occs,n.e.c. | .254 | .2598 |
| 8210 | Foremen/women:Food, beverage and related processing | .2421 | .1254 |
| 8211 | Flour and grain milling occupations | .1545 | .0191 |
| 8213 | Baking, confectionery making and related occs | .4927 | .4426 |
| 8215 | Slaughtering and meat cutting and related occs | .2588 | .1606 |
| 8217 | Fish canning, curing and packing occupations | .6299 | .5829 |
| 8221 | Fruit and vegetable canning, preserving occs | .5214 | .472 |
| 8223 | Milk processing and related occupations | .1296 | .1166 |
| 8225 | Sugar processing and related occupations | .1179 | .3364 |
| 8226 | Inspecting, testing, grading: food and beverages | .4275 | .4019 |
| 8227 | Beverage processing and related occupations | .1582 | .093 |
| 8228 | Labouring and other elemental work: food and beverages | .4032 | .293 |
| 8229 | Food, beverage and related processing occs, n.e.c. | .3449 | .2772 |

TABLE A-1 (CONTINUED)
LIST OF OCCUPATIONS (1980 SOC) AND PERCENT FEMALE (CENSUS 1990)

| SOC Number | Occupation Title | Percent Female Ontario | Québec |
|---|---|---|---|
| 8230 | Foremen/women: wood processing occupations | .005 | .0257 |
| 8231 | Sawmill sawyers and related occupations | .0907 | .0216 |
| 8233 | Plywood making and related occupations | .3645 | .1521 |
| 8235 | Wood treating occupations | .2018 | .0798 |
| 8236 | Inspecting, testing, grading and sampling occs: wood | .1473 | .0896 |
| 8238 | Labouring and other elemental work: wood | .1389 | .0408 |
| 8239 | Wood processing, except pulp and papermaking, n.e.c. | .0963 | .0099 |
| 8250 | Foremen/women: pulp and papermaking occupations | .0459 | .0239 |
| 8251 | Cellulose pulp preparing occupations | .0767 | .0992 |
| 8253 | Papermaking and finishing occupations | .0713 | .0303 |
| 8256 | Inspecting, testing, grading and sampling occs: pulp | .1672 | .1284 |
| 8258 | Labouring and other elemental work: pulp and paper | .0746 | .059 |
| 8259 | Pulp and papermaking and related occs, n.e.c. | .1262 | .115 |
| 8260 | Foremen/women: textile processing | .1507 | .2329 |
| 8261 | Textile fibre preparing occupations | .4053 | .2706 |
| 8263 | Textile spinning and twisting occupations | .4917 | .4954 |
| 8265 | Textile winding and reeling occupations | .6431 | .4761 |
| 8267 | Textile weaving occupations | .4026 | .3033 |
| 8271 | Knitting occupations | .7597 | .3068 |
| 8273 | Textile bleaching and dyeing occupations | .1715 | .0985 |
| 8275 | Textile finishing and calendring occupations | .4206 | .307 |
| 8276 | Inspecting, testing, grading and sampling occs:textile | .626 | .5531 |
| 8278 | Labouring and other elemental work: textile | .3841 | .4701 |
| 8279 | Textile processing occupations, n.e.c. | .3964 | .4964 |
| 8290 | Foremen/women: other processing occupations | .3183 | .2482 |
| 8293 | Tobacco processing occupations | .6542 | .4759 |
| 8295 | Hide and pelt processing occupations | .4361 | .1658 |
| 8296 | Inspectng, testing, gradng and samplng occs: othr proc. | .6608 | .5914 |
| 8298 | Labouring and other elemental work: other proces. | .4633 | .3303 |
| 8299 | Other processing occupations, n.e.c. | .0608 | .2482 |
| | *Machining and Related Occupations* | | |
| 8310 | Foremen/women: metal machining occupations | .0221 | .0426 |
| 8311 | Tool and die making occupations | .0328 | .0123 |
| 8313 | Machinist and machine tool setting-up occupation | .0723 | .0276 |
| 8315 | Machine tool operating occupations | .1426 | .0708 |
| 8316 | Inspectng, testing, gradng and samplng occs: metal | .2672 | |
| 8319 | Metal machining occupations, n.e.c. | .2538 | .0702 |
| 8330 | Foremen/women: metal shaping and forming occs | .0291 | .0172 |
| 8331 | Forging occupations | .0864 | .0108 |
| 8333 | Sheet metal workers | .062 | .0241 |
| 8334 | Metalworking-machine operators, n.e.c. | .2075 | .0796 |
| 8335 | Welding and flame cutting occupations | .0551 | .0173 |
| 8336 | Inspectng, testing, gradng occs: metal shaping | .1547 | .0919 |
| 8337 | Boilermakers, platers and structural metal workers | .058 | |
| 8339 | Metal shaping and forming occs, except machining | .177 | .1731 |
| 8350 | Foremen/women: wood machining occupations | .0517 | .0327 |
| 8351 | Wood patternmaking occupations | .0989 | .1952 |
| 8353 | Wood sawing and related occupations, n.e.c. | .1265 | .0568 |
| 8355 | Planing, turning and related wood machining occs | .0734 | .0576 |
| 8356 | Inspectng, testing, gradng occs: wood machining | .6269 | .1397 |
| 8357 | Wood sanding occupations | .272 | .1032 |
| 8359 | Wood machining occupations, n.e.c. | .1256 | .1031 |

