The Changing Structure of Women's Work and Its Rewards, Canada, 1911-1961

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Abstract

Utilizing data drawn from unpublished census sources consistently categorized by industry, we show the degree to which women's earnings have advanced relative to males over the period immediately before the female 'Great Leap Forward'. The breakdown by industry reveals detail not present at the aggregate level. We find that industrial segregation declined significantly, but relative female earnings were virtually stagnant. Both rising wages for men in industries in which women were entering, as well as rapid entry by women in large numbers, kept relative female earnings low.

The role played by women in the workforce and the monetary rewards they have received have been topics of great interest in recent years. Clear appreciation that for a long time women have been remunerated less than men has been central to discussions of this topic. There have been at least two important reasons why women have been disadvantaged. One is that often they have not been rewarded with equal pay for the same type of work. The other is that they have been barred from types of work that typically received high pay and were left to bunch up in lines of work that were less well remunerated. Over the last two or three decades there appear to have been substantial changes. Gender differentials in wages in many lines of work have narrowed somewhat (Fortin and Huberman, 2002). Occupational segregation has diminished. Especially at the professional level, women have successfully moved into highly remunerative occupations such as accounting, law and medicine. In entrepreneurial endeavors women have made important advances. Managerial positions, especially at the mid-management level, have been opened to them. On production lines, women have increasingly come to take their positions alongside men in the better-paying jobs. This is not to claim that full equality in the work place has been attained. The point is simply that there has been improvement over the last three decades or so.

The advances of recent times have come after a long period of disadvantage for women. We have the impression that "the bad old days" were beginning to come to an end in the late 1960s or early 1970s. Certainly, many of the most striking changes have been relatively recent. With that in mind, a question of considerable interest has been whether there was really any improvement in the position of women before that time. Have the gains made by women been concentrated almost entirely in the years since 1970, or was there significant improvement before then3? This paper uses a helpful body of data to explore that issue.

The course of change in women's work and the earnings experience of women in Canada over the long term have received only modest attention in the economics literature.[1] There is a fairly substantial sociological literature but it mostly covers the period after 1941. There are issues that have been examined in the United States, but economic historians in Canada have had little to say. Have the gains made by women in recent years constituted something of a revolution, or have they been merely a continuation of long-existing trends as Goldin (1990) argues? There has been no clear answer to this in the Canadian case.

This paper addresses these issues by examining the experience of women in the Canadian workforce as revealed in a potentially useful body of data extracted from the decennial censuses

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[1] See Fortin and Huberman (2002) and Altman and Lamontagne (1996).

of Canada from 1911 through 1961. These data cover a half-century of experience that essentially reflects the *ancienne regime* of women's work in this country. The dates are determined by the nature of the data but the period covered represents a substantial slice of those "bad old days." They allow us to address a number of issues concerning women's role in the workforce prior to the big changes of recent times. The data allow us to look, decade by decade, at where within the industrial structure of the workforce, women were working, and, industry by industry, what were their wages. Most studies of gender segregation of work and of female/male differences in earnings look at occupational categories. Both industrial and occupational classifications are informative ways of examining the structure of the economy. Classification by occupation to some extent implies more attention to influences on the supply of labour while the industrial classification gives precedence to demand factors. A look at industrial changes in female employment and earnings gives us some additional insight into the dynamics of change in women's work. At any rate our data for industrial categories span a longer time than consistent occupational categories can be organized.

The starting date, 1911, is set by the earliest census of Canada for which the industrial composition of the labor force can be put into a format that can be made consistent, at a considerable level of industrial detail, with years to follow. There was a significant break in census practice in 1971 such that it has not been possible to link the data for all the decades before 1971 to Censuses after that date in a consistent manner at the level of detail prescribed for this data body. It is readily possible to study the period from 1971 to the present on a reasonably consistent basis. The bridge across the 1961-1971 decade cannot be made in a way that is sufficiently consistent with earlier decades. Any study of labor force structure in Canada has somehow to confront the break at that decade.[2] We shall leave it to others to do that and concentrate on the 1911 to 1961 period for which we have consistently defined data. There is more than enough interest in the period on which we concentrate amply to fill a single paper. A half century of Canadian experience is worth examining. We focus particularly on the dynamics of Canadian women's workforce experience in that fifty-year period. Of course we would be interested in the years prior to 1911. They can be studied at a quite aggregate level, or for some selected activities, but to look comprehensively at a considerable level of industrial detail, one must begin in 1911. An added feature of this study is that the data for 1911 are drawn from previously unpublished tabulations of census data for that year. In particular, we are able to draw on statistics of annual wage earnings in 1911 that have not before been studied.

Our evidence shows that, overall, the ratio of women's to men's annual earnings rose only slightly between 1911 and 1961, from just 50% to 54% of male earnings. All of the improvement, such as it was, occurred in the first decade of the period, between 1911 and 1921. This result strikes us as rather surprising since there was a considerable restructuring of the female workforce between 1911 and 1961, and large numbers of women were moving into higher wage sectors of the economy. It is something of a puzzle, therefore, that women did not have a more favorable experience on the earnings front. Could it be that, within industries and sectors, the earnings of women, relative to men, were slipping? Were women's efforts to get ahead by moving into higher-paying sectors frustrated by falling ratios of female to male wages in those sectors? Alternatively, was the explanation that, in absolute terms, men's wages were rising more rapidly

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[2]Boyd (1990), for example, was able to handle this by arranging for a special retabulation.

than women's? Can we put establish just what it was that was holding women back?

1   Previous Studies

Gender segregation and its changes in Canada is not a topic that has been much attended to by economists or economic historians. That is certainly the case for anything but quite recent experience. Most of the literature has been the product of sociologists. Economists David Stager and Noah Meltz (1986) examined occupational differentials in earnings, as revealed by the data of the decennial censuses, but gave no particular emphasis to gender relationships. Labour economist Morley Gunderson has addressed the topic in several earlier writings, and he and Frank Reid review what they thought was known in general about the male-female earnings gap (Gunderson and Reid, 1981). Their focus is rather more theoretical than empirical. They are concerned with occupational rather than industrial categories and they mainly conclude that we have no clearly settled account of what has determined the gender differential in pay. Despite an earlier study by Gunderson (1976) that showed that for broad occupational categories there was little aggregate effect of occupational segregation, Gunderson and Reid (1981) lean toward the view of other writers, especially those in the United States, that occupational segregation probably plays a significant role in determining the gender gap in earnings. They cite an Ontario government study that for detailed occupations in a 1971 cross-section, occupational segregation played a large role in generating the gender gap. Phillips and Phillips (1983) provide a descriptive historical account of women's work in Canada although their systematic use of quantitative evidence relates to the period after 1970. Altman and Lamontagne (1996) look specifically at the link between earnings and occupational changes from 1900 to 1930. They find that growth in clerical work benefited women by offering them higher pay. They also find little correlation between desegregation and rising pay.

Turning to the work of the sociologists, the much quoted pioneer study of Hugh and Pat Armstrong (1975) focused specifically on occupational segregation, essentially *assuming* that it was the key to the problem. Using data from the censuses of 1941 through 1971, they handled the problem of temporal comparability by concentrating on ten occupations in which women were largely found and which were comparably defined over time. But they offer little more than an assertion that gender inequality in pay is a consequence of job segregation. They conclude that the degree of pay inequality remained essentially stable from 1941 to 1971 because the extent of occupational segregation was approximately stable.

John Goyder (1981) used a new data source, the Canadian Mobility Study of 1973, and found that women's earnings averaged 49% of men's. The largest measurable source of the difference was in hours worked, but assigning women all of the measured characteristics of men would statistically raise their earnings to 63% of the male level. The unexplained residual was presumed to be primarily discrimination. Bonnie and John Fox (1987) used census data for the years 1931 to 1981 and handle the comparability issue by examining the data decade by decade, focusing on pairs of comparably defined occupations that can be matched between censuses. They make a strong pitch for the importance of occupational segregation and castigate neo-classical economics for failing to account for it. Using an index of dissimilarity to gauge female segregation, they find a very slight decline from 1931 to 1961, and then a pronounced drop to

1981. Nevertheless, in 1981 there continued to be a high degree of segregation. Monica Boyd (1990), using 1961 to 1986 census data, to some extent contradicts the findings of Fox and Fox. Boyd finds that at a two-digit level of occupational classification, the degree of gender segregation was unchanged between 1961 and 1981, but it decreased somewhat to 1986. At a greater degree of detail (4-digit occupations) there is evidence of a more persistent decline. In a subsequent article Boyd, Mulvihill and Myles (1991) shift to a more industrial orientation. They look at seven broad sectors, organized to highlight the difference between goods production and post-industrial service sectors. They show that it has been women (almost entirely after 1961) who have been benefiting from post-industrialism, while men have tended to be more stuck in older, goods producing industries. By their classification scheme, gender segregation fell continuously with the biggest changes coming in the 1940s and the 1960s.

The foregoing studies have explicitly addressed gender segregation as the primary issue, on the presumption that it has played a large role in earnings inequality. This emphasis on gender segregation draws largely on the dual labour market thesis.[3] That scheme sees the labour market divided between primary or core industries, where the high pay jobs are found, and the secondary or peripheral industries where lower pay jobs predominate. Their argument is that women are largely frozen out of the primary industrial core of the economy and relegated to secondary activities where pay generally is less advantageous. Our industrial data are particularly well-suited to address this view of the problem. As well, these studies do not address evidence on earnings statistically. Boyd, Mulvihill and Myles (1991) do offer a proposition that we should be able to test directly, that "the public sector has provided the majority of high wage, high skill jobs for women."

There is a very large literature on this topic for the U.S. economy. It is too vast to be conveniently reviewed here. There is in it, however, a strong emphasis on the importance of gender segregation. Ferber and Lowry (1976) seem to be typical in claiming that, statistically, removing the difference in occupational distributions raises women's pay substantially. In a wage determination equation, education and the sex/education interaction are the leading explanations of pay, but occupational crowding is the next most important (negative) influence. There is a difficulty in escaping that bind for, as they note (Ferber and Lowry, 1976, p. 216) an increase in the percent of women in an occupation has a negative effect on earnings in that occupation. Blau and Jusenius (1976) look at theoretical explanations for the occupational segregation of women and find none that are entirely satisfactory. While they are convinced that occupational segregation has a lot to do with pay gaps, the nature of the link remains elusive.

Most recently, the standard body of work on the U.S. for comparison with Canada is that of Claudia Goldin (1990). A general problem with U.S. studies is that they lack comprehensive earnings data for the early decades of the twentieth century. So, to get an extended perspective, Goldin focuses on the wages of women in manufacturing industries. There she finds a long period of stability in the ratio of women's to men's earnings. While women had been narrowing the gap earlier in the nineteenth century, the ratio stabilized at about 0.56 around 1885 and remained there until late in the twentieth century. Unlike most writers on this topic, who concentrate exclusively on occupational data, Goldin (1990) notes the importance of industrial categories as

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[3]A substantial examination of the U.S. historical experience from this perspective is provided by Gordon, Edwards, and Reich (1982).

there are some industries that employed virtually no women. Goldin (1990, p. 58-82) endeavours to make her study more comprehensive by roughly extending the evidence to a wider range of industries and in so doing generates rather different results.[4] The wage ratio appears to have risen from 0.46 in 1890 to 0.60, a gain, as she notes, of 30%. This is the basis for Goldin's claim that the gap between female and male earnings has been narrowing over the long term.[5] A final point of importance from Goldin is that she does not find, as the literature led her to expect, that the rising earnings ratio resulted from reduced occupational segregation. Instead, most of the gain came from narrowing of the wage gap within occupations. An important part of the generally slow pace of improvement in female earnings relative to males was due to the raising of male earnings by their movement in large numbers out of agriculture. Since there were relatively few women in agriculture in the early years, female employment in agriculture as a share of the total female workforce remains constant over the fifty year period. In Canada there is no similar reorganization across industries available for females.[6] It was probably the case that opportunities otherwise available for women were being taken by the movement of males out of agriculture.

2 Data

The data set we use is a reorganization of tabulated census statistics for the censuses of 1911 through 1961. The data were assembled long ago, in 1968, in a project which aimed at putting together decennial census statistics on the industrial composition of the workforce at as detailed a level as possible, for as long a span of time as possible. Industrial detail could be shown only by adopting a new and unique classification of industries, one that did not strictly adhere to the Standard Industrial Classification used for any one of the censuses. For most of the series included in the data set it was possible to organize the data into 85 industrial categories, defined with reasonable consistency over all of the census years covered. This was made possible for five census years by using unpublished tabulations from the censuses of 1911 and 1921.[7] It was not possible to extend the series back to earlier census years at this level of industrial detail, and for 1921 the full 85-sector classification could not be carried through and a more compressed 52-sector tabulation is provided. For the present paper it is satisfactory to use this compressed

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[4]For the sectors outside of manufacturing, Goldin assigns a sectoral wage level by resorting to the proxy figure of the wage for one, two, or a small handful of specific occupations representative of each industry. In some cases, as with female school teachers, she simply assumes a ratio of female to the ungendered earnings average (0.80 in that case).

[5]Canada first collected annual earnings data in the census of 1901. These data were reported in a separate bulletin and are not in the regular census volumes. They are shown only for the entire workforce and a few occupational categories. In 1901 the aggregate ratio in Canada was 0.46; identical to Goldin's result for 1890. The Canadian data report annual earnings in reported occupation and the ratio there is 0.47, but some Canadian men report extra earnings from outside of occupation whereas almost no women reported such earnings. The modification drops the ratio to 0.46. As well, months worked is reported in 1901 and women, at 10.79, were a bit above men at 10.53. When we get to 1971, however, things change. The ratio of female to male wage and salary earnings across all occupations was down to 0.49, but this likely includes many female part time workers.

[6]Indeed, in Canada we have the peculiar situation that women were moving into agriculture, and in quite large numbers, despite it being a low pay industry. On the other hand, Goldin does not seem to consider that the domestic service component of the personal services industry was playing for women much the same role as was agriculture for men.

[7]Those unpublished tabulations were identified as folios in the historical catalogue assembled for the 1931 census of Canada and the data presented here were extracted from the manuscript tabulations. The latter have subsequently been made available on microfilm by Statistics Canada.

52-sector tabulation throughout, with a few specific exceptions.[8] The data are presented in tabular format in the appendix. The more detailed breakdown of manufacturing industries does not reveal enough about women's work to be worth pursuing for the purposes of the present paper.[9] A later attempt was made to carry the series forward to 1971 but was abandoned since the mechanics of census tabulation changed between 1961 and 1971 and it was impossible to reconcile the reclassification of the data for many of the smaller industries. That left this body of data somewhat stranded and shelved until it can now be looked upon essentially as evidence relating to a historical period of Canadian development.

The data are classified by industry, rather than by occupation as is commonly used. Of course the foremost reason why we focus here on the industrial classification is that the body of data we had at hand was originally organized in that way. Nevertheless, the industrial structure of women's work has some inherent interest in itself. The fact that occupation has so often been the organizing principle of studies of this topic means that casting an eye at this different dimension of workforce structure may be worthwhile. Some previous writers (Goldin, 1990; Boyd, 1990) have pointed to an importance of industry categorization in noting that there are many industries that engaged almost no women. If gender segregation is an important issue it certainly shows up at the industry level.

While the data were originally tabulated by detailed industry by gender for each of the provinces, only the national data are used in this paper. Those numbers are, in turn, cross-classified by age, by Canadian or foreign birth, by broad occupational category, and by wage earner status. In addition, the average annual wage and salary earnings are given, by gender, for each industrial category. This paper focuses upon the gender breakdown and the earnings figures. The availability of an occupational breakdown, however broad, makes it possible to begin a preliminary examination of the extent to which there is occupational segregation within industries that display varying degrees of gender segregation. The principal limiting factor is that the earnings data are for industries and are not specific to occupations within those industries.

The level of detail at which the industrial classification could be carried out varies, of necessity, across the economy. No sub-categorization of agriculture could be made. Mining, manufacturing, and transportation industries, however, could be identified in considerable detail. For the most part that is not especially helpful to the present study since so few women worked in many of those detailed industries. It is helpful, though, to have a separate identification of clothing manufacturing and of the communication industry, which harboured large numbers of women telephone operators. Unfortunately, it is not possible to subdivide the large wholesale and retail trade industry, nor could a separation of clerical from sales workers be made within that industry. This does not preclude the possibility that one could go back to the original census data to explore in greater detail particular sectors, at particular dates as might be indicated by what is found in a preliminary analysis of the standard data set. A first pass over the data may indicate where more detailed follow up might be worth pursuing.

Consistency between censuses in the industrial classification was achieved in a relatively *ad hoc* way and so the classification does not adhere precisely to the *Standard Industrial Classifi-*

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[8]We refer to the 52-sector tabulation as the 2-digit level of detail. The 85-sector tabulation has more detail on manufacturing sectors, and therefore we refer to this level of detail as the 3-digit level.

[9]A more highly aggregated industrial classification of the workforce was carried back to earlier censuses by McInnis and published in the second edition Historical Statistics of Canada (series D8-85).

cation of any one census year. Wherever possible an attempt was made to follow the 1961 *SIC*, but there are differences. Some custom work such as dressmaking is counted here as manufacturing where in the 1961 *SIC* it is not. Purely repair activities are mostly grouped with services, but ship and railway repairs are treated as manufacturing. Automobile, and watch and jewelry repair are grouped with trade rather than with repair services.

