Wages in Small Firms

Final Draft

February 15, 1996

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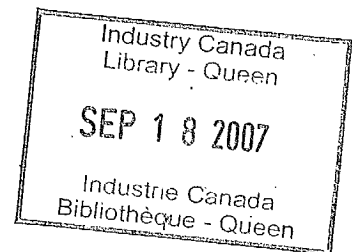Industry Canada

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CHAPTER

1

INTRODUCTION

This paper presents evidence on wage levels and trends by firm size for Industry Canada. Specifically, it addresses two issues: (1) how average wages vary by firm size and (2) how relative wages by firm size have changed over time. To answer these questions, presented below are results from an analysis by Ekos Research Associates of data produced by Statistics Canada on establishment mean wages from the Survey of Employment, Earnings and Hours (SEEH). As agreed, this report is in the form of an introduction, a section on methodology, followed by a series of tables and charts containing the analysis results, each accompanied by a detailed point-form discussion of the findings.

The immediate motivation for this research was work that eminated from the White House Conference on Small Business sponsored by the U.S. Small Business Administration Office and published in *The Third Millennium: Small Business and Entrepreneurship in the 21st Century* (Washington, DC: 1995). That research, undertaken by Joel Popkin and Co. for this conference, found that small business were creating the

majority of high-wage jobs in the U.S. Past research in Canada has looked at the experience up to late 1980s and found that wages rise with firm size[1].

The research findings presented in this paper extend past Canadian research by (1) bringing it up to the current period and (2) examining not just how wage levels vary by establishment size but the distribution of wages among businesses of different sizes. The objective was to reproduce for Canada, to the extent the data would allow, the U.S. research on high-wage jobs. However, unlike the American research, the data used in this analysis did not permit us to get at the wages of new hires and fires. Linked longitudinal Statistics Canada data from the Labour Market Activity Survey (LMAS) and the Survey of Labour Income Dyanmics (SLID), when they become available, would be well suited to examine the question over time, though just from the employees' perspective.

Still, our work was able to generate new information on high-wage jobs by firm size in Canada. Focusing on data for 1988 and 1995, the results yield the following conclusions:

(1)   Small firms are responsible for much of the recent employment growth.

(2)   Wage rates rise by firm size.

(3)   The wage disadvantage of small firms has increased over time.

(4)   The wages of the top-paying small firms are less than the wages of their larger counterparts.

(5)   The wages of top-paying small firms, though rising, are falling behind that of larger firms.

(6)   Wage disparity varies little by firm size but has risen over time.

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1.   The two most recent examples are: René Morisette, "Canadian jobs and firm size: do smaller firms pay less?", *Canadian Journal of Economics*, Vol. XXVI, No. 1, February 1993, pp. 159-174, based on employee-level data from the Labour Marker Activity Survey (LMAS); and Ted Wannell, "Firm Size and Employment: Recent Canadian Trends", *Canadian Economic Observer*, Statistics Canada Cat. No. 11-010, March 1992, pp. 4.1 to 4.18, based on employer-level data from the Survey of Employment, Earnings and Hours (SEEH).

CHAPTER

2

METHODOLOGY

Before turning to the findings, a number of points of clarification regarding the methodology used to analyze the SEEH data need to be made, as follows:

2.1 Unit of observation

The unit of observation is the individual *establishment*, though reference is often made in the following tables to "firm" size.

2.2 Measures

It is important to note that the figures reported in the tables are based on simple establishment means, *unweighted* by the number of person-hours in the establishment. The means of simple establishment wage rates, as presented, are not the same as the actual mean wages in the economy, nor will they match published means contained in *Employment, Earnings and Hours*, Statistics Canada catalogue number 72-002. Moreover, changes over time based on these data will not necessarily match changes in individual-level mean wages. In some cases below, we also present *employment-weighted* means by industry based on the employment and means of the

component size categories. These estimates are closer to published figures, which are person-hour weighted.

To capture the notion of "high wages", we present for each size-industry class the high-wage cutoff. This is computed as the hourly wage cutoff (floor) of the top third (tertile) of establishments sorted in ascending order of the establishment wage rates. A measure of inter-firm wage disparity (spread) is also presented, which is computed as the ratio of the wage floor of the top tertile to the wage ceiling of the bottom tertile of establishments ranked on their wage rates.

2.3   Dollars

The wages are in *current*-year dollars. Expressing wages in constant dollars would reduce the absolute wage gap by firm size but not change the story.

2.4   Industry Detail

For presentation purposes, the focus is on results based on a *broad* level of industry disaggregation (see Appendix). Note that two sectors — government services and construction — do not have sector-specific data though they are included in the all-industry figures. Note as well that agriculture is excluded from the SEEH sample. Also, results for nonmarket services (e.g., hospitals) may not look "normal" because this is a sector not governed by "usual" labour-market forces.