TABLE A-1 (CONTINUED)
LIST OF OCCUPATIONS (1980 SOC) AND PERCENT FEMALE (CENSUS 1990)

| SOC Number | Occupation Title | Percent Female Ontario | Québec |
|---|---|---|---|
| 8370 | Foremen/women: clay, glass, stone machining occs | .1393 | .0901 |
| 8371 | Cutting and shaping: clay, glass, stone, etc. | .1166 | .0621 |
| 8373 | Abrading and polishing: clay, glass, stone, etc. | .3467 | .2812 |
| 8376 | Inspectng, testing, gradng occs: clay, glass, etc. | .4084 | .2391 |
| 8379 | Clay, glass, stone machining occupations, n.e.c. | .2667 | .116 |
| 8390 | Foremen/women: other machining occupations | .0507 | .2058 |
| 8391 | Engravers, etchers and related occs, n.e.c. | .3883 | .375 |
| 8393 | Filing, grinding, buffing, cleaning and polishing | .0879 | .0707 |
| 8395 | Patternmakers and mouldmakers, n.e.c. | .1147 | .0717 |
| 8396 | Inspctng, testng, gradng and smplng: other machining | .5068 | .2953 |
| 8396 | Other machining and related occupations, n.e.c. | .1603 | .2088 |
| | *Product Fabricating, Assembling and Repairing Occupations* | | |
| 8510 | Foremn/wmn: fabricating and assembling, metal prods | .0878 | .0524 |
| 8511 | Engine fabricating and assembling occupations, n.e.c. | .3906 | .1568 |
| 8513 | Motor vehicle fabricating and assembling, n.e.c. | .2495 | .0784 |
| 8515 | Aircraft fabricating and assembling occs, n.e.c. | .1185 | .0804 |
| 8523 | Industrial, farm, cnst machines fbrctng and assmblng | .0879 | .0762 |
| 8525 | Business and commercl machines fbrctng and assmblng | .5572 | .5149 |
| 8526 | Inspctng, testng, grdng and smplng: fbrctng and asm | .2352 | .1146 |
| 8527 | Precision instruments fabricating and assembling | .3316 | .1354 |
| 8528 | Labouring and other elemental work: fabrctng and asm | .2631 | .127 |
| 8529 | Other fabrcting and assmblng: metal products, n.e.c. | .2858 | .2182 |
| 8530 | Foremn/wmn:fabricating and assembling: elec. and rlt | .1102 | .1168 |
| 8531 | Electrical and related equipment fabrcting and asm | .4443 | .3348 |
| 8533 | Electrical and related equipment installing and rep | .0277 | .0157 |
| 8534 | Electronic and related equipment fabrcting and asm | .6416 | .4711 |
| 8535 | Electronic and related equipment installing and rep | .1353 | .0518 |
| 8536 | Inspecting and related:Fabricating and rltd, elctrc | .3892 | .4554 |
| 8537 | Radio and television repairers | .0514 | .026 |
| 8538 | Labouring and other: fabricating and rltd, elctrcl | .4834 | .3734 |
| 8539 | Fabricating and related: Electrical, n.e.c. | .3653 | .2682 |
| 8540 | Foremn/wmn:Fabricating, assemb. and repairing: wood | .1303 | .0582 |
| 8541 | Cabinet and wood furniture makers | .162 | .0591 |
| 8546 | Inspctng, testng, gradng and smplng: wood products | .533 | .1208 |
| 8548 | Labouring: fabrcting, assmblng and repairing: wood | .2752 | .1332 |
| 8549 | Fabrcting, assmblng and repring: wood prods, n.e.c. | .152 | .1469 |
| 8550 | Foremn/wmn:Fabricating textile, fur and leather | .473 | .4806 |
| 8551 | Patternmaking, marking and cutting: textile, fur, etc. | .4279 | .3467 |
| 8553 | Tailors and dressmakers | .7135 | .8783 |
| 8555 | Furriers | .5016 | .3709 |
| 8557 | Milliners, hat and cap makers | .9198 | .6549 |
| 8561 | Shoemaking and repairing occupations | .6543 | .4211 |
| 8562 | Upholsterers | .2128 | .1265 |
| 8563 | Sewing machine operators, textile materials | .9285 | .9098 |
| 8566 | Inspecting and rltd occs: fabricating and rltd, txtle | .7379 | .7914 |
| 8568 | Labouring:Fabricating, assmblng and repairng, txtle | .6993 | .5801 |
| 8569 | Fabricating and related: textile, fur and leather | .5929 | .602 |
| 8570 | Foremn/wmn:Fabricating and rltd: rubber and rltd | .1361 | .1074 |
| 8571 | Bonding and cementing: rubber, plastic and related | .0806 | .2037 |
| 8573 | Moulding: rubber, plastic and related products | .3944 | .255 |
| 8575 | Cutting and finishing:Rubber, plastic and related | .4196 | .3951 |
| 8576 | Inspecting and related: fabricating and rltd, rubber | .3388 | .406 |

TABLE A-1 (CONTINUED)

LIST OF OCCUPATIONS (1980 SOC) AND PERCENT FEMALE (CENSUS 1990)