One important matter is that between 1941 and 1951 the Canadian census shifted from a "gainful worker" to a "labour force" definition of the workforce. This has some, but not a great effect upon the numbers recorded in the total workforce. The effect of the definitional change tends, however, to be concentrated in a few industries, and is probably more severe for women workers than for men. It would be most pronounced in industries with a lot of seasonal and part time employment. The "gainful worker" definition tended to pick up all those who earned any substantial amount of wages during the course of the year, hence seasonal workers in fish processing and vegetable canning plants got counted as gainfully occupied even if they were housewives for most of the year. On the other hand, college students were not treated as gainfully occupied although at June census dates they would often be in the labour force. There is little that one can do about this other than to be sensitive to ways in which it might affect analytical conclusions.

3   General Trends

Over the entire fifty year period the gender earnings ratio, or the ratio of average earnings of all working women relative to the earnings of males, increased only modestly, yet there was much movement of the female workforce among industries. (See Figure 1). While nominal average male earnings rose 3.73% per annum, female average earnings rose 3.88%. Little ground had been gained. The gender earnings ratio of 0.50 in 1911 rose to only 0.54 by 1961. One might think that the gain was all accomplished in the first decade. By 1921 the gender earnings ratio was up to 0.54. Actually, it rose further to 0.60 in 1931. Thereafter it sagged, and in the last decade under consideration, 1951-1961, the gender earnings ratio dropped back to the level attained in 1921.[10]

To support the view that industrial restructuring was substantial while female earnings stagnated, five dimensions of the data will be discussed. To illustrate segregation by gender, industries are ranked according to the female percentage of the workforce. Changes over time are highlighted. As well, the industrial distribution of females, expressed both as levels and as percentage changes, is illustrated simply to demonstrate the pervasiveness of industrial segregation in the labour force. Segregation by sex is then summarized through the use of dissimilarity indexes. Changes over time are particularly evident when ranking industries in terms of growth in female employment.

To capture changes in female earnings, two measures are explored. Industries can be ranked in terms of how earnings in each compare to the overall average female earnings. This female earnings rank illustrates the impact changes in industrial employment had on earnings. Female earnings are also ranked relative to male earnings yielding the gender earnings gap to control for

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[10]Even as late 1978, Phillips and Phillips (1983) show that the gender earnings ratio of 0.58 was still lower than its peak in 1931; and their measure only includes workers employed the entire year.

changes in the demand and cost structures by industry, since part of what will determine the industrial reorganization of the female labour force is the opening up of opportunities for females to increase their earnings. It is the closing of this gender earnings gap that is generally cited as the indicator of the progress of female earning status. It appears that over the fifty years covered, rather than improving their earnings, females have had to struggle to keep their relative earnings constant.

3.1   The Industrial Distribution of the Female Labour Force

A general summary of the industrial distribution of males and females can be seen in Figure 2.[11] Attention to individual industries is revealing because female workers tended to be highly concentrated in a few particular industries. Even by 1961, just six industries accounted for 58% of the female workforce, and only fifteen industries employed more than 80% of the female workforce. Industrial segregation had diminished to a degree by 1961, but it still remained a prominent feature of women's work.

Despite persistent segregation, there was substantial reallocation of labour across industries over this period. In 1911, 39% of males were employed in agriculture. By 1961 this had fallen to 12%. Over this period males moved out of agriculture and had redistributed themselves across all other sectors, the most important of which were manufacturing and trade, and services in the last decade under consideration. For females, services was the largest sector of employment throughout the period, with manufacturing and trade ranking second and third. The share of services in total female employment declined modestly in the postwar period, but services remained the largest sector of female employment. More than 50% of females were employed in services in 1911. By 1961 services still accounted for 42% of female employment. The share of females in manufacturing remained fairly constant over four decades at just under 25% after declining sharply from 1911 to 1921. The decline in manufacturing employment for women began in the last decade, 1951-61, with a drop of over one-quarter to about 17%. Retail and wholesale trade became more important in the period following World War II, with a sharp upward surge in female employment in 1951. With manufacturing employment declining in importance and trade increasing, by the last decade there were equal numbers of females in manufacturing and in trade with each sector employing 17% of the female workforce.

There are some interesting trends in female employment that occur within these broad categories, apparent at a greater level of industrial detail. There was very little reorganization within manufacturing. Female employment shares within manufacturing at the 2-digit level tended to move along with the aggregate, though a few changes can be noted. Clothing declined in importance from 15% in 1911 to less than 10% in 1921 to 5% in 1931, where it remained until it dipped again in 1961 to about 3.5%. The two other manufacturing industries of relative importance to women were food and fabricated textiles, each accounting for about 2% of the female workforce over the period, with food declining and fabricated textiles increasing slightly over time.

In contrast to the relative stability of female employment in manufacturing, there was substantial shifting within services, notably out of personal services as shown in Figure 3. Personal service as the largest sector of employment for females is comparable to agriculture for males;

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[11]A full table of the industrial distribution of males and females is provided in Appendix Tables A.1 and A.2.

though while agricultural employment declined absolutely for males, the decline for female employment in personal service was only relative. Both were the largest sectors of employment for their respective sexes in 1911, and both declined dramatically in importance over this period. In 1911, more than half of females employed in services, or 26% of females in total were employed in the personal service category. By 1961, female employment in personal service had fallen to 8% of aggregate employment, about 20% of female employment in the entire service sector. There was, however, some movement out of the most important sub-category of personal service – domestic service – in the post World War II period. From 1911 to 1941, domestic service accounted for about 60% of personal service employment among females, and even increased to a peak of 68% in 1941. After the war, domestic service employment declined absolutely to 42% and 33% of female employment in personal service in 1951 and 1961 respectively. In contrast to the redistribution of males out of agriculture and into most other industries, the decline in female employment in personal services was almost entirely offset by an increase in female employment in trade only. There was also some smaller movement into other service sectors: health, business services, and government, both local and federal/provincial. All three doubled their female workforce in three of the five 10-year periods, 1911-21, 1941-51, and 1951-61. Growth in business services was even more spectacular, but it started much smaller.

The other two industries within services which merit attention are education and hospitality (i.e. hotels and restaurants). For females, employment growth in education exactly matched total female employment growth, so its share of the female workforce remained essentially constant at just under 10%. As for hospitality, while its share of female employment only increased modestly, it was relatively large, peaking at 7.5% in 1961.

3.2 Industrial Segregation

As is well known the ratio of females varied markedly across industries. For convenience we refer to the ratio of females to an industry's total workforce as the extent feminized. This is illustrated as the female share of the industry's workforce in Figure 4. Manufacturing employed a large share of the female workforce; it was also characterized by strong segregation across its subcategories. Tobacco, rubber, and the four textile industries were the most feminized, though only hosiery and clothing were actually majority female over all periods. In 1911, 72% of clothing manufacturing employment was female; by 1961 it was still 65% female. Unlike tobacco and rubber, clothing also employed the most females within manufacturing, accounting for well over 5% of female employment through all periods before 1961. Both tobacco and hosiery were small as neither industry ever employed more than 1.5% of females. Food, on the other hand, while a large employer of females in manufacturing, was not particularly feminized. Its female workforce never exceeded 25%; though the proportion female did increase from 14% in 1911 to 24% in 1961. Of the other manufacturing industries, printing & publishing, electrical apparatus, and chemicals were the more feminized throughout the entire period.

It was the service sector that was most highly feminized and accounted for the largest amount of female employment. Education was 73% female in 1911, and still 61% female in 1961. Personal services was also highly feminized, ranging from a high of 81% female in 1941 to about 70% female in 1951 and 1961. (In fact, it was only marginally less feminized by 1961 than it was

in 1911.) Health actually became increasingly feminized over this period, from 60% female in 1911 to 73% in 1961. The hospitality sector is interesting as female employment became more important over three decade periods: 1921-31, 1931-41, and 1951-61, peaking at 56% female in 1961.

Communication and finance were two other industries that were moderately large employers of women and became increasingly feminized. Communication experienced a very large increase in the proportion of females early on, jumping from 38% in 1911 to 58% in 1921. This remained constant until 1961 when the percent female declined to below 50%. Finance, by contrast, showed a steady increase in feminization, rising from 4% in 1911 to 27% in 1921. The share then remained quite constant until 1951 and 1961, when it jumped to 50%.

The final sector to be highlighted is government, in particular federal and provincial government. The female employment share increased steadily from 10% in 1911 to 25% in 1941. Thereafter, there was a decline to 19% in 1951 before a further increase to 21% by 1961. While never a very large employer of women, the share of females employed in government increased from around 1-2% before World War II, to over 4% in the postwar period, so increasing female employment was also coincident with a trend toward greater feminization of the industry.

Industrial segregation can be easily quantified using Duncan's Dissimilarity Index. The index I is defined as

$$I = 0.5 \sum_i \left| \frac{M_i}{\sum_i M_i} - \frac{F_i}{\sum_i F_i} \right|$$

where M_i is the number of males in industry i and F_i is the number of females. The index I ranges from 0 for no segregation to 1 for complete segregation. A limitation of this measure is that each industry's contribution to segregation is not weighted by industry size.

Because the male agricultural workforce was so large until 1941, the dissimilarity index is calculated both with and without agriculture. The inclusion of agriculture in the index would influence the rate of change over time because of the significant shift of males out of agriculture, and because of changes in the enumeration of females employed in agriculture over this period. In 1911, only females who ran a farm were counted. In practice, this seems to have included only those females who did not have an adult male (husband or son) present. By 1961, however, Census practice had changed regarding women in agriculture. So we observe an apparent increase in the number of females in agriculture due to enumeration changes just as males were abandoning the sector, leaving the female share virtually constant over the entire period.

The results are reported in Table 1. First, if the agricultural workforce is included, there is a substantial decline in industrial segregation from 1911 to 1921 after which there is little change. Between 1941 and 1951 there is another substantial decline in industrial segregation, and then a small decline from 1951 to 1961. The decline in the Duncan index through the postwar period using the other three workforce concepts – nonagricultural workforce, nonagricultural wage-earners, and total wage-earners – is much more evenly distributed. The very large decline in segregation from 1941 to 1951 for the total workforce is likely exaggerated because of movement out of agriculture as well as because of definitional changes for inclusion of women. The significant decline in industrial segregation after World War II, though, is still very much evident. Overall, the result is that even with a substantial decline in industrial segregation that did

occur over the five decades, female relative earnings did not budge. As the industrial categories are divided into four occupational groupings, a more detailed look at segregation by occupation within industries is provided below.

3.3 Where Were the Superior Opportunities?

In order to assess the supposition that segregation contributed to low female earnings, it may be worth tracing out the evolution of the best-paying industries for women, illustrated in Figure 5. This illustrates, from the female worker's point of view, where the good jobs were. At each census date we draw attention to the five leading industries in terms of female average earnings. Industries employing small numbers of women (fewer than five hundred) are ignored although few of them appear as high pay industries. There are both continuities and some interesting shifts over time. In what follows, the numbers in parentheses are the ratios of earnings in the identified industries to the overall average in that census year for all wage-earning women.

In 1911 a woman's best prospect was to work in rail transport (1.67). Those were mostly jobs as stenographers, typists, and operators of office machinery, although railways also employed some women as telegraph operators - quite high-paying jobs. It was almost as remunerative to work for federal or provincial governments (1.65). Those too were stenographic and clerical jobs. The next best prospects were clerical work in the insurance and real estate (1.59) and the business services industries (1.55). The latter mostly meant law offices. One of the small number of manufacturing jobs available in the electrical equipment industry (1.43) would pay well, and it would have been advantageous to be a teacher (1.34).

A decade later, after World War I, the best prospect still was to work in rail transport (1.65). The finance industry (1.53) had emerged to be the second-best paying one for women. Those were stenographic jobs. Few women were yet being engaged as cashiers or tellers in banks, except in the larger cities. The insurance and real estate industry (1.48) was still a good place to be, with federal and provincial government (1.45) close behind, followed by business services (1.43). It was still relatively advantageous to be a teacher (1.41). There were no manufacturing industries that offered such good earnings opportunities. In these early years of the century, stenographic work was the superior career for women, at least from the point of view of earnings. This quite reasonably launched the great move of women into clerical work. Good pay was what initiated the feminization of clerical work.

By 1931 higher paying opportunities had opened more widely. For women the dispersion of industrial wages was widening. It is possible, however, that with the depression already under way in the 1930-1931 earnings years, jobs in goods producing industries had collapsed and it was the more stable work in the service sector that was holding up better. The rail transport industry (1.86) was still on top. A new star industry, petroleum refining (1.81) was now hiring a noticeable number of women. Federal and provincial government (1.69) had begun to look even better than before. Electrical and gas utilities (1.65) paid well and finance and education were now tied (1.60).

In 1941, with the depression over and the war effort underway, the distribution of average earnings by industry had widened considerably. Petroleum refining (1.98) was now the highest-paying industry, but rail transport (1.72) was very close behind. Local government (1.72) had

pushed above the higher levels of government. Education (1.59) and insurance and real estate (1.57) round out the top five. Over the entire pre-World War II era, stenographic work continued to be the foremost earning opportunity for women. Teaching was the other persistent good job and its relative pay had increased.

With the war over and return to a peace-time economy in 1951 there were some notable changes in the loci of earnings opportunities for women. The most noticeable thing we see, however, is a considerable compression of the industrial distribution of earnings, at least at the upper end. The highest-paying industry was still rail transport (1.51), with petroleum refining close behind (1.50). Next was a new opportunity, air transport (1.48). This, we might recall, was the heyday of the nurse-stewardess. The really interesting feature is that manufacturing industries appear as better earning prospects for women. Best was transport equipment manufacturing (1.36), which means primarily the automobile industry. Tobacco manufacturing and electrical equipment were tied at 1.32. Clerical jobs in government and in finance, insurance and real estate were no longer characterized by premium remuneration. Similarly, school teaching had fallen from the ranks of the top jobs.

By 1961 the wage compression was no longer quite so evident. The new star industry for women, air transport (1.61) remained on top. Another new star, the oil well industry (1.53) had emerged as a new high-pay area for women that offered enough jobs to be worth notice, but education (1.53) had pulled up to a tie for second place. Petroleum refining (1.49) remained as one of the top pay industries. Rail transport (1.45) persisted as one of the premium pay fields for women. Manufacturing jobs had become less attractive except for tobacco manufacturing (1.44). The era of stenographic jobs in an array of industries as the most remunerative line of work for large numbers of women was evidently over.

Interestingly, over the full fifty years, the dispersion of the earnings rankings displays no discernible trend. An analysis of variance rejects the null hypothesis of constant variance over the six census observations. The standard deviation of the earnings rankings appear to be highest in the middle two decades though.[12] This suggests that the difference of earnings available to women among industries may have remained fairly constant over the entire period, though it appears to have risen and then declined.

3.4 Where the Jobs Were

The foregoing section identified the most highly remunerative industries in which women might work in each decade. Apart from ignoring industries in which there were very few jobs, no attention was paid to the numbers of workers involved. It may be worth taking a parallel look at the industries which, in each inter-censal interval, were absorbing the largest increases in female workers. These are rated in terms of the absolute size of the increase in female employment in the industry. The numbers shown in parentheses are the increases in employment in the identified industry as a percentage of the total increase in female employment over the decade. It is one way of pointing up the relative importance of the change. Care must be taken in interpreting these numbers, however, since they represent gross changes and can add to more than 100%. Increases in employment over the decade in any one industry can come from either the

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[12]Each industry observation on earnings rank was weighted by the number of wage earners in the industry.

general increase in numbers of women working, or from redistribution from relatively declining industries.

Between 1911 and 1921 two industries, education (17.9) and health services (21.9) provided the largest gains in female employment. They were augmented by retail and wholesale trade (9.1), communications (7.6) and federal and provincial government (6.2). Those five industries accounted for 63% of the entire increase in employment. In the following decade (1921-1931) the gains became even more concentrated. Five industries accounted for 76% of the entire gain in female employment. They were, interestingly enough, personal services (34.8), hotels and restaurants (13.7), and retail and wholesale trade (13.7). These were not high-pay industries for women. They were augmented by education (8.1) and insurance and real estate (4.8).

In the 1931-41 decade it was again the low pay personal services industry (24.0) that was the leading source of added employment. Second most important was retail and wholesale trade (16.0). The other large gainers were hotels and restaurants (7.5), metal manufacturing (7.4) and clothing manufacturing (6.9). These last two categories point up that already by 1941 Canadian women were contributing to the war effort. By 1951 the situation had changed again. The big increase in jobs came in trade (59.3) and health services (33.5). Education (12.6) and federal and provincial government (13.9) also contributed. Insurance (12.8) was also among the five leading areas of expansion but now it was women as cashiers and tellers, not just stenographers.

In the 1950s very large increases in jobs for women were found in two industries, health services (31.6) and trade (27.2). Education (20.3) also expanded greatly. Female professional workers, teachers and nurses, were now in strong demand. The expansion of employment was rounded out by hotels and restaurants (17.1) and federal and provincial government (10.7). The most striking feature is that the expansion of women's work was no longer so exclusively a matter of stenographic and similar office jobs in service sector industries.