Computations at a *finer* level of industry desegregation (2- and 3-digit SIC) are still being carried out. Contrary to our assumptions, the industry classification used in the data set was not consistent throughout the period under study, as the system was changed in 1990 from the 1970 to 1980 SIC. Some time had to be spent, therefore, matching the two systems (though this was not a problem with the aggregated classification, as Statistics Canada made the necessary adjustments to make

it consistent over time). As there was not always a one-to-one correspondence between industries under the two regimes, computations are being carried out for just the ninety 2- and 3-digit industries where the concordance was fairly close. They will be presented as a separate appendix (forthcoming).

2.5   Time Period

Results for the current *year* are for 1995, which are based on the first 6 months of that year. To represent trends, we compare these results to 1988, which was chosen for two reasons: (i) 1988 was cyclically comparable to 1995, and (ii) much of the action with respect to changes in relative wages by firm size took place in the 1990s. Data for individual years are provided in chart form below.

2.6   Data Quality

Finally, there remain some concerns about the underlying data. Every effort has been made to make sure that the data provided by Statistics Canada were as accurate as possible. However, the following tables report some results that, while theoretically possible, must be treated with some caution. In tables where caution should be exercised, this is noted in the accompanying discussion.

CHAPTER

3   RESEARCH FINDINGS

The following is a table-by-table presentation of the findings of the analysis of wage rates by firm size.

3.1   Employment Growth: Findings from Table 1

1. Table 1 sets scene for this study by providing a picture of where the job growth has been concentrated in terms of industry and firm size.

2. The service sector, particularly distribution services and traditional services, was the source of most of the net employment growth in the economy from 1988 to 1995; most goods industries lost jobs over the period.

3. Small firms as a whole (< 50 employees) accounted for 3/4s of net new jobs created over the period, with very small firms (<20 employees) accounting for 1/2 of these (or 38 per cent overall). Not shown is the fact that in the overall economy and in most sectors employment growth in large firms was negative.

4. By sector, small firms generated the majority of jobs in services and scale-based manufacturing, disproportionately more than their share of employment in those

industries; in goods industries, they contributed less to job losses than their employment share, except in natural-resource manufacturing.

5. The last two columns of Table 1 indicate that the service sector in general, particularly traditional services, may be characterized as a small-firm sector, in comparison to the goods sector. Compared to their share in the economy, small firms are underrepresented in non-market services, scale-based manufacturing and natural-resources based manufacturing. Not shown is the fact that distribution services is the only industry that has experienced a major shift in its size mix since 1988, having seen its small-firm share almost double.

SMALL SERVICE-SECTOR FIRMS ARE RESPONSIBLE
FOR MUCH OF THE RECENT JOB GROWTH

TABLE 1
Industry Employment Growth
and Small-Establishment Share of Industry Employment Growth and Levels,
by Industry, 1988-1995

	Employment Growth 1988-1995			Small-Firm Share of Industry Employment 1995	
	Industry Share of Total Growth	Small-Establishment Share of Industry Growth		< 20 em'ees	< 50 em'ees
		< 20 em'ees	< 50 em'ees		
Non-agr. primary	-3.5	(19.5)	(24.4)	24.0	33.4
Natural-resource mfg	-1.4	(19.0)	(80.2)	17.6	30.6
Labour-intensive mfg	-22.2	(20.4)	(34.4)	22.5	40.7
Scale-based mfg	6.7	35.6	53.7	10.8	19.3
Research-based mfg	-8.0	(4.9)	(4.9)	15.7	29.7
Distribution services	83.7	41.0	65.8	26.2	40.6
Information services	13.1	22.7	65.0	30.3	44.1
Traditional services	26.8	12.4	109.1	39.1	60.9
Non-market services	4.9	36.7	42.7	14.4	19.7
All industries	**100.0**	**38.3**	**74.7**	**25.5**	**39.3**

Notes:

(brackets) indicate a share of a negative number.

* Excludes construction and government services, because all-size wage figures were not obtained for either of these two industries as aggregates (though they are available for sub-groups of each of these industries). At any rate, a size breakdown is not, strictly speaking, applicable to government services, nor was it available for this sector prior to 1990 anyway. Employment figures by size were available for construction by size, but including them in the totals does not affect the results appreciably.

3.2   Wage Rates, 1995:
Findings from Table 2

1.   Wages rates rise with firm size. This rise is steeper in some industries (e.g., non-agriculture primary) than in others (e.g., traditional services). Note that the main exception to this rule (and a reason for caution) is information services where the mean wage for the second size category was the highest and fell with firm size thereafter.

2.   Note the large variation in small-firm wage rates, particularly within the service sector: from just over $9.50 an hour in traditional services to over $16.50 an hour in information services.

3.   Statistics presented indicate that small-firm wage rates are close to the unweighted all-size wage rates in all industries. This is because the means reported are simple averages of the firms' wage rates (regardless of firm size) and small firms dominate the population in terms of the sheer number of firms — but not in terms of the number of employees.