| SOC Number | Occupation Title | Percent Female Ontario | Québec |
|---|---|---|---|
| 8578 | Labouring: fabricating and rltd, rubber, plastic | .334 | .2495 |
| 8579 | Fabricating, assembling and repairing: Rbbr, n.e.c. | .4363 | .2713 |
| 8580 | Foremen/women:Mechanics and repairers, n.e.c. | .0333 | .0259 |
| 8581 | Motor vehicle mechanics and repairers | .0174 | .0083 |
| 8582 | Aircraft mechanics and repairers | .0378 | .0376 |
| 8583 | Rail transport equpmt mechanics and repairers | .024 | .0116 |
| 8584 | Industrial, farm and construction machinery mechanics | .0114 | .0095 |
| 8585 | Business and commercial machines machanics | .0728 | .0224 |
| 8586 | Inspctng, testng, gradng: equipment repairs | .1371 | .0358 |
| 8587 | Watch and clock repairers | .1133 | .0638 |
| 8588 | Precision instrument mechanics and repairers | .0329 | .0308 |
| 8589 | Other mechanics and repairers, n.e.c. | .0318 | .019 |
| 8590 | Foremn/wmn: other products | .1226 | .1596 |
| 8591 | Jewellery and silverware fabricating, assmbling | .3346 | .2671 |
| 8592 | Marine craft fabricating, assembling and repairn | .0356 | .0054 |
| 8593 | Paper product fabricating and assembling occupations | .3148 | .241 |
| 8595 | Painting and decorating occupations, n.e.c. | .1337 | .0858 |
| 8596 | Inspctng and rltd: other products | .6422 | .391 |
| 8598 | Labouring: other products | .4917 | .314 |
| 8599 | Other product fabricating, n.e.c. | .3106 | .3517 |
| | *Construction trades occupations* | | |
| 8710 | Foremen/women: excavating, grading, paving | .0131 | .0145 |
| 8711 | Excavating, grading and related occupations | .0112 | .006 |
| 8713 | Paving, surfacing and related occupations | .0226 | .0109 |
| 8715 | Railway section and track workers | .0157 | .0138 |
| 8718 | Labouring: excavating, grading, paving activities | .0374 | .0251 |
| 8713 | Paving, surfacing and related occupations | .0147 | .0183 |
| 8730 | Foremen/women: electrical power | .0403 | .0377 |
| 8731 | Electrical power line workers and related occupations | .048 | .0167 |
| 8733 | Construction electricians and repairers | .0156 | .0115 |
| 8735 | Wire communications installers and repairers | .0838 | .0581 |
| 8736 | Inspctng, testng, gradng: electrical power | .2163 | .1675 |
| 8738 | Labouring: electrical power, wire communications | .0772 | .2609 |
| 8739 | Electrical power, wire communications occs, n.e.c. | .0333 | .0658 |
| 8780 | Foremen/women: other construction trades occupations | .0222 | .015 |
| 8781 | Carpenters and related occupations | .0192 | .0074 |
| 8782 | Brick and stone masons and tile setters | .013 | .0094 |
| 8783 | Concrete finishing and related occupations | .0108 | .0149 |
| 8784 | Plasterers and related occupations | .0135 | .0154 |
| 8785 | Painters, paperhangers and related occupations | .0925 | .0932 |
| 8786 | Insulating occupations, construction | .0564 | .0513 |
| 8787 | Roofing, waterproofing and related occupations | .0134 | .0038 |
| 8791 | Pipefitting, plumbing and related occupations | .0098 | .0052 |
| 8793 | Structural metal erectors | .0335 | .0047 |
| 8795 | Glaziers | .0677 | .0361 |
| 8796 | Inspect, testng, gradng: other construction | .0802 | .0675 |
| 8798 | Labouring:Other construction trades | .0201 | .0236 |
| 8799 | Other construction trades occupations, n.e.c. | .0394 | .0281 |
| | *Transport Equipment Operating Occupations* | | |
| 9110 | Foremen/women:Air transport operating occupation | .1126 | .1848 |
| 9111 | Air pilots, navigators and flight engineers | .0701 | .0708 |

TABLE A-1 (CONTINUED)

LIST OF OCCUPATIONS (1980 SOC) AND PERCENT FEMALE (CENSUS 1990)

| SOC Number | Occupation Title | Percent Female Ontario | Québec |
|---|---|---|---|
| 9113 | Air transport operating support occupations | .1556 | .1649 |
| 9119 | Air transport operating occupations, n.e.c. | .255 | .1835 |
| 9130 | Foremen/women:Railway transport operating occ. | .0435 | .0451 |
| 9131 | Locomotive operating support occupations | .0399 | .0581 |
| 9133 | Conductor and brake workers railway | .0769 | .0469 |
| 9135 | Railway transport operating support occupations | .1336 | .0475 |
| 9139 | Railway transport operating occupations, n.e.c. | | .0546 |
| 9151 | Deck officers | .0712 | .0286 |
| 9153 | Engineering officers, ship | .0454 | |
| 9155 | Deck crew, ship | .139 | .0287 |
| 9157 | Engine and boiler-room crew, ship | .1802 | .0328 |
| 9159 | Water transport operating occupations, n.e.c. | .1386 | .0807 |
| 9170 | Foremen/women:Motor transport operating occupations. | .0803 | .0499 |
| 9171 | Bus drivers | .4744 | .2116 |
| 9173 | Taxi drivers and chauffeurs | .0768 | .0461 |
| 9175 | Truck drivers | .0373 | .0173 |
| 9179 | Motor transport operating occupations, n.e.c. | .2184 | .1848 |
| 9190 | Foremen/women: other transport operating occs | .1206 | .0547 |
| 9191 | Subway and street railway operating occupations | .0959 | .0675 |
| 9193 | Rail vehicle operators, except rail transport | .0629 | .0421 |
| 9199 | Other transport equipment operating occs, n.e.c. | .0719 | .0425 |
| | *Material handling and related occupations, n.e.c.* | | |
| 9310 | Foremen/women:Material handling and related, n.e.c. | .1093 | .1178 |
| 9311 | Hoisting occupations, n.e.c. | .0179 | .0096 |
| 9313 | Longshore workers, stevedores, freight handlers | .1167 | .049 |
| 9314 | Parcel carriers, n.e.c. | .1019 | .1432 |
| 9315 | Material handling equipment operators, n.e.c. | .0539 | .0282 |
| 9317 | Packaging occupations, n.e.c. | .6603 | .4267 |
| 9318 | Labouring:Material handling and related activities | .1272 | .0997 |
| 9319 | Other material handling occupations, n.e.c. | .1224 | .1228 |
| | *Other Craft and Equipment Operating Occupations* | | |
| 9510 | Foremen/women:Printing and related occupations | .1638 | .1781 |
| 9511 | Typesetting and composing occupations | .5707 | .4964 |
| 9512 | Printing press occupations | .1241 | .0919 |
| 9513 | Stereotyping and electrotyping occupations | .0943 | .3536 |
| 9514 | Printing, engraving, except photoengraving, occs | .1273 | .2128 |
| 9515 | Photoengraving and related occupations | .2777 | .2723 |
| 9517 | Bookbinding and related occupations | .5886 | .6188 |
| 9518 | Labouring:Printing and related activities | .3742 | .4125 |
| 9519 | Printing and related occupations, n.e.c. | .3689 | .3967 |
| 9530 | Foremen/women: stationary enginve and utilies eqp | .0636 | .0083 |
| 9531 | Power station operators | .0872 | .0147 |
| 9539 | Stationary engine and utilities equip. operators | .0468 | .0579 |
| 9550 | Foremen/women: communications equipement operators | .1508 | .1463 |
| 9551 | Radio and television equipment operators | .1813 | .1181 |
| 9553 | Telegraph operators | .5 | .1703 |
| 9555 | Sound and video recording operators | .0984 | .1395 |
| 9557 | Motion picture projectionists | .069 | .0625 |
| 9559 | Other electronic and comms equipment operating occ. | .2513 | .4083 |