3.5 How Did Female Earnings Fare Relative to Males?

As has been pointed out, average earnings of females relative to males (gender earnings ratio) rose from 0.50 in 1911 to 0.54 in 1961. Such a modest gain in relative earnings is rather surprising since women were quite evidently doing what might be expected of them. They were turning away from low wage industries and moving in large numbers into higher wage industries, as judged by either the relative level of earnings for women or by the ratio of women's to men's earnings. One is tempted to ponder whether this implies that women gained a much larger place in the workforce only at the cost of making rather little gain in their level of earnings relative to men. By not making themselves so abundantly available for paid work might women have improved their lot relative to men? By so doing, however, would women, as a group, have been any more materially better off? Leaving aside these more philosophical issues let us turn more directly to the descriptive evidence.

There is one feature of female employment that would be potentially able to explain part of the apparent low gender earnings ratio. Many of the women employed in domestic service would have received part of their compensation in the form of room and board.[13] Domestic service remained the largest component of personal services, which was itself the largest industry of

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[13]See Willison (1919). She points out that the seemingly low-paying jobs in domestic service might compare more favourably to education or stenography once the value of room and board had been included.

female employment through this period. As well, personal services consistently ranked at the bottom of both relative earnings and earnings ranking, except in 1911. The data are not available on how important was the unreported value of room and board. However, this feature cannot have explained very much, or it was later offset by other factors, because by 1961 the share of the female workforce in domestic service had fallen to approximately 2% of the female workforce; whereas in 1911 perhaps as many as 15% or more of women were domestic servants. Yet with that large a shift, relative earnings did not change.

Women moved in large numbers, as rational action would dictate, into industries that in 1911 had relatively high wages - business services, insurance and real estate, and federal and provincial government; but those were high wage industries for men and mostly continued to be so. Consequently, women did not improve their earnings relative to men. What is interesting is that this quite rational response of female workers garnered for them so little relative gain. The largest increase in the female workforce was in wholesale and retail trade. Essentially, women became sales clerks in stores. It was a relatively high wage industry in 1911 but with the great influx of women workers it dropped to a slightly lower than average wage industry.

Evidence on the gender earnings ratio by industry for 1911 and 1961 are presented in figure 6. Two features are apparent. When compared with the earnings rankings above, there are some significant differences. For example, agriculture was one of the highest paying industries for women relative to men through 1941, yet at the same time agriculture was a low paying sector so earnings ranked very low for women. As well industries with the highest gender earnings ratios were industries of low female employment - more on this below. The resource industries tended to have a high gender earnings ratio, and they were very high-paying for women as well, but they were not large employers of women. The transportation sector in general became a high-paying sector from 1921-1941 while construction became one of the highest paying sectors from 1921 on. By 1961, it had the second highest gender earnings ratio. Within manufacturing, the predominately female sectors like clothing, hosiery and food paid below average, while woodworking and furniture paid above average.

The picture looks somewhat different if one looks separately at the main sectors of the economy where women were employed. In the large services sector the wage ratio rose substantially from 0.41 in 1911 to 0.54 in 1961. In retail and wholesale trade the trend was the reverse, although the wage ratio was at 0.54 in both 1911 and 1951, it dropped to 0.50 in 1961. There was less evidence of a trend in manufacturing and in public administration where the wage ratios fluctuated more from decade to decade. In public administration, as in trade, though, the ratio fell in the most recent decade. One other notable feature of the broad picture is that the wage ratio was much higher in public administration than in the other principal sectors where large numbers of women workers were to be found.

Education was a high wage industry for women in 1911, and it continued to be one in 1961, but it was already highly feminized by 1911 (73% of its workforce was female) so it was not an industry where women could make big inroads. They had already come to dominate it. That may be why the gender earnings ratio in 1911 was already down to 0.49, just below the overall average for all industries. Female employment in education grew only at about the rate of the aggregate workforce (actually a little less). By 1961 education was less feminized than it had been in 1911 (it was only 61% female). This undoubtedly was a consequence of the rise of secondary

schooling; but what is almost unique to education is that the gender earnings ratio rose sharply. By 1961 earnings of females in education were up to 66% of male earnings.

Federal and provincial government employment offers an interesting contrast. This too was a high pay sector for women in 1911. Earnings of women were 64% above the average for women in all industries and the gender earnings ratio was above average at 0.59. It was a rapidly growing sector but it was only 10% female in 1911. By 1961 the proportion of females employed had doubled, although at 21% female it was still surprisingly low. It was, however, no longer an outstandingly high wage industry for women yet the gender earnings ratio remained one of the highest.

Testing for changes in the dispersion of the gender earnings ratios, the null hypothesis of constant variance across years is rejected. It is not clear, though, if the variance of the gender earnings ratios was trending down. It appears, rather, that the gender earnings ratios became more dispersed in 1931 and 1941 before falling to their lowest level by 1961. The first two census years, however, may not be fully reliable as there were several industries with high earnings but very few female employees. Certainly the variance of the gender earnings ratios in the post-World War II period was less than in 1931 and 1941 suggesting that perhaps females were becoming more integrated into the labour force despite the stagnation of the gender earnings ratio.

It was in the public sector that women made their biggest gains in relative earnings. How much of that was a social policy decision? Could we state flatly that outside of the two large public sector industries women's earnings would have fallen or shown no rise at all?

4   Earnings and Industrial Segregation

That females reallocate across industries in response to higher earnings is supported quantitatively by correlating earnings with employment segregation, and by illustrating these correlations graphically. Industries that were important both in terms of earnings and employment are identified. For this exercise, correlations are made between female relative earnings and the degree an industry is feminized, measured as the ratio of female to total employment. It is hypothesized that if segregation is a contributing factor, industries that are relatively feminized would tend to offer women lower earnings. Also the correlation of changes in female employment and female earnings ranking is shown to gauge the degree to which females were moving to those industries which offered higher earnings, regardless of the earnings of males. There are two possible outcomes of this behaviour. It would have improved women's earnings as they shifted from low to higher paying industries, but the resulting shift in the supply of women to the higher earning industries would have served to lower the earnings of females already in those sectors. This latter effect may have been important in accounting for why female earnings relative to males' remained virtually constant for fifty years.

4.1   Low Wages and Segregation

Were low relative earnings of women a consequence of job segregation? We might look upon the degree of feminization (percentage of an industry's workforce comprised of women) as an indicator of job segregation. In industries where a large fraction of the workforce was female, the males in

the industry would most likely have occupied the managerial and supervisory positions.[14] In the non-feminized industries, there may well have been job segregation within the industry but our data do not permit much of a look at that.[15]

We test whether female earnings are correlated with the extent feminized. We also look at decadal changes in the degree of feminization to see if movements are correlated with earnings. We use two concepts of female earnings. Female earnings by industry are normalized by the overall average female earnings across all industries to yield earnings rank. If women were strongly segregated, then they would respond to shifts in earnings available to women only. As well we look at the gender earnings ratio to see if women were moving into industries in which women could do well relative to men. In calculating the extent feminized, we look at both total employment as well as number of wage earners. We include the wage earner concept for two reasons. The earnings reported are for wage earners only. If the earnings of the self-employed were drawn from a different distribution than wage earners, then correlations between earnings and employment may be lower. Also, the industry in which the difference between workforce and wage earners is greatest is agriculture since many farmers are also owners. Therefore by looking at wage earners only, we reduce the influence of changes in the agricultural sector.

The overall pattern, however, is clear from Figure 7, and the correlations are reported in Table 2.[16] Prior to 1961 there is a strong negative correlation between female relative earnings and the degree to which an industry was feminized. As well, the correlations become more strongly negative up to 1941, after which they decrease. By 1961, the negative correlation between female relative earnings and degree feminized is only modestly negative and significant. The results are identical regardless if one looks at degree feminized using total employment or number of wage earners, except the correlation is not significant for 1911 using number of wage earners. What these results suggest is that the tendency for feminized industries to have lower female earnings increased over the century to a peak in 1941. After 1941, this tendency diminished, modestly at first but substantially by 1961. The conclusions are essentially identical if one looks at female earnings rank rather than relative earnings, except that the negative correlations in 1961 become insignificant. Furthermore, there is a greater difference between using total employed rather than wage earners. The decline in the correlation between ranking of female earnings and degree feminized after 1941 is sharper using total employment than using wage earners but the pattern is the same. Regardless of the measure used, it would appear that feminized industries paid women less, and that this pattern was only just beginning to change by 1961.

As for specific industries, in 1911 the most feminized industry was hosiery manufacturing (77.2% female). It was a small industry with an earnings relative right at the average (0.50). The next most feminized industry was personal services (73.9%), the single largest industry of female employment. Again, the gender earnings ratio was average (0.52). Third in order was education (73%). While education was a high wage industry for women, the gender earnings ratio was about average (0.49). Women were in that sense not privileged in the education industry.[17] Clothing

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[14]There is in fact a mildly negative correlation between the degree to which an industry is feminized and the share of that industry's female workforce in managerial occupations. The correlation becomes more negative over time. However the negative correlation is not statistically significant except in 1961, and then at the 10% level only.

[15]We do have the broad occupational breakdown and will give some attention to that below.

[16]As the correlations are between averages, observations are weighted by the size of that industry's female labour force.

[17]In 1911 men tended to have university degrees and were predominantly in secondary school teaching; women had diplomas and were mostly in primary schools.

manufacturing (71.5%) came next in order of feminization. There the gender earnings ratio was a little, but not a lot, below average (0.47). Other services (62.3% female) was also a fairly small industry and had an gender earnings ratio a bit below average (0.47). The other industries with large numbers of female workers - trade (19.3%) and hospitality (39.6%) - were at that time still not overwhelmingly feminized. The former had a higher than average gender earnings ratio, the latter lower.

The role played by industrial segregation in low relative wages can be further elaborated in two ways. Following Goldin (1990, p. 71-3) the impact on female earnings of altering the industrial distribution alone can be isolated. With n years of data, she creates an $n \times n$ matrix interacting all combinations of earnings ratios and employment distributions. Using an alternative method, Fortin and Huberman (2002, p. 26) decompose the gender earnings gap into two terms: one that captures the impact on earnings of the differences in the industrial distribution of males and females, and one that looks at the differences in female and male wages within an industry. They refer to the first as the *between* component, and the second as the *within* component.

They define the female relative share as $f_j = \frac{F_j/(F_j+M_j)}{F/(F+M)}$ where F_j, M_j are the numbers of females and males in industry j and F, M are total numbers of females and males in the workforce. The male relative share, m_j, is defined equivalently. The gender earnings gap is then expressed as

$$G = \sum_j \left(\alpha_j f_j w_j^f - \alpha_j m_j w_j^m \right)$$

where $\alpha_j = \frac{F_j+M_j}{F+M}$ and w_j^f, w_j^m are female and male average earnings in industry j.
The gender earnings gap can be decomposed as

$$G = \sum_j \alpha_j \left(f_j - m_j \right) \overline{w}_j + \sum_j \left[\alpha_j m_j \left(w_j^m - \overline{w}_j \right) - \alpha_j f_j \left(w_j^f - \overline{w}_j \right) \right]$$

where $\overline{w}_j$ is average earnings across both females and males in industry j.

The first term is the *between* component capturing the influence of the differences in the distribution of males and females across industries weighted by average earnings for each industry; and the second is the *within* component capturing the differences between female and male average earnings within an industry. The Fortin and Huberman (2002) story is that over the period 1961-1998, as the *between* component declines the *within* component becomes more important. This *between* component declines significantly only after 1981. These two approaches applied to our data for the 1911 to 1961 period are now illustrated.

Results following Goldin (1990, p. 71-3) are reported in Table 3. In panel A, earnings vary down the rows and the industrial distribution varies across the columns. Looking at the two end years 1911 and 1961, it appears that industrial realignment had virtually no effect on relative earnings. Using 1911 earnings, industrial restructuring would have moved the gender earnings ratio from 0.52 to 0.53. Using 1961 earnings, the change would have been from 0.51 to 0.54. While there is virtually no change in the gender earnings ratio, there was substantial industrial reorganization. Over this period, industrial segregation as measured by the index of dissimilarity, falls by a third from 0.66 to 0.44. So while industrial employment became substantially less segregated, relative female earnings barely changed. The table also shows the impact of holding

the industrial structure constant and allowing earnings to adjust (Table 3, panel B). Again, there is very little change. Holding industrial structure at its 1911 distribution results in a decline in relative earnings from 0.52 to 0.51. At the industrial structure of 1961, relative earnings would have risen from 0.53 to 0.54. In either scenario, the changes are trivial compared with the gross movements in the distribution of the male and female labour forces.

It is also apparent that industrial segregation itself was not an independent cause of lower female earnings. If females had been distributed across industries identically to males, the gender earnings ratio would not have improved much. If females in 1911 had the male industrial distribution, the gender earnings ratio would have been 0.57 rather than 0.52. Using the 1961 industrial distribution, the gender earnings ratio would have been 0.59 rather than 0.54. With the large and important exception of personal services, the highly feminized industries of 1911 were not generally low wage industries as judged by the earnings of men. Education, communication, recreation services - all highly feminized - were relatively high wage industries, and others were about average. Only health services, where women earned relatively high wages compared to men, was a low wage industry for men.[18]

A big part of the overall story is just that so many women worked in personal services. The proportion of all women working in that industry declined substantially over time, yet it was still in 1961 one of the largest employers of women. Over time the gender earnings ratio in that industry fell considerably. In 1911 one-quarter of all women working for pay were in personal services. The number in 1961 was 45% larger than in 1911 but the percent of the female workforce in personal services was down to a bit less than 8%. In recent years, as women have moved into the professions and into the ranks of management, their concern has been for a glass ceiling. Historically, over the first half of the 20th century, the real concern of women was to get 'off their knees and up off the floor'.

The results of using the Fortin-Huberman decomposition are reported in Table 4. Ignoring the obvious deviation in 1931, it appears that the component associated with earnings differences across industries – the *between* component – accounts for about one-third of the gender earnings gap through 1941. That component then drops to just under 25% in both 1951 and 1961. The Fortin and Huberman (2002) results are not directly comparable as they look at occupational segregation from 1961-1996, but they do find that it is the *between* component that drops while the within component becomes larger; and the largest changes occur between 1981 and 1991. For our data, the large decline in the component of the earnings gap associated with segregation by industry declines only over the decade 1941-51, and then hardly changes from 1951 to 1961. The *within* component rises from 1911 to 1931, but then remains fairly stable over the rest of the period. This increase in the *within* component over the first half of our period coincides with the first wave of the rise of clerical work for women.

By 1951, with the beginning of the large-scale entry of women into the workforce, the role of industrial segregation in limiting employment opportunities for women and in lowering their earnings declines dramatically as evidenced by the drop in the *between* component. But except for this one decadal change, in the long run industrial segregation cannot account for low female earnings. Then as now, the large differences in earnings between the males and females arise

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[18]We have only wage earnings so doctors and dentists are mostly not included in the earnings of the health services industry.

within a particular industry or occupation. The effect is common across all industries.

4.2 The Pursuit of Higher Wages

To determine the degree to which females shifting industries gained in pay, we can look at the correlation between growth in female employment by industry and earnings using the two measures: relative female earnings and female earnings rank. We are interested particularly in whether or not the movement of females from lower to higher paying jobs simply depressed earnings, or if it can be established that women were indeed attracted to the higher paying industries, thereby yielding improvement to female earnings. The results of correlating female job growth by industry with female earnings are reported in Table 2. Unlike the correlations reported above between earnings and degree feminized, the correlations between earnings and employment growth vary between negative and significant in some periods to positive and significant in others. The results appear identical whether one looks at either female relative earnings or female earnings ranking. There is a significant negative correlation in the 1921-31 and 1931-41 periods, but not in the other periods. This suggests that the movement of women across industries did not always lead to a lowering of wages. During periods of substantial structural change: 1911-21, and again 1941-51, there was no negative correlation between women's wages and movement of female labour, and even a positive and statistically significant correlation for the 1941-51 period.[19] There appears to have been no correlation between female employment growth and earnings in the last decade. This may have been because by 1961 female employment was getting large and therefore shifts of similar quantities began to look less significant as a percentage of the female labour force.

It is also instructive to look only at the industries which experienced the greatest expansion of female employment between 1911 and 1961. Did these industries tend to be high wage industries, and did their attraction of large numbers of women raise the relative earnings of women? Of the entire increase in women's employment 55% was accounted for by the five leading industries. Four of those were high wage industries, three of them among the highest paying industries for women.[20] Of the top five only the hospitality industry was not a high wage industry for women. The lowest wage industries, food manufacturing and personal services, had disproportionately small increases in numbers employed. Nevertheless, for the ten industries with largest increases in female employment, the redistribution of labor alone would not have improved the relative level of women's earnings. It would have dropped one percentage point, from 0.53 to 0.52, over the fifty year period by virtue of change in numbers working in each of the industries. What one might have thought should have been a force for the improvement of women's relative earnings does not seem to have worked that way at all.[21] What this is telling us is that the interesting action is within industries. The industries that attracted the greatest increase in women workers

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[19]There appears to be differences between the results among the different measures of employment growth and earnings for the 1911-21 period. The correlation is positive and significant for female earnings ranking using total employment, but insignificant using wage earners only. Using female relative earnings, the correlations are positive and significant at the 10% level using total employment, and negative though insignificant using wage earners. This is likely because the difference between employed and wage earners was greatest in 1911. This difference does not affect the overall conclusions, though.