Table A-1 (continued)

List of Occupations (1980 SOC) and Percent Female (Census 1990)

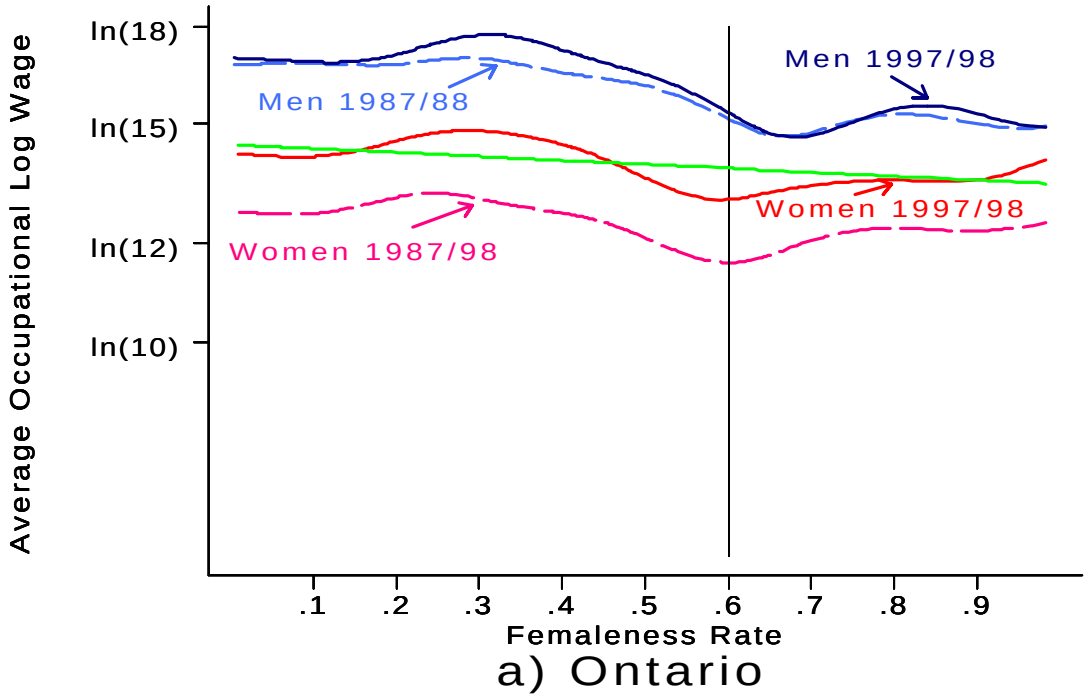
| SOC Number | Occupation Title | Percent Female Ontario | Québec |
|---|---|---|---|
| | *Other crafts and equipment operating occs, n.e.c.* | | |
| 9590 | Foremen/women: other crafts and equipment opr occs | .335 | .3586 |
| 9591 | Photographic processing occupations | .5096 | .4327 |
| 9599 | Other craft and equipment operating occupations | .3472 | .5142 |
| 9910 | Supervisors and foremen/women, n.e.c. | .1933 | .2687 |
| 9916 | Inspecting, testing, grading and sampling occs, n.e.c. | .1477 | .1612 |
| 9918 | Labouring: n.e.c. | .2646 | .1768 |
| 9919 | Other occupations, n.e.c. | .1479 | .1394 |

TABLE A-2

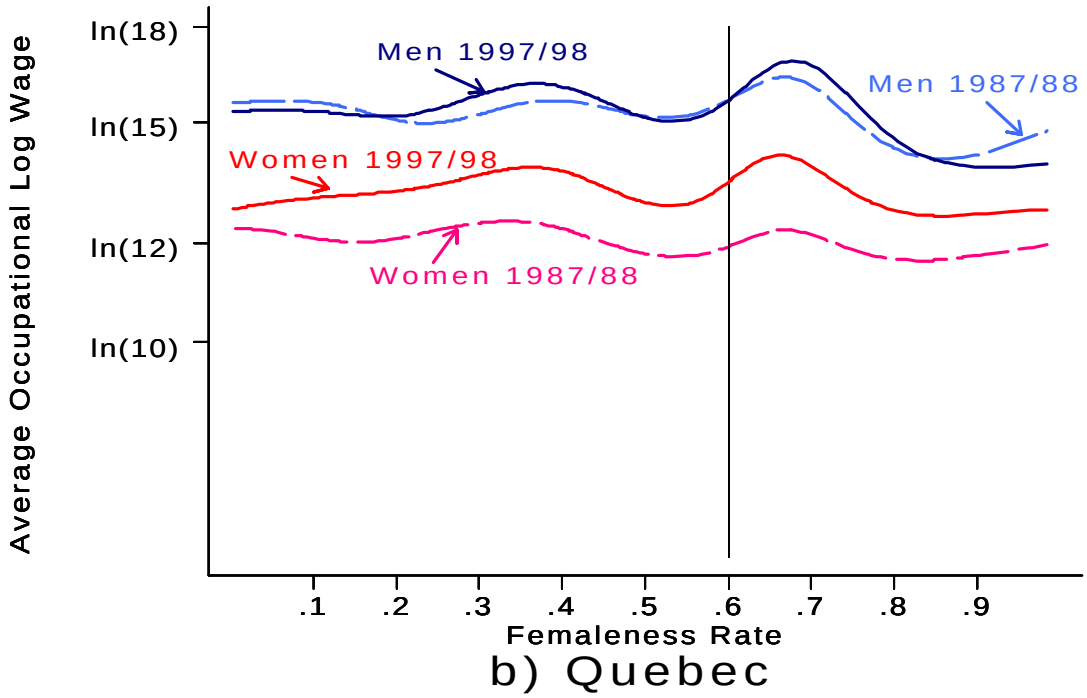
ESTIMATED EFFECT ON LOG HOURLY WAGES OF WORKING IN TREATED SECTOR IN 1997/98 VS. 1987/88
OMITTING WORKERS IN ESTABLISHMENTS WITH 20-99 EMPLOYEES