[20]Only three, however, had above average gender earnings ratios.

[21]For the ten industries with largest growth in female employment, the mean gender earnings ratio for 1911 was 0.54. Using 1961 employment distribution of women weighted by the gender earnings ratios for 1911 one would get an increase only to 0.56.

typically experienced substantial declines in their relative wage advantage. Trade, for example, which absorbed the largest increase in number of women workers, dropped from 131% of average women's earnings in 1911 to only 87% in 1961. Declines of that order occurred in most of the industries into which women shifted.

The one important exception was education. There, women's earnings went up from 134% to 153% of average. It would have been difficult, however, for many more women to have crowded into the education sector since by 1911 it was already a largely feminized sector. The expansion of secondary schools brought proportionally more men into education. Women, though, were evidently able to exert political pressure to push for gender equality in teaching, and had some degree of success. Education stands apart from all other industries in its relative earnings experience.

In finance, insurance and real estate, and federal and provincial government, the large influx of women into industries with initially few female employees had the effect of pushing down the relative wage level. This phenomenon seems to get consistently repeated. As industry after industry (and this would probably have been true of occupations as well) became more accessible to female workers, the influx of women drove down relative wages. We see this having happened more recently in such professions as accounting and law. In the first half of the 20th century it happened notably in financial institutions and in wholesale and retail trade.

5   Other Factors

5.1   Part time Work

Some of what may be influencing the results is the involvement of women into part-time work. The earnings data are not adjusted for hours worked; they are simply average annual earnings. Hours employed were not recorded before the 1951 Census, but even the 1951 Census only records hours worked for the week preceding the Census. The 1961 Census records average weekly hours worked for the previous year. On average, in 1961 17% of females worked less than 35 hours per week while only 4% of males did. The industries in which the greatest difference between female and male part-time employment occurred were in services and trade. In trade, for example, 6% of males reported working less than 35 hours per week on average, whereas for females, the proportion was 24%. In services, those proportions were 9% and 22% respectively. As services and trade accounted for 42% and 17% of the female workforce in 1961, the majority of females worked in the sectors with the fewest hours on average. We cannot quantify this impact, but it was surely significant. As a small qualification, though, while the difference between the proportion of the male and females working part-time was large for services as a whole, the difference was relatively modest for health – part-time work accounted for 3% of males and 10% of females – and health alone accounted for almost a third of female employment in services, or 13% of the female workforce. That still left the majority of employed females working in industries with the greatest propensity for part-time female employment.

5.2 Married Women

We do not have direct evidence on marital status, but we do have age data which would be correlated with marital status. For the complete set back to 1911, the data are divided into only four age categories: under 15, 15-24, 25-64, and 65 and over. Defining the workforce as including only those ages 15-64, we might think of the group 25-64 as predominately married, and the group 15-24 as largely unmarried. The former group can be referred to as older working-age women; the latter, younger working-age women. We observe that the increase in females in the workforce has been more important for the older working-age women. Their proportion of the female workforce rose only slightly from 0.48 to 0.50 from 1911 to 1931, but then increased sharply for the next three decades reaching 0.69 in 1961 with the largest increase over the decade 1951 to 1961. The absolute number of older working-age females almost doubled in that decade. In contrast to the increasing entry of older working-age women into the workforce, the male age structure looked much flatter for most industries. Overall there was an increase in the proportion of the male workforce 25 and older, but it only rose by 10% compared to a rise of over 20% for females.

In the early period there was considerably more variation in the older workers' share of the female workforce; whereas for males, there is no obvious difference in the share of older working-age workforce across industries. It is only by 1961 that the distributions for males and females look at all similar. Yet even by 1961 there were relatively fewer older working-age females employed: 0.69 for females, 0.82 for males. A significant change in the nature of female employment has been the increasing age of older working-age women in manufacturing. From 1911 to 1931, the share of older working-age females in manufacturing was much less than other industries, although the same was also true for males. It was only after 1931 that the share of older working-age females in manufacturing began to increase. Manufacturing by 1941 began to look more like other industries, but it is only by 1961 that the share of older working-age females in manufacturing looked essentially the same as the other industries. There are some differences across manufacturing industries, but the most obvious is that there were more older working-age women in the predominately female manufacturing industries like hosiery and clothing at the beginning of the period, and therefore the increase in the employment of older working-age women in these industries was less over the entire period.

The same pattern is true of transportation; the older working-age share of the female work-force was less than average from 1911-21, but by 1931 the difference was less dramatic than for manufacturing. The changes in the age distribution in communication are particularly interesting. Starting at a share of only 0.22, older working-age women began making up an increasing share of female employment in communication, peaking at 0.60 in 1941. There was then an upsurge in the employment of young women over the decade 1941-51 that lowered the share of older working-age women to 0.39. There was a modest rise again in the last decade to 0.54. This suggests that introduction of new techniques may have had a strong influence on the makeup of the workforce.

The other major change was in trade, a sector of significant female employment. Trade had the greatest increase in the rate of employment of older working-age women, increasing from 0.39 in 1911 to 0.73 in 1961. The sharpest increases occurred from 1931 to 1941, and again from 1951 to 1961, though the increase from 1941-51 was larger than average as well. Unlike

manufacturing for which the older working-age share of the female workforce remained flat from 1911-31, in trade it increased in every period. The evidence is consistent with trade being an industry for women's re-entry into the workforce. The employment of older working-age women in finance and insurance appears essentially flat over the period. While it does change from period to period, over the entire fifty years there was no overall change, with older working-age women constituting just over half of the female workforce in finance and insurance.

There is relatively more diversity across the service industries. Education employed older working-age women in the same proportion as the overall average over all industries in 1911, but after that the ratio of older working-age women grew more rapidly to a peak of 0.73 in 1941, after which it fell back to a slightly lower plateau at just under 0.71 for 1951 and 1961. The only other two industries that look like education in this respect are religion and local government, neither of which showed the same increase in the early period. Health, by contrast, shows a U-shaped pattern with older working-age women's share of the female workforce falling from 1911-31, then rising again to 1961, though the 1961 proportion was lower than 1911. Personal services shows an increase in employment of older working-age women, but a much more modest increase than the average. Business services looks much more like the average only it employed 10% fewer older working-age women in 1911 and so shows a relatively greater growth in employment of older working-age women over the entire period. The public service shows a greater than average share of older working-age women in the workforce in every period, while the share rises by a little over 10% over the entire period.

In terms of actual numbers, the increase in older working-age women's employment in trade was the largest of all the industries, essentially doubling each decade from 1931-41 on. Large increases are also evident in health, education, hospitality, and federal/provincial government. Of the manufacturing industries, only food shows a substantial increase in the number of employed older working-age women over the last three decades. While clothing remained absolutely larger, its relative increase was not as great. Yet overall, the share of older working-age females in manufacturing grew steadily even though actual female employment in manufacturing grew more modestly. A contrast is evident in comparing trade with manufacturing. In trade, the older working-age share of the workforce increased steadily through every period. It was the classic industry for employment of women re-entering the workforce. In contrast, the older working-age share of the workforce in manufacturing remained flat for the first three decades, after which the increase in the share began accelerating. Employment practices were changing dramatically. It may be that by the post World War II period, manufacturing industries began retaining females as the premium to skill and experience was increasing; whereas in the earlier period, females tended to work in manufacturing when they were young, exiting at marriage or childbirth.

5.3   Occupational Segregation

The data body upon which we are relying does not have a full matrix of detailed occupations as well as industries. It does, however, have a broad occupational distribution of female workers within each manufacturing industry. Specifically, it separately identifies the three occupational categories: owners and managers, professional workers, and clerical workers. What may be of particular interest in the evolution of women's work is the role, small though it may be, of women

in managerial and professional occupations.[22]

Not only is there a dearth of females in owner/manager occupations over the entire period, there is relatively little change over the fifty years. In 1911 the number of females in this category was 5% of the number of males. By 1961, this had slowly increased to 10%. Interestingly, there were no industries after 1911 for which female owner/managers outnumbered male owner/managers, except religion in 1961 only. Oddly, in 1911 there were five industries (at the 3-digit level) with more female than male managers, and of those industries, one – wood container manufacturing – was not majority female. Female earnings in this industry were higher than average, though still less than 67% of male average earnings in the same industry.

We observe large numbers of female owner/managers in the industries of relatively large female employment, both absolutely and as a share of the industry's female workforce. In every period, trade was the single largest industry for female owner/managers, reflecting undoubtedly female ownership of small businesses. Except for 1911, the hospitality industry was the second largest employer of females in the owner/manager category. In manufacturing, food, clothing, and printing were noticeably larger employers of females in the owner/manager category. This was also true on a share basis as well. For the other industries, there are two patterns evident. There were a few industries that employed relatively many female owner/managers in 1911, after which the numbers declined; and there were a few industries that saw large increases in the employment of females in the owner/manager category in 1951 and 1961. In particular, recreational services as well as insurance and government saw very large declines in the number of female owner/managers from 1911 to 1921. There were several industries that saw large increases in the employment of females in this category in 1951 and 1961. In order of absolute increase these were: government, health, personal and business services, and food and clothing. In other words, there was a surprisingly large number of females in the owner/manager category in 1911, but that number declined for the next three decades, until a big jump in 1951 and 1961. The increase of 1951 and 1961 was almost entirely in services, with a modest increase in the majority female manufacturing industries.

The distribution of employment in occupational classes by industry is more revealing once adjustment is made for the absolute size difference in male and female employment. This is done by looking at the ratio of the share of females in industry i employed in broad occupation class j divided by the share of males in industry i employed in broad occupation class j. This ratio will be termed the gender employment-share ratio for an occupational class. For owner/managerial occupations, the aggregate gender employment-share ratio is about one-third at both ends of the period. The ratio dips to 0.22 in 1921 before rising steadily to 1951, and then dropping slightly to 1961. There were a half-dozen industries for which this ratio was greater than 1.0 in 1911 and only a dozen industries for which this ratio was greater than 0.5. Of these dozen industries with large gender employment-share ratios for owner/managers, only insurance and government were relatively large employers of women. In 1921 the only industry with a gender employment-share ratio greater than 0.5 was quarrying, in 1931 it was rail transport. Construction shows a relatively high owner/manager gender employment-share ratio from 1941-1961 as does other transport, but neither employed many females. From 1951-1961, government also had a ratio greater than 0.5. The industries of large female employment had few females in the owner/manager category.

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[22]In the early years at least, the managerial category would have comprised mostly female owners of small businesses.

For education, the ratio was essentially constant over the long-run – 0.24 in 1911 and 0.24 again in 1961. In trade, the ratio rises steadily from 0.23 in 1911 to 0.32 in 1961. The largest industry of female employment, personal services, had very few female managers, with the ratio rising from a low of 0.01 to 0.09 by 1961.

In contrast to their role as managers, females appear to have been relatively professionalized on aggregate. In 1921 and 1931, the total number of females employed in professional occupations exceeded males employed in professional occupations even though the female workforce was only one-fifth the size of the male workforce. By 1961, though, the ratio of females to males in professional occupations had fallen to 0.75. From 1931 on, female entry into professional occupations was not keeping up with male entry. On aggregate, though, a greater proportion of the female workforce was employed in professional occupations in every census year. However, this aggregate view is a bit deceiving as it is driven essentially by two industries: education and health. In these two industries, the number of professional females greatly exceeded the number of male professionals.[23] There were a few other industries in a few of the years for which female professional employment exceeded male, but all were small and all were majority female. In terms of the share of the female workforce in professional occupations, only other services, and local government tended to have a greater share of females than males in professional occupations in most years. Federal/provincial government shows the greatest overall growth in the index of female to male professional shares, from 0.3 in 1931/41 to 0.7 in 1961. But overall, female professionalization fell relative to male over this period, with professional females mostly in education and health. Over the first half of the 20th century, then, the advice to women who wanted to get ahead was to obtain professional qualification. That was most readily accomplished by becoming a teacher.

Definitional issues regarding what was considered a profession may also play a role. The number of industries for which there were professional occupations in the earlier period is small. By 1931, probably with changes to the Census definition, more occupations became identified as professional and by 1951, male professional employment exceeded female, driven partly by this definitional increase in professional occupations.

It is well-known that women have tended to be overrepresented in clerical work. The gender employment-share ratios in clerical occupations were greater than 1 on aggregate in all years over the entire period. In other words, compared to males, a greater share of the female workforce was employed in clerical occupations over the entire period. For Canada, this appears already in 1911, a bit earlier than the usual dating of the beginning of the influx of women into clerical work. However, this requires two qualifications. In absolute numbers, female clerical employment did not exceed male clerical employment until 1951. But because the female workforce was smaller, clerical employment constituted a greater share of female employment. The second qualification is perhaps more interesting. From 1911 to 1941, the gender employment-share ratio in professional occupations was greater than in clerical occupations. In other words, compared to males, professional employment was relatively more important than clerical employment for females through 1941. While the gender employment-share ratio in clerical occupations did increase relative to professional occupations, the former did not surpass the latter until 1951. As it was in 1951 that the gender employment-share ratio for clerical occupations reached its

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[23]Again, note that health does not include dentists and doctors.

maximum, this was the period when the importance of clerical work for women was greatest.

What is true on aggregate is also true for virtually all industries. There were very few industries that had a greater share of the male workforce in clerical occupations. Tobacco is about the only one for which this was true in all periods.[24] In terms of actual numbers rather than as a share of workforce, many industries employed absolutely more males than females in clerical work. Of the majority female industries, communication, finance, insurance, education, health and personal services saw relatively large increases in the gender employment-share ratio for clerical occupations. Health showed a steady decline from 1911-41, but then a big jump to 1951.

Clerical employment of females did not necessarily increase disproportionately to the growth in the female workforce in all industries. While there were substantial differences in the index across manufacturing, with some tending to have had much higher indexes than others, none showed substantial increases in the index over time, with the possible exception of primary textiles. That is, growth in female clerical employment in most manufacturing industries appears to have been matched by growth in male clerical employment. This is also pretty much true of the transportation industries, with the notable exception of communications, noted already as an industry of relatively large female employment growth to 1951.

The industries that did show relative growth in female employment in clerical occupations were trade, FIRE, education, health, business services, other services, and government, particularly federal and provincial government. These also tended to be the most feminized industries. All these industries showed growth in clerical employment of both females and males. The increases were simply relatively larger for females. Moreover, the jump in female employment tended to be greatest from 1941 to 1951. While female clerical employment continued to expand in virtually all industries from 1951 to 1961, growth in male clerical employment started to catch up in this last decade. Therefore, it seems that the great expansion in female clerical employment reached its peak in 1951, both absolutely and also relative to growth in male clerical employment.

6 Conclusion

This paper has offered an excursion through the evidence relating to fifty years of women's work and wages in Canada. We are able to show that early in the century women somewhat narrowed the gap between their earnings and those of men. The gain made between 1911 and 1931 was to an extent reversed and the ratio of female to male average earnings stood no higher in 1961 than it had been in 1921. It is not correct to claim, as has often been done, that women have been stuck at an unchanging, low earnings ratio for a long time. There were decades in the past when they were able to make some gains. Unfortunately, there were also periods of setback. There has been more dynamic to the history of women's earnings in Canada than is often supposed.

What our data mainly have to offer is industry detail that show what and how well women were doing in many different parts of the economy. The data point up quite strikingly how highly segregated were women workers early in the twentieth century. This has long been widely be-

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[24]Clerical occupations included the sales force, and tobacco had relatively large sales forces. These sales forces were mostly male.

lieved; our data simply show it more precisely and more comprehensively. Industrial segregation declined over the fifty year period under examination, yet even in 1961 the female work force was considerably more concentrated by industry than was the male work force.

Since we have average annual earnings data on the same relatively detailed industrial classification we are able to ask how much of the earnings disadvantage that women faced could be attributed directly to their segregation within the work force. The answer is not much; women earned less than men in all of the industries in which they worked. Where women earned higher wages it was in industries where men also earned high wages so the gender earnings ratio was not necessarily favourable to women. Over time women moved in large numbers into industries that were, for them, the higher paying industries. That may have improved the material well-being of women, but it did little to raise the ratio of female to male earnings. The predominant reasons for the low ratio of female to male earnings were within-industry differentials. We are able to show hypothetically that if female workers were redistributed to reflect the pattern of male workers they would have made little gain in earnings. The high concentration of women in industries that offered abundant employment in "women's work" was not, of itself, the main reason for women's earnings disadvantage.

There is a large literature on the work segregation of women. Occupational and industrial segregation have attracted so much interest largely because they were believed to be an important reason for the earnings disadvantage that women experienced. That is the main thrust of Armstrong and Armstrong (1975), probably the most widely read work in Canada on the issue, but they direct so much attention to segregation because they *assume* that it has been the root of the problem. In an more subtle way the assumption that the action lies in the industrial distribution underlies the study by Boyd, Mulvihill and Miles (1991). In his earliest writing, the labour economist Gunderson (1976) raised some doubts about the importance of labour force segregation; but in later writing with Reid (1981) he acceded to the strength of emphasis on segregation by writers in the United States to conclude that it must have played an important role. More recently, however, the most substantial work on the long run evolution of women's work and wages in the United States by Goldin (1990) concludes that segregation of women workers did not play an important role in the determination of their wages relative to those of men.