| Sample | Women | | | | Men | | | |
|---|---|---|---|---|---|---|---|---|
| | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs | All Jobs | Female Jobs | Inter-grated Jobs | Male Jobs |
| *A. Treated Sector: Larger Establishments in Ontario vs. Québec* | | | | | | | | |
| 1. All Workers | -.030 | .019 | -.017 | -.141** | .030 | -.000 | .008 | .044** |
| | (.019) | (.040) | (.035) | (.077) | (.019) | (.065) | (.037) | (.022) |
| | [23272] | [7821] | [7948] | [2121] | [26704] | [2118] | [8041] | [15545] |
| 2. Non-Union Workers | -.039 | .037 | .009 | -.365* | .015 | -.038 | -.015 | .048 |
| | (.028) | (.037) | (.044) | (.108) | (.029) | (.110) | (.026) | (.037) |
| | [15131] | [10978] | [5990] | [1320] | [14451] | [954] | [5192] | [8305] |
| 3. Blue Collar | .013 | .157 | .093 | -.428* | -.016 | .088 | -.116 | .035 |
| Non-Union Workers | (.045) | (.096) | (.055) | (.135) | (.037) | (.281) | (.029) | (.040) |
| | [5737] | [1901] | [3032] | [804] | [8823] | [321] | [2208] | [6294] |
| *B. Treated Sector: Larger Establishments within Ontario* | | | | | | | | |
| 4. All Workers | -.005 | .008 | .005 | -.090* | .009 | -.017 | -.013 | .023 |
| | (.012) | (.015) | (.021) | (.045) | (.012) | (.043) | (.023) | (.014) |
| | [14477] | [7993] | [5021] | [1463] | [16311] | [1222] | [4905] | [10184] |
| 5. Non-Union Workers | .012 | .028 | .014 | -.089 | .003 | -.008 | -.026 | .013 |
| | (.016) | (.021) | (.024) | (.059) | (.017) | (.062) | (.030) | (.021) |
| | [10014] | [5098] | [3983] | [933] | [9448] | [649] | [3367] | [5432] |
| 6. Blue Collar | -.047 | .024 | -.018 | -.179* | -.052 | -.083 | -.212** | -.003 |
| Non-Union Workers | (.026) | (.054) | (.032) | (.069) | (.021) | (.148) | (.047) | (.023) |
| | [3671] | [1143] | [1951] | [577] | [5650] | [218] | [1407] | [4025] |

*Notes:* Calculations are from the LMAS for 1987 and 1988 and from the Ingoing Rotation Group of the LFS for 1997 and 1998. Larger establishments employ at least 100 employees. Other explanatory variables include dummies for Ontario and for 1997/98, a quartic in age, six education classes, dummies for metropolitan area, industry(10), employment in the federal, provincial, and local public service, union status, part time work, married, visible minority, tenure, and firm size (4), where appropriate. Standard error are in parentheses. Sample size are in brackets.




a) Ontario




b) Quebec

Figure 1. Weighted Kernel Regressions
of Average Occupational Wages on Femaleness Rates