Women workers were indeed assigned to only a few roles in the economy where they heaped up in notable concentrations. That diminished somewhat over time but not greatly. If women throughout the economy earned the same as men would their heavy concentration in only a few industries be a topic of interest? Perhaps mildly, but it would have to be taken more as an indication of women's preferences for types and places of work. It is interesting to note that, as the economy evolved, women found new and interesting places to work. Our main finding however, adds to the evidence, based mainly on studies of shorter, more recent periods, that the real problem that women faced is that wherever they found places to work, they were remunerated less than men.

Where women were able to make gains in earnings relative to men was in public sector employment. Women found large increases in employment in the health, education, and federal and provincial government industrial categories. The latter two were persistently high pay industries for women, and their relative position in the health services industry improved over time. We are not here able to probe into why women were able to make gains in the public sector, and we

are not the first to point that out (c.f. Boyd et al., 1991), but we are able to show that it is a trend that played out over an extended period of time. Outside of the three large public sector industries, women were rarely able to make any gain on men in their relative level of earnings. In fact the gains in the public sector must have been offset by declines in the earnings ratio in some other important industries if the overall earnings ratio were to exhibit the constancy it did. In the redistribution of women workers across industries two features stand out. One is that even though the low-pay personal services industry employed a considerably shrinking proportion of women over the years, it nevertheless remained one of the large employment industries for women. There were shifts in what women were doing in that industry. Fewer of them were domestics and more of them were hairdressers. Nevertheless, this was a low pay industry and also one in which the ratio of female to male earnings declined. The second area of the economy that played a large role in the overall picture was retail and wholesale trade. That also was where a large number of women found employment, especially in the years right after World War II. That was accomplished, however, only by diminishing relative wages. This might be partly accounted for by store clerks shifting from being a full time job for young, unmarried women to being a part time job for married women re-entering the workforce. Those developments played an important role in diminishing the overall ratio of female to male earnings.

Throughout the period, manufacturing industries were not the most prominent area of female employment. For most of the period under examination, opening up jobs in manufacturing industries would not have made much contribution to raising women's earnings. At the outset, manufacturing jobs for women were in low paying industries such as hosiery and knit wear, and in clothing manufacturing. Over time more jobs in manufacturing industries came to be filled by women. That partly reflected the rise of clerical work in the manufacturing sector, but shop floor employment was on the increase as well. The experience of World War II contributed so finally in 1951 women could be found in relatively large numbers in several prominent manufacturing industries, most notably metal products, transport equipment, and electrical equipment. High pay for women was found in petroleum refining and tobacco manufacturing. That did not long persist, however, and it would be after 1961 that further gains would be made in manufacturing employment.

More recent years have seen the beginnings of access by women to managerial positions. The entire period up to 1961, however, is one in which women were little found in the managerial ranks. They might be owners of small businesses but that was about it. What we need to recognize, however, is that from the point of view of the overall position of women, managerial positions for both sexes were a small fraction of total employment. Lack of access to managerial employment may be an issue in its own right, but the relative numbers of managerial positions were sufficiently small that fully open access of women to managerial positions could not have had much impact on the overall gender earnings ratio. Advance for women in the first half of the twentieth century consisted primarily of acquiring training, usually of fairly short duration, as a nurse, a teacher, or a stenographer. Prior to World War II the best opportunities were as relatively skilled office workers in a range of service industries. Secretarial skills were the route to relatively high pay in rapidly expanding industries. The evidence that we present here suggests that development along those lines had run its course by 1951. Clerical jobs had become more run-of-the-mill and no longer offered the superior opportunities they once had. The other approach to

advancement by women had been through professional training and certification. In recent years that has become a preferred and a successfully pursued route. Through the entire period up to 1961 there were really only two professions that counted for women - teaching and nursing. Much of the small advance in relative earnings that women were able to make came through their extensive participation in those two feminized professions. Education and health services were expanding sectors of the economy. They were also largely public sector industries and that appears to have given women in those industries a bit of leverage in raising relative earnings.

There is a more subtle and complex view of the role of female work segregation that finds some support in our evidence. The idea is that when new, relatively high-paying opportunities open for female workers, women respond in large numbers. In so doing they overcrowd the new sectors of opportunity and thereby undermine the possible breakdown of the within-industry constraints on relatively higher earnings for women. This appears to have happened in both clerical work and in retail trade. Women responded in large numbers to possibilities of work in areas of the economy where previously they had been less welcome. In the process their relative level of earnings in those sectors declined. That is what happened in the retail and wholesale trade industry, on the production line in electrical equipment manufacturing, and to a lesser degree in finance, insurance and real estate. Nevertheless, this effect is only the smaller part of the explanation of why women's relative earnings advanced very little. The main story is that, early in the century and still in 1961, within quite detailed industrial categories, women earned substantially less than men. It was not lack of access to the stronger performing and more rapidly growing industries that was holding women back. The main story is that, early in the century and still in 1961, within quite detailed industrial categories, women earned substantially less than men. Over the long run, the significant obstacle to women has not been to overcome segregation. Then as now, the real obstacle has been obtaining the higher-ranking jobs within their own occupation or industry of employment.

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Figure 1: Nominal Average Earnings and Gender Earnings Ratio, 1911-61
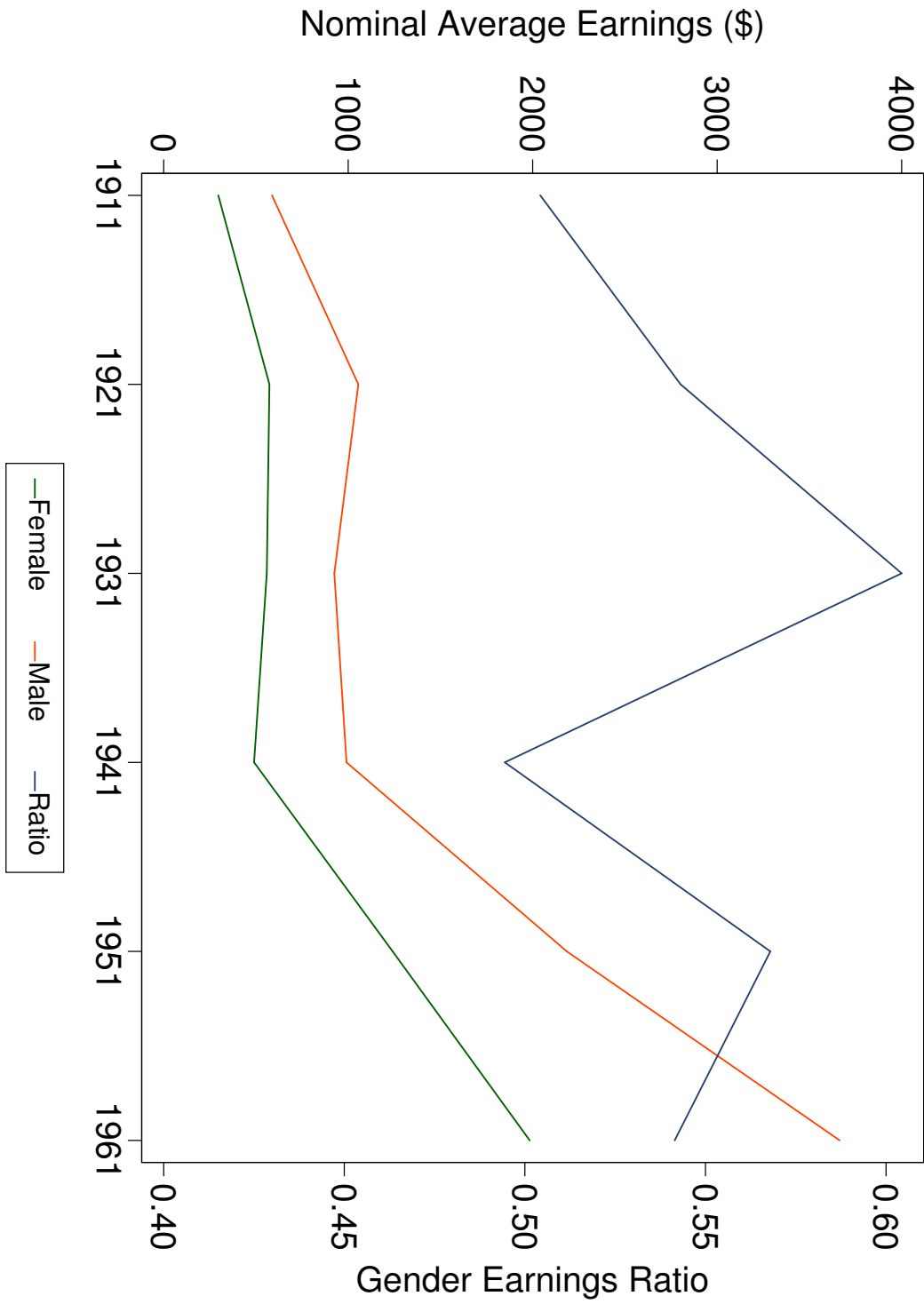
Figure 2: Distribution of Female and Male Labour Force, 1911 and 1961
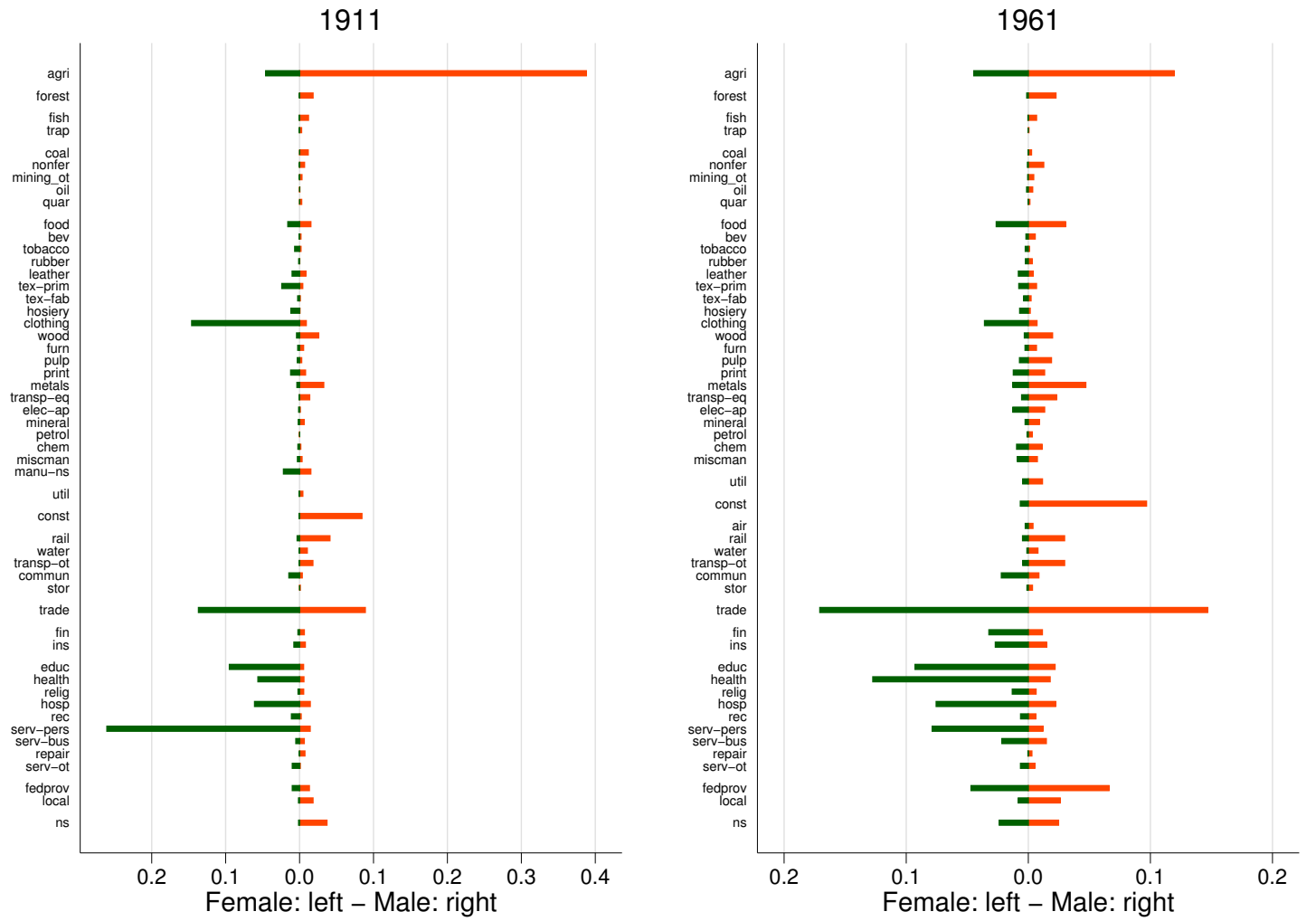
Figure 3: Female Employment Shares in the Service Industries by Year
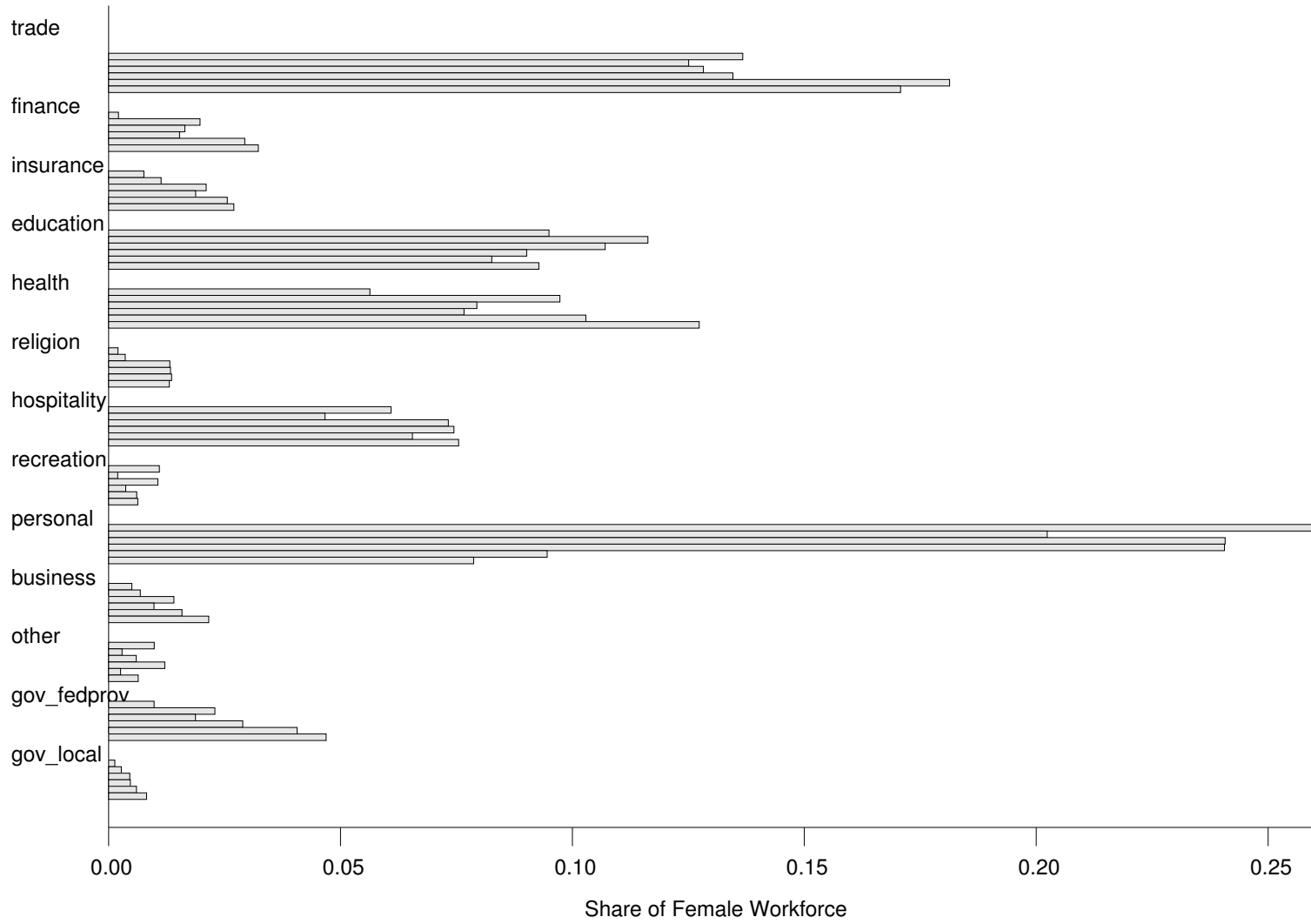
Figure 4: Female Employment Shares by Industry, 1911 and 1961
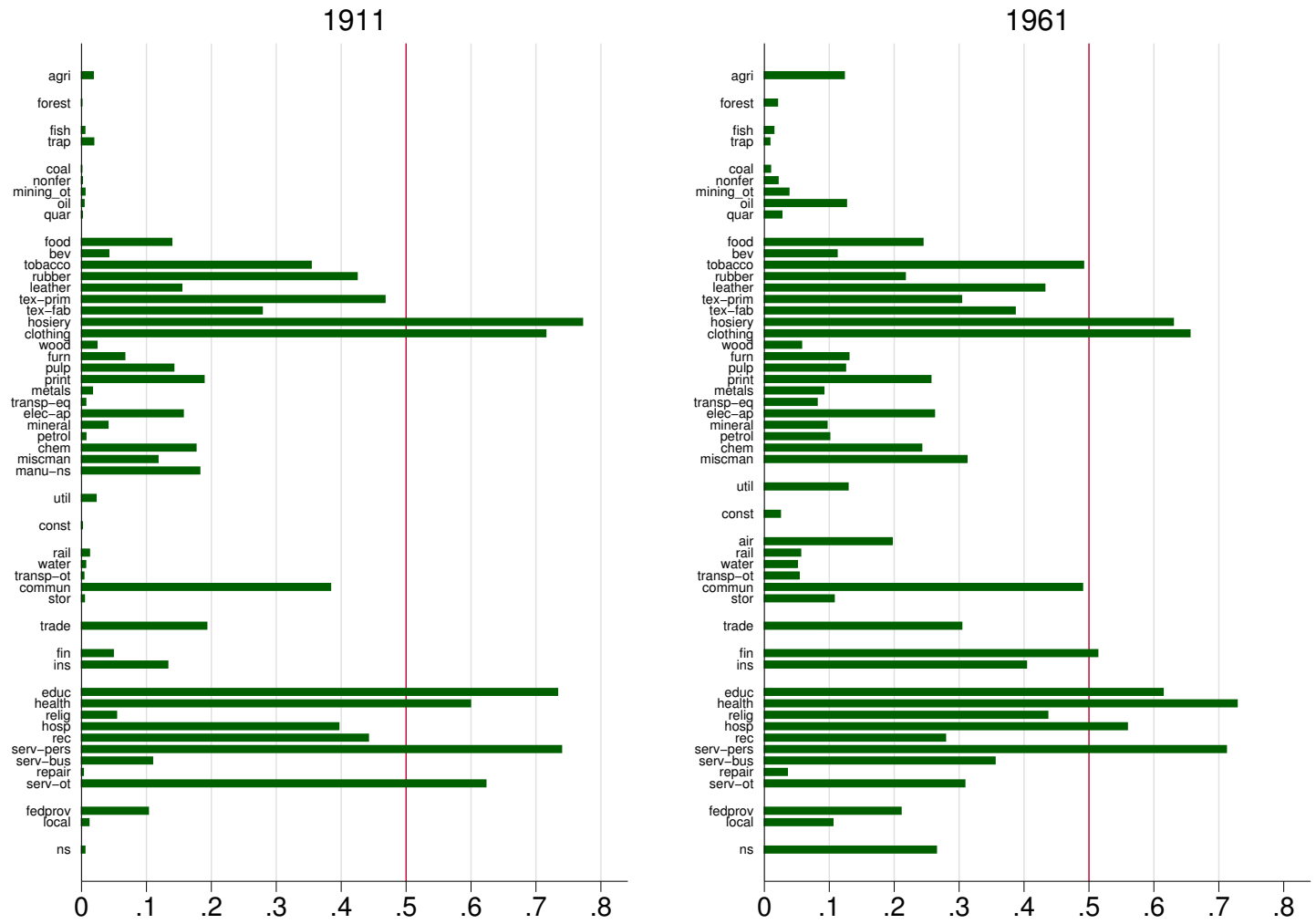
Figure 5: Female Earnings Rank, 1911 and 1961
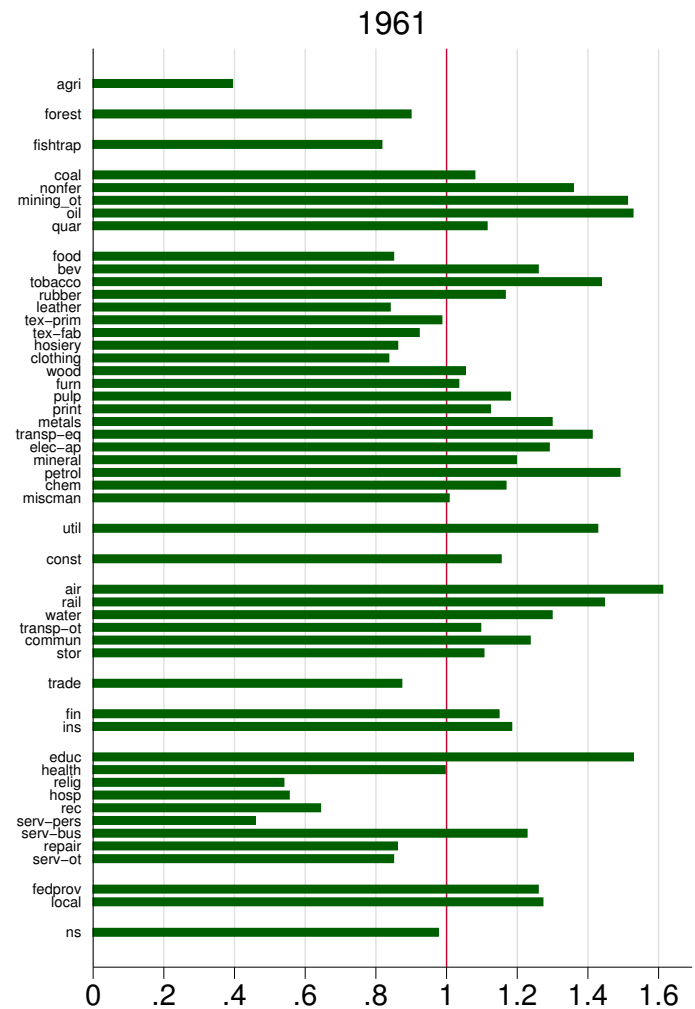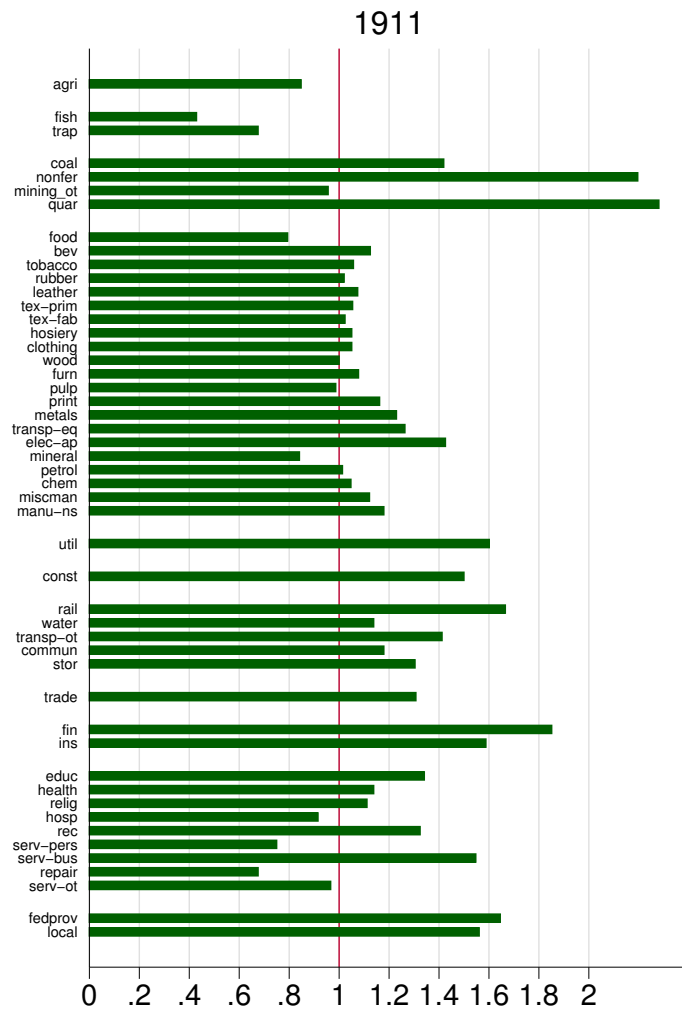
Figure 6: Gender Earnings Ratio, 1911 and 1961
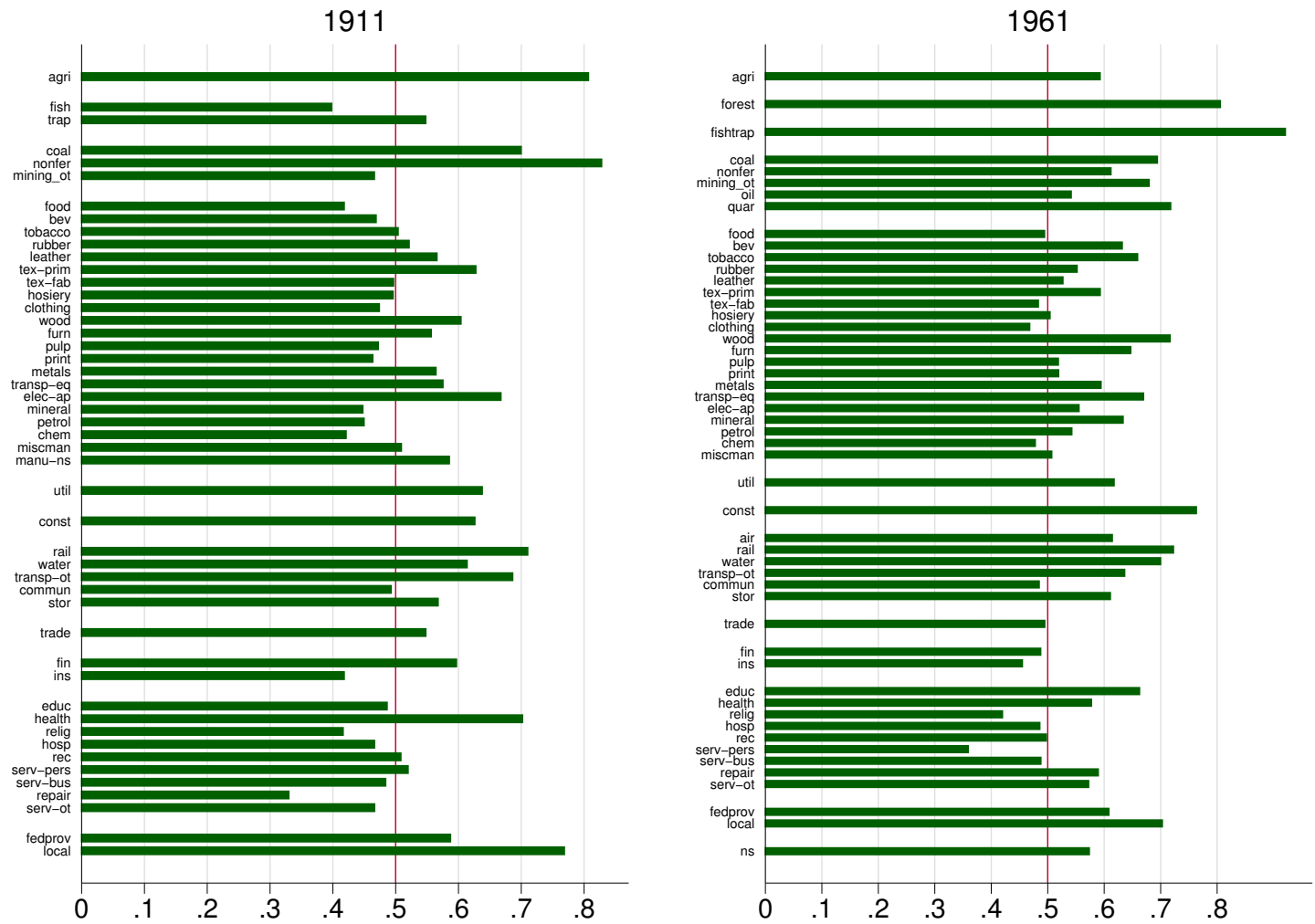
Figure 7: Relative Earnings vs. Degree Feminized
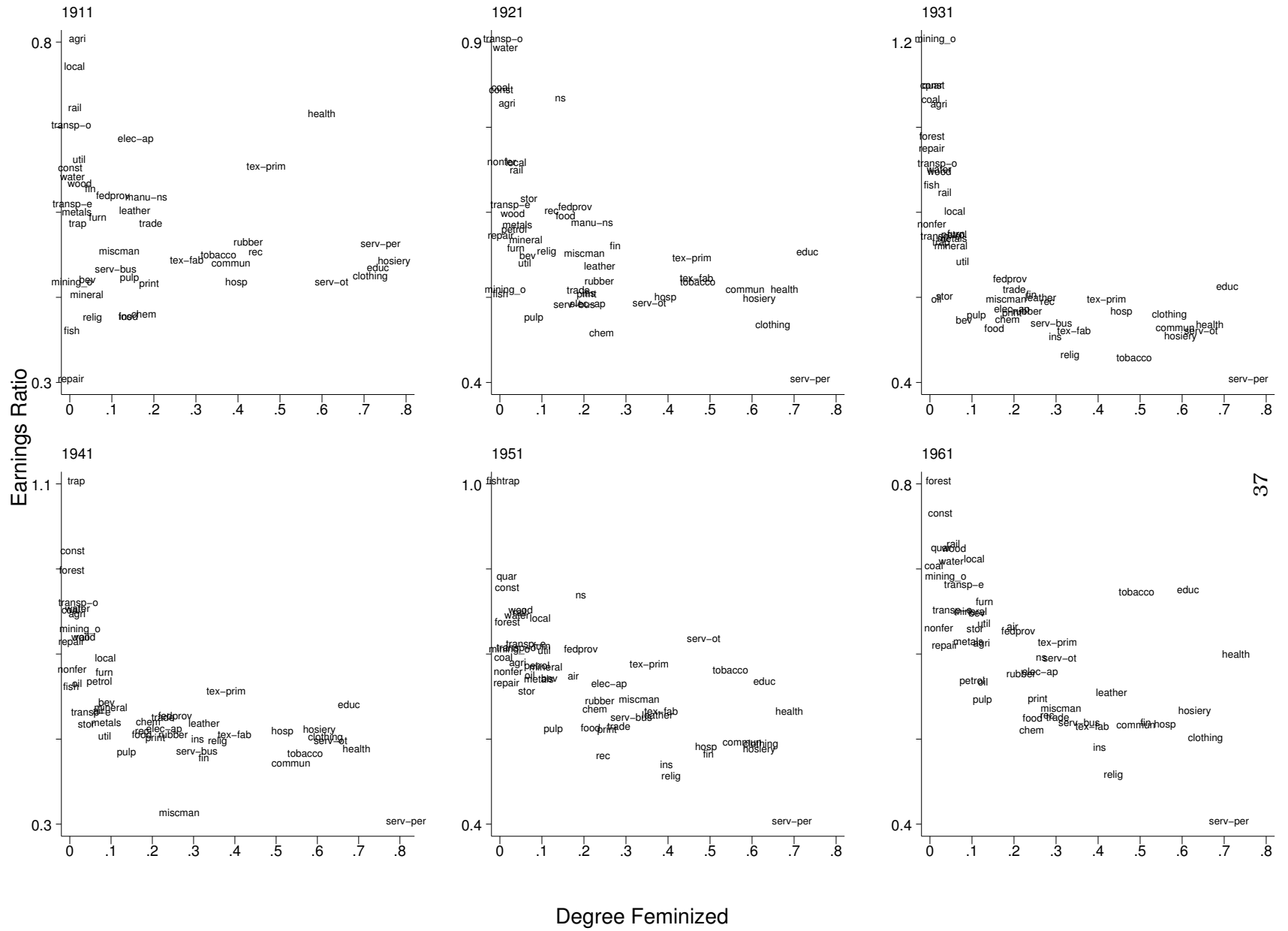
Table 1: Duncan's Dissimilarity Indexes

	nonfarm			total		
	workforce	wage earners	n	workforce	wage earners	n
1911	0.6297	0.6321	52	0.6978	0.6570	53
1921	0.5483	0.5481	52	0.6204	0.5790	53
1931	0.5608	0.5683	52	0.6261	0.5926	53
1941	0.5328	0.5265	52	0.6033	0.5499	53
1951	0.4530	0.4721	51	0.4986	0.4794	52
1961	0.4212	0.4391	52	0.4291	0.4420	53

Table 2: Correlation Coeficients of Earnings against Degree Feminized

Panel A: Gender Earnings Ratio

| | vs. Proportion Female | | | | vs. Female Employment Increase | | | |
	total workforce	wage earners	n		total workforce	n	wage earners	n
1911	−0.4012 ***	−0.0799	50					
1921	−0.6519 ***	−0.6776 ***	52	1911–21	0.2550 *	52	−0.0619	51
1931	−0.6790 ***	−0.6833 ***	52	1921–31	−0.5900 ***	51	−0.6767 ***	51
1941	−0.6970 ***	−0.7136 ***	52	1931–41	−0.7050 ***	52	−0.6351 ***	52
1951	−0.5524 ***	−0.5713 ***	51	1941–51	0.3685 ***	50	0.3684 ***	50
1961	−0.2583 *	−0.2571 *	50	1951–61	0.1392	50	0.2106	50

Panel B: Female Earnings Rank

| | vs. Proportion Female | | | | vs. Female Employment Increase | | | |
	total workforce	wage earners	n		total workforce	n	wage earners	n
1911	−0.3962 ***	−0.5346 ***	50					
1921	−0.3547 ***	−0.4977 ***	52	1911–21	0.3927 ***	52	0.1732	51
1931	−0.3364 **	−0.4876 ***	52	1921–31	−0.6320 ***	51	−0.7013 ***	51
1941	−0.5049 ***	−0.6323 ***	52	1931–41	−0.7133 ***	52	−0.7720 ***	52
1951	−0.2645 *	−0.4282 ***	51	1941–51	0.3311 **	50	0.3173 **	50
1961	−0.0959	−0.2315	50	1951–61	−0.0385	50	0.0573	50

*** =significant at 1% level

** =significant at 5% level

* =significant at 10% level

Table 3: Gender Earnings Ratios Counterfactual

Panel A – female:male earnings, varying industrial distribution and average
earnings – earnings go down, industrial distribution goes across

	1911	1921	1931	1941	1951	1961
[wf/wm]1911	0.523	0.526	0.536	0.520	0.541	0.531
[wf/wm]1921	0.508	0.545	0.529	0.512	0.551	0.553
[wf/wm]1931	0.582	0.619	0.602	0.564	0.591	0.586
[wf/wm]1941	0.503	0.539	0.522	0.487	0.522	0.520
[wf/wm]1951	0.547	0.574	0.560	0.538	0.567	0.566
[wf/wm]1961	0.513	0.552	0.527	0.512	0.541	0.542

Panel B – female:male earnings with industrial distribution of male

	1911	1921	1931	1941	1951	1961
[wf/wm]1911	0.567	0.546	0.605	0.584	0.573	0.556
[wf/wm]1921	0.580	0.632	0.638	0.613	0.612	0.621
[wf/wm]1931	0.629	0.700	0.735	0.682	0.661	0.660
[wf/wm]1941	0.579	0.629	0.659	0.603	0.584	0.581
[wf/wm]1951	0.636	0.662	0.693	0.660	0.639	0.632
[wf/wm]1961	0.563	0.615	0.629	0.614	0.596	0.589

Table 4: Gender Earnings Gap Decomposition

		1911	1921	1931	1941	1951	1961
Earnings Gap							
Raw	Total	261	477	369	506	935	1669
	Between	104	163	49	166	228	395
	Within	157	314	320	341	707	1275
Relative	Total	0.438	0.455	0.399	0.511	0.432	0.456
	Between	0.174	0.156	0.053	0.167	0.105	0.108
	Within	0.264	0.299	0.345	0.344	0.327	0.348
Percent	Between	39.8%	34.2%	13.3%	32.7%	24.4%	23.6%
	Within	60.2%	65.8%	86.7%	67.3%	75.6%	76.4%

Notes: Earnings gap is difference between male and female average earnings.
Relative earnings gap is earnings gap divided by male average earnings.
The components of the relative earnings gap are re−expressed as
percentages of the relative total earnings gap.