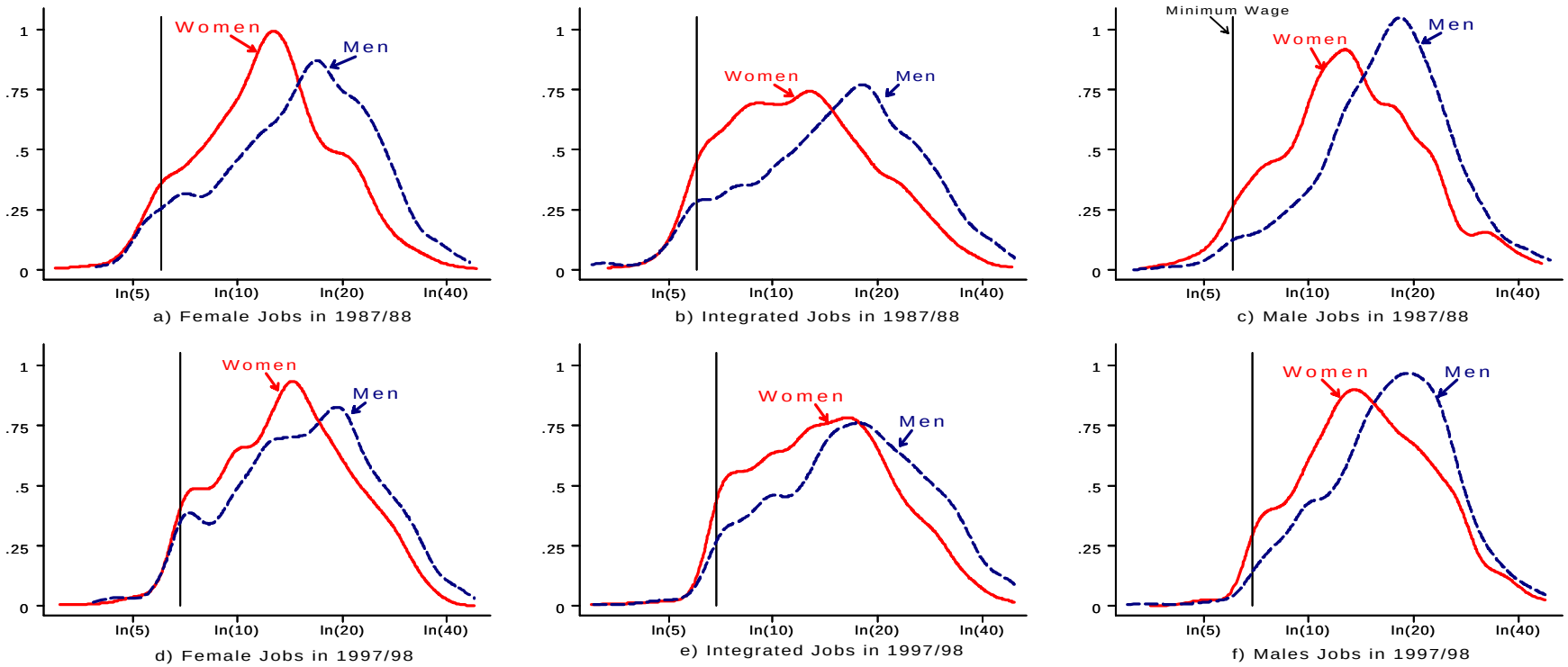
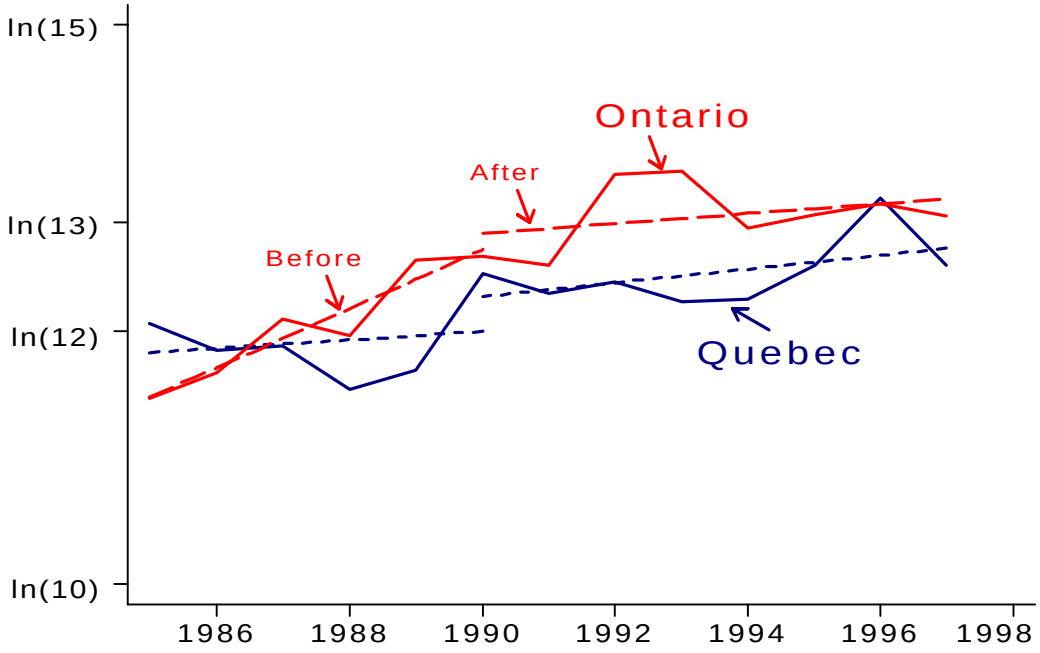
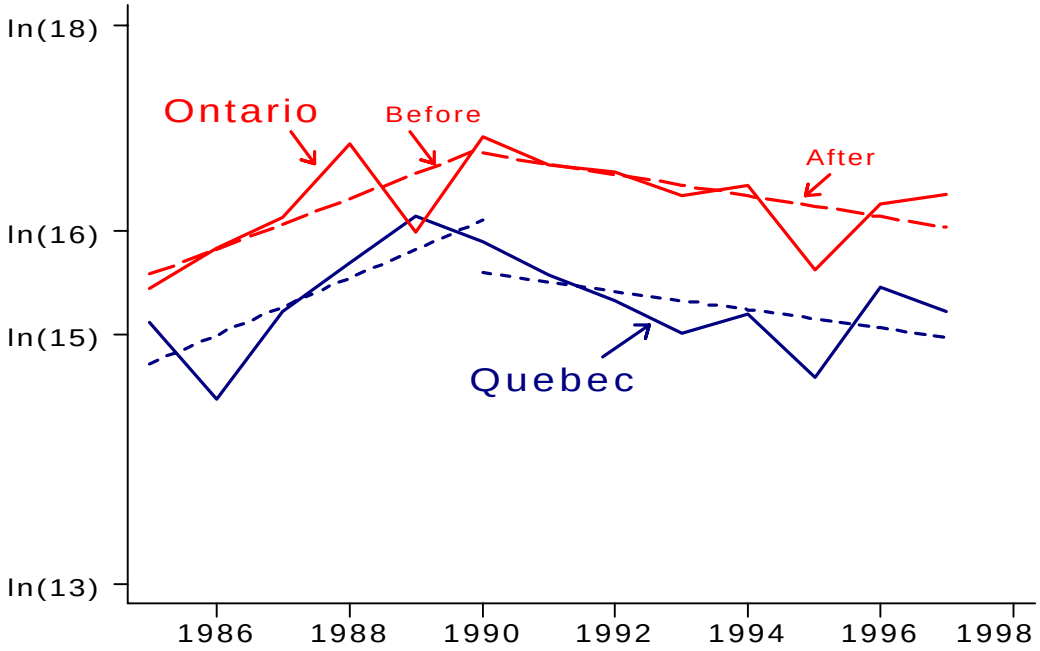