Table A.1: Industrial Distribution of the Workforce, 1911-1996

	1911	1921	1931	1941	1951	1961	1971	1981	1986	1991	1996
						Male					
Agriculture	38.79%	38.09%	33.85%	31.61%	19.20%	11.94%	6.52%	5.09%	5.01%	4.38%	4.09%
Foresty	1.82%	1.49%	1.52%	2.77%	3.09%	2.26%	1.25%	1.25%	1.35%	1.16%	1.15%
Fishing	1.47%	1.25%	1.45%	1.50%	1.29%	0.73%	0.43%	0.47%	0.55%	0.51%	0.49%
Mining	2.47%	1.92%	2.20%	2.75%	2.46%	2.45%	2.29%	2.52%	2.25%	2.06%	1.84%
Manufacturing	15.83%	15.80%	16.65%	21.86%	25.17%	23.49%	22.99%	22.37%	21.32%	18.70%	18.68%
Utilities	0.44%	0.37%	0.64%	0.63%	1.04%	1.16%	1.35%	1.51%	1.53%	1.56%	1.43%
Construction	8.43%	6.76%	7.62%	6.50%	8.36%	9.68%	9.04%	9.53%	9.32%	10.54%	9.36%
Transport	7.40%	8.49%	7.82%	7.34%	8.58%	8.31%	11.85%	12.30%	8.71%	8.40%	8.46%
Trade	8.89%	9.92%	10.42%	11.42%	12.96%	14.69%	14.17%	15.49%	16.68%	17.02%	17.66%
FIRE	1.41%	1.72%	2.07%	1.82%	1.94%	2.65%	4.15%	4.86%	5.32%	5.46%	5.66%
Services	6.21%	6.59%	7.60%	7.26%	8.18%	10.95%	15.27%	18.87%	21.58%	23.58%	26.39%
Government	3.14%	3.16%	3.11%	3.32%	6.40%	9.22%	8.41%	7.81%	8.00%	8.16%	6.50%
						Female					
Agriculture	4.59%	3.65%	3.64%	2.30%	3.01%	4.46%	2.79%	2.56%	2.70%	2.79%	2.56%
Foresty	0.00%	0.00%	0.04%	0.06%	0.20%	0.12%	0.11%	0.23%	0.27%	0.25%	0.21%
Fishing	0.07%	0.08%	0.08%	0.04%	0.03%	0.03%	0.03%	0.07%	0.12%	0.12%	0.12%
Mining	0.02%	0.04%	0.05%	0.07%	0.20%	0.27%	0.32%	0.61%	0.53%	0.48%	0.39%
Manufacturing	27.37%	21.59%	18.39%	21.84%	23.63%	17.34%	13.67%	12.76%	11.78%	9.69%	8.99%
Utilities	0.06%	0.13%	0.26%	0.23%	0.43%	0.46%	0.38%	0.46%	0.48%	0.55%	0.50%
Construction	0.07%	0.12%	0.24%	0.18%	0.52%	0.65%	0.89%	1.46%	1.46%	1.68%	1.45%
Transport	1.86%	4.31%	3.40%	2.37%	4.19%	3.59%	3.47%	4.06%	3.77%	3.85%	3.73%
Trade	13.67%	12.51%	12.82%	13.46%	18.13%	17.07%	15.74%	17.51%	17.89%	17.42%	17.12%
FIRE	0.97%	3.10%	3.75%	3.41%	5.49%	5.93%	7.60%	9.77%	9.71%	9.66%	9.38%
Services	50.07%	47.80%	54.44%	52.08%	38.37%	42.19%	39.72%	42.23%	46.20%	47.92%	51.75%
Government	1.11%	2.57%	2.33%	3.36%	4.67%	5.51%	5.52%	6.75%	7.09%	7.39%	5.84%

Notes: Data for 1971, 1981 based on 1970 SIC; 1986, 1991, 1996 based on 1980 SIC.

Source: 1911–1961, See text; 1971, 1981, Census of Canada 1981;
      1986, 1991, 1996, Census of Canada 1996.

Table A.2: Industrial Distribution of the Workforce, Detailed, 1911-1961

		Female						Male					
		1911	1921	1931	1941	1951	1961	1911	1921	1931	1941	1951	1961
1	Agriculture	4.6%	3.7%	3.6%	2.3%	3.0%	4.5%	38.8%	38.1%	33.8%	31.6%	19.2%	11.9%
2	Forestry	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	1.8%	1.5%	1.5%	2.8%	3.1%	2.3%
3	Fishing/Trapping	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	1.5%	1.2%	1.4%	1.5%	1.3%	0.8%
3.1	fishing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	1.0%	1.0%	1.0%	1.3%	0.7%
3.2	trapping	0.0%	0.1%	0.1%	0.0%	–	0.0%	0.3%	0.2%	0.4%	0.5%	–	0.1%
4	Mining	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	2.5%	1.8%	2.2%	2.8%	2.4%	2.5%
4.1	coal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	1.1%	1.0%	0.9%	0.6%	0.3%
4.2	nonferrous	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.7%	0.4%	0.7%	1.5%	1.2%	1.3%
4.3	other mines	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.2%	0.2%	0.3%	0.4%
4.4	oil	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.2%	0.4%
4.5	quarry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.1%	0.2%	0.1%	0.1%	0.1%
5	Manufacturing	27.5%	21.5%	18.4%	21.8%	23.7%	17.4%	15.9%	15.7%	16.7%	21.9%	25.1%	23.4%
5.1	food	1.6%	1.7%	2.0%	1.9%	2.8%	2.6%	1.5%	1.6%	2.2%	2.2%	2.8%	3.0%
5.2	beverage	0.1%	0.0%	0.1%	0.1%	0.2%	0.2%	0.2%	0.1%	0.3%	0.3%	0.5%	0.6%
5.3	tobacco	0.7%	0.6%	0.5%	0.5%	0.4%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%
5.4	rubber	0.1%	0.4%	0.5%	0.5%	0.4%	0.2%	0.0%	0.3%	0.3%	0.4%	0.4%	0.3%
5.5	leather	1.0%	1.0%	1.0%	1.2%	1.0%	0.8%	0.9%	0.6%	0.6%	0.6%	0.5%	0.4%
5.6	textiles−primary	2.4%	2.1%	2.2%	2.3%	1.9%	0.8%	0.4%	0.5%	0.6%	0.9%	1.0%	0.7%
5.7	textiles−fabricated	0.2%	0.6%	0.5%	0.7%	0.6%	0.4%	0.1%	0.1%	0.2%	0.3%	0.3%	0.2%
5.8	hosiery	1.2%	0.6%	0.9%	1.0%	1.3%	0.7%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%
5.9	clothing	14.6%	8.6%	5.7%	5.9%	5.2%	3.6%	0.9%	0.8%	0.9%	0.9%	0.9%	0.7%
5.10	wood	0.4%	0.4%	0.2%	0.3%	0.5%	0.3%	2.6%	2.3%	1.7%	2.1%	2.7%	2.0%
5.11	furniture	0.2%	0.1%	0.1%	0.2%	0.3%	0.3%	0.5%	0.4%	0.5%	0.5%	0.6%	0.7%
5.12	pulp & paper	0.3%	0.4%	0.7%	0.8%	1.0%	0.7%	0.3%	0.9%	1.1%	1.3%	1.9%	1.9%
5.13	printing	1.2%	1.2%	1.2%	0.9%	1.4%	1.2%	0.8%	0.8%	1.0%	0.9%	1.1%	1.3%
5.14	metals	0.4%	0.7%	0.9%	2.2%	1.9%	1.3%	3.3%	3.1%	3.1%	5.5%	5.3%	4.7%
5.15	transport equip	0.1%	0.2%	0.2%	0.6%	0.7%	0.5%	1.4%	1.6%	1.9%	3.0%	2.9%	2.3%
5.16	electrical apparatus	0.1%	0.3%	0.6%	0.9%	1.6%	1.3%	0.1%	0.2%	0.5%	0.7%	1.3%	1.3%
5.17	minerals	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.6%	0.6%	0.6%	0.5%	0.8%	0.9%
5.18	pertroleum	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%	0.2%	0.2%	0.3%	0.3%
5.19	chemicals	0.2%	0.4%	0.4%	0.8%	1.0%	1.0%	0.2%	0.2%	0.4%	0.8%	0.9%	1.1%
5.20	miscellaneous	0.3%	0.5%	0.4%	0.7%	1.1%	0.9%	0.3%	0.3%	0.4%	0.5%	0.6%	0.7%
5.21	ns	2.2%	1.5%	.	.	.	.	1.5%	1.0%	.	.	.	.

		Female						Male					
		1911	1921	1931	1941	1951	1961	1911	1921	1931	1941	1951	1961
6	Utilities	0.1%	0.1%	0.3%	0.2%	0.4%	0.5%	0.4%	0.4%	0.6%	0.6%	1.0%	1.2%
7	Construction	0.1%	0.1%	0.2%	0.2%	0.5%	0.7%	8.4%	6.8%	7.6%	6.5%	8.4%	9.7%
8	Transport	1.7%	4.4%	3.5%	2.4%	4.2%	3.5%	7.4%	8.5%	7.7%	7.4%	8.5%	8.4%
8.1	air	.	.	0.0%	0.0%	0.2%	0.2%	.	.	0.0%	0.1%	0.2%	0.4%
8.2	rail	0.3%	1.1%	0.8%	0.5%	0.7%	0.5%	4.1%	4.8%	4.2%	3.7%	3.9%	3.0%
8.3	water	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	1.0%	0.8%	1.1%	1.0%	0.8%	0.8%
8.4	other	0.0%	0.1%	0.2%	0.2%	0.4%	0.4%	1.8%	2.3%	1.8%	2.0%	2.7%	3.0%
8.5	communication	1.4%	3.0%	2.3%	1.6%	2.7%	2.2%	0.4%	0.4%	0.3%	0.3%	0.6%	0.9%
8.6	storage	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%
9	Trade	13.7%	12.5%	12.8%	13.5%	18.1%	17.1%	8.9%	9.9%	10.4%	11.4%	13.0%	14.7%
10	FIRE	1.0%	3.1%	3.7%	3.4%	5.5%	5.9%	1.4%	1.8%	2.1%	1.8%	1.9%	2.6%
10.1	finance	0.2%	2.0%	1.6%	1.5%	2.9%	3.2%	0.6%	1.0%	1.1%	0.8%	0.8%	1.1%
10.2	insurance/real estate	0.8%	1.1%	2.1%	1.9%	2.6%	2.7%	0.8%	0.8%	1.0%	1.0%	1.1%	1.5%
11	Services	50.1%	47.8%	54.4%	52.1%	38.6%	42.1%	6.1%	6.6%	7.6%	7.2%	8.3%	10.9%
11.1	education	9.5%	11.6%	10.7%	9.0%	8.3%	9.3%	0.5%	0.8%	0.9%	1.1%	1.4%	2.2%
11.2	health	5.6%	9.7%	7.9%	7.7%	10.3%	12.7%	0.6%	0.8%	0.8%	0.8%	1.3%	1.8%
11.3	religion	0.2%	0.4%	1.3%	1.3%	1.4%	1.3%	0.6%	0.5%	0.5%	0.6%	0.6%	0.6%
11.4	hospitality	6.1%	4.7%	7.3%	7.4%	6.6%	7.5%	1.4%	1.3%	1.8%	1.7%	1.9%	2.2%
11.5	recreation	1.1%	0.2%	1.1%	0.4%	0.6%	0.6%	0.2%	0.3%	0.6%	0.4%	0.5%	0.6%
11.6	personal	26.1%	20.2%	24.1%	24.1%	9.5%	7.9%	1.4%	1.3%	1.6%	1.4%	1.2%	1.2%
11.7	business	0.5%	0.7%	1.4%	1.0%	1.6%	2.2%	0.6%	0.6%	0.7%	0.5%	1.0%	1.5%
11.8	repair	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.9%	0.6%	0.5%	0.3%	0.3%
11.9	other	1.0%	0.3%	0.6%	1.2%	0.3%	0.6%	0.1%	0.1%	0.1%	0.2%	0.1%	0.5%
12	Government	1.1%	2.6%	2.4%	3.4%	4.7%	5.5%	3.1%	3.1%	3.1%	3.3%	6.4%	9.2%
12.1	federal/provincial	1.0%	2.3%	1.9%	2.9%	4.1%	4.7%	1.3%	1.9%	1.6%	2.1%	4.8%	6.6%
12.2	local	0.1%	0.3%	0.5%	0.5%	0.6%	0.8%	1.8%	1.2%	1.5%	1.2%	1.6%	2.6%
13	NS	0.1%	4.1%	0.6%	0.6%	1.1%	2.4%	3.7%	4.4%	5.1%	1.2%	1.3%	2.5%
	Total	366629	490453	665859	832840	1164323	1763862	2358519	2687405	3261371	3363111	4125013	4694294

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Table A.3: Average Earnings and Workforce, 1911 & 1961

		Male				Female			
		Workforce		Avg. Earnings		Workforce		Avg. Earnings	
		1911	1961	1911	1961	1911	1961	1911	1961
1	Agriculture	914784	560525	311	1319	16818	78696	251	782
2	Forestry and Logging	42901	106305	461	2214	16	2192	877	1784
3	Fishing and Trapping	34619	34088	320	1759	266	488	130	1620
3.1	Fishing	28256	31629	319	1756	144	467	127	.
3.2	Trapping	6363	2459	365	2005	122	21	200	.
4	Mining	58170	114918	637	4364	79	4782	429	2888
4.1	Coal	27508	12355	600	3085	10	118	420	2142
4.2	Non−ferrous metal	15705	59280	785	4403	19	1277	650	2695
4.3	Other Mining	7544	20661	607	4412	40	812	283	2999
4.4	Oil and Gas	776	16665	757	5594	3	2411	.	3030
4.5	Quarries and Sand	6637	5957	536	3080	7	164	675	2211
5	Manufacturing	373372	1102811	568	3997	100333	305874	312	2045
5.1	Food	36044	143141	562	3410	5819	46274	235	1686
5.2	Liquours and Bevera	4291	26388	710	3952	188	3329	333	2498
5.3	Tobacco	4415	4490	621	4326	2417	4343	313	2852
5.4	Rubber	568	14754	579	4189	419	4090	302	2313
5.5	Leather	20153	18838	562	3163	3681	14327	318	1667
5.6	Primary Textiles	10038	31413	497	3300	8811	13694	312	1957
5.7	Fabricated Textiles	2369	10522	610	3785	914	6623	303	1830
5.8	Hoisery and Knit	1268	7307	627	3390	4286	12439	311	1709
5.9	Clothing	21301	33232	656	3544	53497	63249	311	1659
5.10	Lumber and Wood	60951	93151	490	2914	1483	5661	296	2089
5.11	Furniture	12625	31048	573	3172	901	4647	319	2052
5.12	Pulp and Paper	6683	88938	618	4513	1107	12702	292	2342
5.13	Printing and Publishi	18941	62637	742	4294	4407	21602	344	2230
5.14	Metals	77012	220905	645	4333	1311	22282	364	2576
5.15	Transport Equip	32180	108423	650	4183	210	9591	374	2801
5.16	Electrical Apparatus	2298	62674	632	4608	427	22250	422	2560
5.17	Non−metallic Minera	14656	42480	556	3750	622	4534	249	2376
5.18	Petroleum	148	15191	667	5448	1	1700	300	2957
5.19	Chemicals	3804	52661	736	4847	814	16847	310	2317
5.20	Misc	7812	34618	652	3939	1043	15690	332	1998
5.21	Unspecified	35815	.	596	.	7975	.	349	.
6	Electricity and Gas	10350	54382	743	4585	237	8044	474	2832
7	Construction	198933	454453	709	3000	249	11510	444	2290