Figure 2. Differences in Women's and Men's Wage Distributions in Ontario

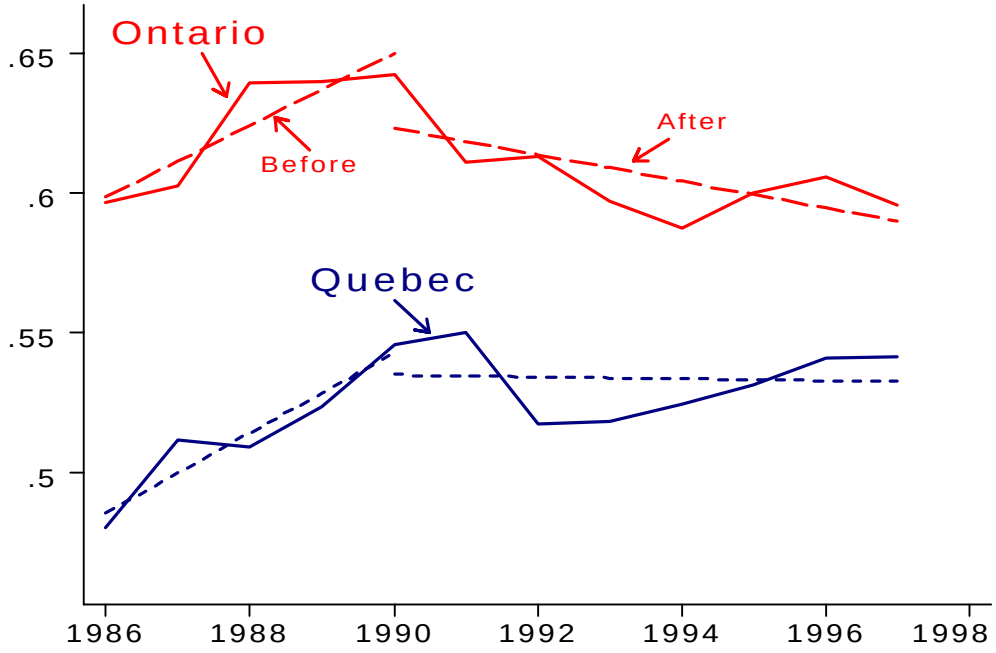



a) Women

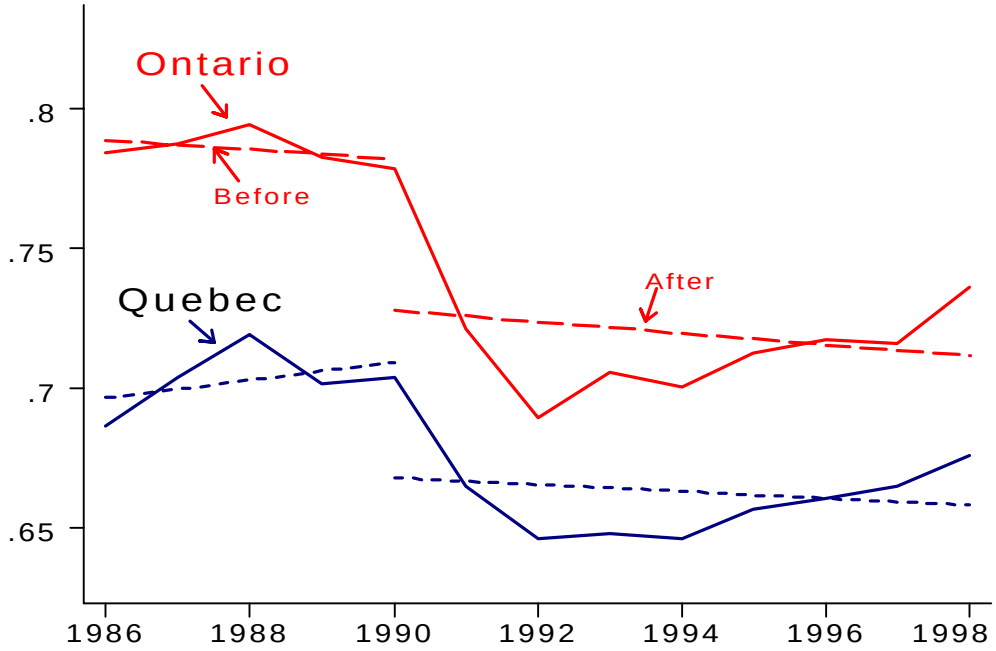



b) Men

Figure 3. Average Log Hourly Wages and Trends Before and After the Law




a) Women




b) Men