		Male				Female			
		Workforce		Avg. Earnings		Workforce		Avg. Earnings	
		1911	1961	1911	1961	1911	1961	1911	1961
8	Transport	174476	389864	657	3942	6814	63268	376	2527
8.1	Air	.	17876	.	5203	.	4378	.	3197
8.2	Rail	96748	139334	694	3971	1199	8239	493	2870
8.3	Water	24534	36806	549	3680	156	1963	337	2576
8.4	Other	42433	139616	609	3418	153	7898	418	2175
8.5	Communication	8512	40459	708	5058	5296	38889	349	2453
8.6	Storage	2249	15773	680	3589	10	1901	386	2193
9	Trade	209731	689423	706	3500	50128	301175	387	1732
10	FIRE	33289	124260	1003	4924	3564	104551	493	2307
10.1	Finance	15087	53936	918	4671	776	56935	548	2278
10.2	Insurance/Real Estat	18202	70324	1124	5160	2788	47616	470	2349
11	Services	146421	514217	630	3468	183584	744189	256	1887
11.1	Education	12666	102766	816	4575	34813	163628	397	3032
11.2	Health and Welfare	13813	83833	480	3421	20653	224599	337	1976
11.3	Religion	13012	29809	790	2548	742	23091	329	1070
11.4	Hospitality	34005	104980	581	2263	22325	133114	271	1100
11.5	Recreation	5070	28701	771	2564	4013	11109	392	1276
11.6	Personal Services	33683	56256	427	2533	95548	138823	222	910
11.7	Business Services	14961	69087	946	4990	1838	38081	458	2435
11.8	Repair Services	17028	13605	606	2895	47	498	200	1707
11.9	Other Services	2183	25180	613	2945	3605	11246	286	1686
12	Public Admin	74157	432788	693	3961	4086	97180	484	2502
12.1	Fed/Prov	31299	310216	829	4106	3593	82735	487	2498
12.2	Local	42858	122572	601	3590	493	14445	462	2524
12.3	Not Stated	87316	116260	385	3376	455	41913	.	1937
Total		2358519	4694294	587	3664	366629	1763862	296	1984

Note: Workforce includes non–wage earners whose earnings are not reported.

Table A.4: Female Share of Workforce, 1911-1961

		1911	1921	1931	1941	1951	1961
1	Agriculture	1.8%	1.7%	2.1%	1.8%	4.2%	12.3%
2	Forestry	0.0%	0.0%	0.5%	0.5%	1.8%	2.0%
3	Fishing/Trapping	0.8%	1.2%	1.1%	0.7%	0.8%	1.4%
3.1	fishing	0.5%	0.2%	0.4%	0.3%	–	1.5%
3.2	trapping	1.9%	5.0%	2.7%	1.6%	–	0.8%
4	Mining	0.1%	0.4%	0.5%	0.6%	2.2%	4.0%
4.1	coal	0.0%	0.2%	0.2%	0.3%	0.9%	0.9%
4.2	nonferrous	0.1%	0.4%	0.4%	0.6%	2.0%	2.1%
4.3	other mines	0.5%	1.3%	1.3%	2.5%	2.3%	3.8%
4.4	oil	0.4%	1.1%	1.6%	1.8%	7.1%	12.6%
4.5	quarry	0.1%	0.2%	0.6%	0.5%	1.6%	2.7%
5	Manufacturing	21.2%	20.0%	18.4%	19.8%	20.9%	21.7%
5.1	food	13.9%	15.6%	15.3%	17.5%	21.6%	24.4%
5.2	beverage	4.2%	6.6%	8.1%	8.9%	11.8%	11.2%
5.3	tobacco	35.4%	47.1%	48.6%	57.0%	54.9%	49.2%
5.4	rubber	42.5%	23.7%	23.2%	25.0%	23.8%	21.7%
5.5	leather	15.4%	23.8%	26.4%	32.5%	37.5%	43.2%
5.6	textiles–primary	46.7%	45.7%	42.0%	37.9%	35.6%	30.4%
5.7	textiles–fabricated	27.8%	46.8%	34.3%	39.9%	38.4%	38.6%
5.8	hosiery	77.2%	61.7%	59.6%	60.5%	61.7%	63.0%
5.9	clothing	71.5%	65.0%	57.0%	62.0%	62.1%	65.6%
5.10	wood	2.4%	3.1%	2.3%	3.3%	5.0%	5.7%
5.11	furniture	6.7%	3.8%	6.2%	8.4%	10.0%	13.0%
5.12	pulp & paper	14.2%	8.1%	11.1%	13.7%	12.7%	12.5%
5.13	printing	18.9%	20.7%	19.5%	20.7%	25.5%	25.6%
5.14	metals	1.7%	4.2%	5.3%	8.8%	9.3%	9.2%
5.15	transport equip	0.6%	2.5%	2.5%	5.1%	6.2%	8.1%
5.16	electrical apparatus	15.7%	20.9%	19.5%	22.9%	26.0%	26.2%
5.17	minerals	4.1%	6.2%	5.0%	9.9%	10.9%	9.6%
5.18	pertroleum	0.7%	3.4%	5.7%	7.2%	8.8%	10.1%
5.19	chemicals	17.6%	24.2%	18.5%	19.0%	22.6%	24.2%
5.20	miscellaneous	11.8%	20.1%	18.2%	26.5%	33.2%	31.2%
5.21	ns	18.2%	21.9%	–	–	–	–

		1911	1921	1931	1941	1951	1961
6	Utilities	2.2%	5.9%	7.8%	8.5%	10.6%	12.9%
7	Construction	0.1%	0.3%	0.6%	0.7%	1.7%	2.5%
8	Transport	3.8%	8.5%	8.2%	7.4%	12.1%	14.0%
8.1	air	–	–	3.6%	7.0%	17.5%	19.7%
8.2	rail	1.2%	3.9%	3.6%	3.1%	4.8%	5.6%
8.3	water	0.6%	1.3%	2.2%	1.9%	4.1%	5.1%
8.4	other	0.4%	0.8%	1.8%	2.1%	3.9%	5.4%
8.5	communication	38.4%	58.4%	58.3%	53.6%	57.7%	49.0%
8.6	storage	0.4%	6.9%	3.5%	4.0%	6.4%	10.8%
9	Trade	19.3%	18.7%	20.1%	22.6%	28.3%	30.4%
10	FIRE	9.7%	24.8%	27.0%	31.6%	44.4%	45.7%
10.1	finance	4.9%	27.5%	24.1%	32.5%	49.6%	51.4%
10.2	insurance/real estate	13.3%	21.2%	29.8%	31.0%	39.7%	40.4%
11	Services	55.6%	57.0%	59.4%	64.0%	57.0%	59.1%
11.1	education	73.3%	73.2%	70.7%	67.7%	62.9%	61.4%
11.2	health	59.9%	67.7%	66.6%	69.5%	68.9%	72.8%
11.3	religion	5.4%	11.2%	33.3%	35.8%	40.7%	43.7%
11.4	hospitality	39.6%	39.4%	45.6%	51.5%	49.1%	55.9%
11.5	recreation	44.2%	12.3%	28.0%	17.5%	24.6%	27.9%
11.6	personal	73.9%	73.8%	75.8%	81.5%	69.5%	71.2%
11.7	business	10.9%	17.7%	28.9%	30.8%	31.3%	35.5%
11.8	repair	0.3%	0.2%	0.4%	0.4%	1.6%	3.5%
11.9	other	62.3%	35.6%	64.5%	63.2%	48.5%	30.9%
12	Government	5.2%	12.9%	13.3%	20.1%	17.1%	18.3%
12.1	federal/provincial	10.3%	17.9%	19.1%	25.5%	19.3%	21.1%
12.2	local	1.1%	3.9%	5.9%	8.6%	9.6%	10.5%
13	NS	0.5%	14.4%	2.2%	10.7%	19.3%	26.5%
	Total	13.5%	15.4%	17.0%	19.8%	22.0%	27.3%

		Relative Earnings						Gender Earnings Ratios					
		1911	1921	1931	1941	1951	1961	1911	1921	1931	1941	1951	1961
1	Agriculture	0.85	0.75	0.58	0.48	0.46	0.39	0.81	0.79	1.02	0.78	0.65	0.59
2	Forestry	2.96	1.74	0.82	0.96	0.87	0.90	1.90	1.26	0.94	0.89	0.72	0.81
3	Fishing/Trapping	0.44	0.47	0.71	0.57	0.95	0.82	0.41	0.48	0.82	0.63	0.98	0.92
3.1	fishing	0.43	0.49	0.72	0.55	–	–	0.40	0.51	0.82	0.60	–	–
3.2	trapping	0.68	0.10	0.54	0.97	–	–	0.55	0.09	0.68	1.11	–	–
4	Mining	1.45	1.38	1.52	1.70	1.36	1.46	0.67	0.70	0.94	0.69	0.67	0.66
4.1	coal	1.42	1.59	1.34	1.59	1.27	1.08	0.70	0.81	1.03	0.79	0.66	0.69
4.2	nonferrous	2.20	1.50	1.56	1.85	1.35	1.36	0.83	0.70	0.73	0.64	0.64	0.61
4.3	other mines	0.96	1.08	1.69	1.47	1.23	1.51	0.47	0.51	1.18	0.74	0.68	0.68
4.4	oil	–	1.55	1.43	1.72	1.47	1.53	–	0.59	0.55	0.61	0.63	0.54
4.5	quarry	2.28	1.66	1.38	1.30	1.20	1.11	1.26	1.15	1.06	0.91	0.81	0.72
5	Manufacturing	1.05	0.97	0.96	1.09	1.09	1.03	0.55	0.51	0.52	0.49	0.57	0.51
5.1	food	0.79	1.14	0.88	1.00	0.91	0.85	0.42	0.62	0.47	0.49	0.54	0.49
5.2	beverage	1.12	1.14	1.11	1.40	1.17	1.26	0.47	0.56	0.50	0.56	0.62	0.63
5.3	tobacco	1.06	0.81	0.76	0.99	1.32	1.44	0.50	0.52	0.40	0.44	0.64	0.66
5.4	rubber	1.02	1.00	0.93	1.14	1.20	1.17	0.52	0.52	0.52	0.49	0.58	0.55
5.5	leather	1.07	0.89	0.83	0.86	0.91	0.84	0.57	0.55	0.55	0.51	0.56	0.53
5.6	textiles–primary	1.05	0.88	0.83	1.12	1.11	0.99	0.63	0.56	0.55	0.59	0.65	0.59
5.7	textiles–fabricated	1.02	0.90	0.93	1.10	1.07	0.92	0.50	0.53	0.47	0.48	0.57	0.48
5.8	hosiery	1.05	0.86	0.87	1.07	0.94	0.86	0.50	0.50	0.46	0.50	0.50	0.50
5.9	clothing	1.05	0.90	0.87	0.94	0.97	0.84	0.47	0.46	0.51	0.48	0.51	0.47
5.10	wood	1.00	0.92	1.04	1.12	1.05	1.05	0.60	0.63	0.86	0.72	0.75	0.72
5.11	furniture	1.08	1.03	1.10	1.13	1.10	1.03	0.56	0.57	0.70	0.64	0.68	0.65
5.12	pulp & paper	0.99	0.97	1.05	1.18	1.16	1.18	0.47	0.47	0.51	0.44	0.53	0.52
5.13	printing	1.16	1.21	1.31	1.39	1.15	1.12	0.46	0.51	0.51	0.48	0.53	0.52
5.14	metals	1.23	1.21	1.28	1.20	1.26	1.30	0.56	0.61	0.69	0.52	0.62	0.59
5.15	transport equip	1.26	1.28	1.29	1.29	1.36	1.41	0.58	0.64	0.70	0.54	0.68	0.67
5.16	electrical apparatu	1.43	1.14	1.19	1.24	1.32	1.29	0.67	0.49	0.52	0.50	0.62	0.56
5.17	minerals	0.84	1.10	1.22	1.13	1.18	1.20	0.45	0.59	0.68	0.55	0.64	0.63
5.18	pertroleum	1.01	1.35	1.81	1.98	1.50	1.49	0.45	0.60	0.70	0.62	0.65	0.54
5.19	chemicals	1.05	1.04	1.22	1.22	1.23	1.17	0.42	0.45	0.50	0.52	0.57	0.48
5.20	miscellaneous	1.12	1.11	1.12	1.08	1.12	1.01	0.51	0.57	0.55	0.29	0.59	0.51
5.21	ns	1.18	1.10	–	–	–	–	0.59	0.61	–	–	–	–

		Relative Earnings						Gender Earnings Ratios					
		1911	1921	1931	1941	1951	1961	1911	1921	1931	1941	1951	1961
6	Utilities	1.60	1.36	1.65	1.43	1.35	1.43	0.64	0.55	0.64	0.48	0.67	0.62
7	Construction	1.50	1.43	1.34	1.41	1.17	1.15	0.63	0.81	1.06	0.94	0.79	0.76
8	Transport	1.27	1.34	1.44	1.54	1.23	1.27	0.57	0.61	0.67	0.63	0.64	0.64
8.1	air	–	–	1.64	1.44	1.48	1.61	–	–	0.56	0.54	0.63	0.61
8.2	rail	1.67	1.65	1.86	1.97	1.51	1.45	0.71	0.69	0.80	0.72	0.74	0.72
8.3	water	1.14	1.52	1.43	1.54	1.23	1.30	0.61	0.87	0.86	0.79	0.74	0.70
8.4	other	1.41	1.65	1.54	1.51	1.12	1.10	0.69	0.89	0.88	0.81	0.68	0.64
8.5	communication	1.18	1.22	1.30	1.42	1.16	1.24	0.49	0.51	0.48	0.42	0.51	0.48
8.6	storage	1.30	1.57	1.31	1.25	1.04	1.11	0.57	0.65	0.55	0.51	0.60	0.61
9	Trade	1.31	1.11	1.12	1.13	0.95	0.87	0.55	0.51	0.57	0.53	0.54	0.49
10	FIRE	1.67	1.51	1.57	1.53	1.18	1.16	0.49	0.55	0.50	0.45	0.48	0.47
10.1	finance	1.85	1.53	1.60	1.49	1.17	1.15	0.60	0.58	0.56	0.43	0.49	0.49
10.2	insurance/real esta	1.59	1.48	1.54	1.57	1.19	1.18	0.42	0.51	0.46	0.47	0.47	0.46
11	Services	0.86	0.86	0.85	0.79	0.86	0.95	0.41	0.46	0.45	0.39	0.52	0.54
11.1	education	1.34	1.41	1.60	1.59	1.25	1.53	0.49	0.57	0.58	0.56	0.62	0.66
11.2	health	1.14	0.97	0.96	1.01	0.93	1.00	0.70	0.51	0.49	0.45	0.57	0.58
11.3	religion	1.11	1.33	0.98	0.96	0.58	0.54	0.42	0.57	0.41	0.47	0.45	0.42
11.4	hospitality	0.92	0.74	0.71	0.67	0.65	0.55	0.47	0.50	0.52	0.49	0.50	0.49
11.5	recreation	1.32	1.28	1.05	1.02	0.74	0.64	0.51	0.63	0.54	0.49	0.49	0.50
11.6	personal	0.75	0.53	0.51	0.41	0.51	0.46	0.52	0.38	0.35	0.27	0.37	0.36
11.7	business	1.55	1.43	1.48	1.50	1.25	1.23	0.48	0.49	0.49	0.44	0.55	0.49
11.8	repair	0.68	0.97	1.15	0.95	0.72	0.86	0.33	0.59	0.91	0.71	0.62	0.59
11.9	other	0.97	0.87	0.88	1.13	1.08	0.85	0.47	0.49	0.47	0.47	0.69	0.57
12	Government	1.64	1.46	1.68	1.54	1.26	1.26	0.70	0.66	0.67	0.56	0.68	0.63
12.1	federal/provincial	1.65	1.45	1.69	1.52	1.26	1.26	0.59	0.64	0.60	0.53	0.68	0.61
12.2	local	1.56	1.48	1.65	1.72	1.25	1.27	0.77	0.70	0.76	0.67	0.73	0.70
13	NS	–	1.07	0.81	0.91	0.78	0.98	–	0.80	1.38	1.27	0.77	0.57
	Total	1.00	1.00	1.00	1.00	1.00	1.00	0.50	0.54	0.60	0.49	0.57	0.54
Average Earnings		296	573	449	490	1241	1984						