Figure 4. Employment Rates and Trends Before and After the Law

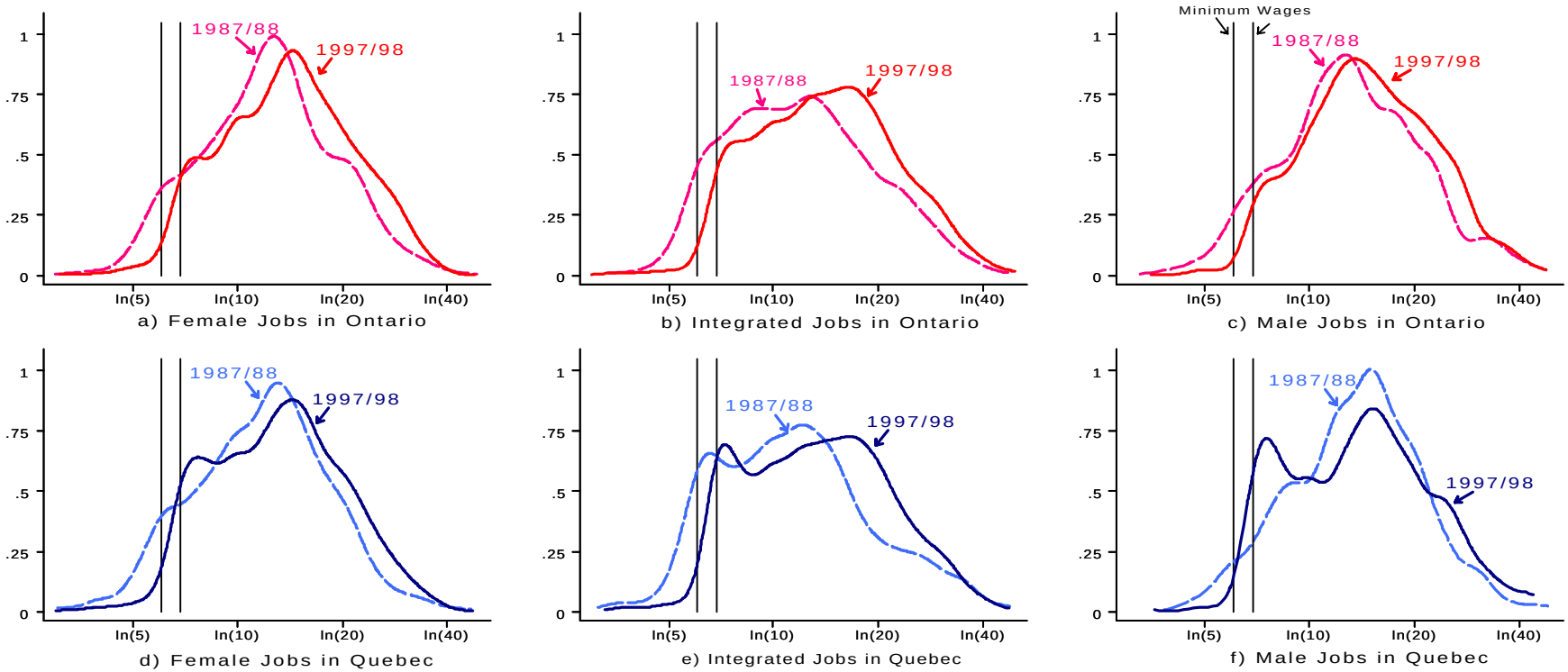



Figure A-1. Changes over Time in Women's Wage Distributions

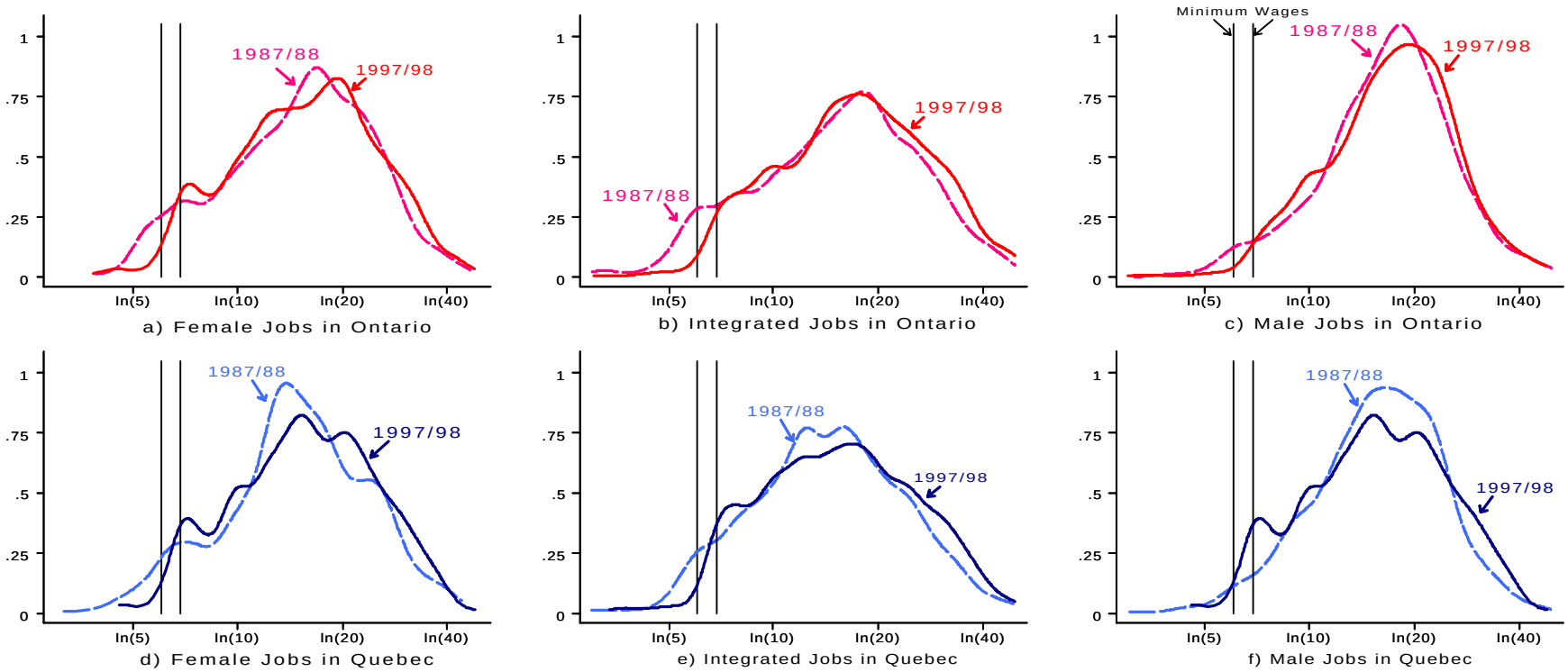



Figure A-2. Changes over Time in Men's Wage Distributions