4.   A rough measure of the "actual" mean wage (i.e from the employees' perspective) is the employment-weighted all-size industry mean, reported as the bracketed figures in the final column (with double asterisks). These are based on the mean wages and employment counts of the component size categories (strictly speaking we should be weighting by establishment and person-year counts). The employment-weighted averages are higher than the simple establishment averages since the employment share in the large-firm sector, which tends to be pay high wages, are greater than that sector's share of the firm population.

5.   To estimate the small-firm wage gap from the perspective of the employee, we compute the mean wage paid by small firms (< 20 employees and < 50

employees) as a percentage of the weighted overall industry mean (bracketed numbers in columns 1 and 3, single asterisk). The results indicate that the relative wage paid to employees in small firms is less than 3/4s of the overall wage (last row) — i.e., the small-firm wage gap is over 1/4. Outside of atypical non-market services, the relative wage of small-firm employees ranges from about 2/3s in scale-based manufacturing to about 90 per cent in traditional services.

WAGE RATES RISE WITH FIRM SIZE

TABLE 2
Wage Rates,
by Industry and Establishment Size 1995

	Establishment Mean[1] Wage Rates ($ per hour) By Establishment Size (no. of employees)					
	< 20	20-49	< 50 Total	50-299	300+	All Sizes
Non-agr. primary	15.75 (69.5%)*	22.42	16.09 (71.1%)*	22.73	26.66	16.42 (22.63)**
Natural-resource mfg	12.30 (74.5%)*	16.11	12.95 (78.5)*	16.56	19.26	13.48 (16.50)**
Labour-intensive mfg	11.93 (83.2%)*	14.48	12.32 (85.9%)*	15.18	15.33	12.63 (14.34)**
Scale-based mfg	12.61 (65.8%)*	16.23	13.19 (68.8)*	18.26	22.09	13.19 (19.16)**
Research-based mfg	14.10 (76.6%)*	16.93	14.66 (79.6)*	18.34	21.20	15.17 (18.41)**
Distribution services	13.24 (76.2%)*	17.12	13.60 (78.3%)*	18.13	20.12	13.79 (17.37)**
Information services	15.91 (84.7%)*	23.18	16.50 (87.8%)*	20.07	18.26	16.61 (18.79)**
Traditional services	9.58 (88.5%)*	10.38	9.79 (90.4%)*	11.95	11.78	10.02 (10.82)**
Non-market services	13.69 (51.1%)*	16.33	14.39 (53.8%)*	22.32	32.06	14.46 (26.77)**
All industries[2]	**12.68 (71.8%)***	**15.51**	**12.95 (73.4%)***	**17.46**	**22.40**	**13.70 (17.65)****

Notes:

*   Mean wage rate as a percentage of the employment-weighted industry average.

**   Employment-weighted all-size industry mean wage rate, which is calculated as the sum of the products of employment and mean wage of the component size groups.

1.   Simple establishment means unweighted by the number of employees or personhours in the respective establishment.

2.   Based on the mean wages paid by establishments in all industries including construction and government services, sectors for which individual means were not provided by Statistics Canada.

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3.3   High-Wage Job:
Findings from Table 3

1. The purpose of this table is to compare the wages of high-wage small firms to that of high-wage larger firms. The measure we use is the hourly-wage floor of the top tertile, which is computed, for each size-industry group, as the wage that separates the bottom 2/3s and top 1/3 of establishments ranked on the mean wage they pay. It is, in other words, the wage threshold that defines the top paying establishments in each size class and industry.

2. Like the mean hourly wage, the wage cutoff of the top tertile rises with firm size. In all industries, the high-wage cutoff in small firms (< 20 employees or < 50 employees) is below the all-size high-wage cutoff, and above it in firms in larger size classes. This implies that the wages paid by high-wage small firms is less than it is in the rest of the economy.

3. In all industries the small-firm high-wage cutoff is fairly close to (at least 90 per cent of) the all-size cutoff. However, employment-weighting the industry high-wage cutoff (not shown) would increase the apparent high-wage disadvantage of employees in small firms.

4. High-wage cutoffs show greater variation across industries in small firms than in large.

5. This question is examined over time in Table 6 below.

THE WAGES PAID BY THE TOP-PAYING SMALL FIRMS
ARE BELOW WHAT OTHER SIZE FIRMS PAY

TABLE 3
High-Wage Cut-offs,
by Industry and Firm Size, 1995

	Hourly-Wage Cutoff ($ per Hour) of Top Tertile[1] by Establishment Size (no. of employees)					
	< 20	20-49	< 50 Total	50-299	300+	All Sizes
Non-agr. primary	17.09	23.26	17.42	25.90	28.27	**17.77**
Natural-resource mfg	12.93	17.60	13.64	18.04	21.04	**14.26**
Labour-intensive mfg	12.89	15.20	13.24	16.53	16.72	**13.63**
Scale-based mfg	13.45	17.09	14.01	19.64	24.30	**14.95**
Research-based mfg	14.87	18.35	15.58	19.97	23.44	**16.22**
Distribution services	13.97	17.97	14.37	19.46	21.93	**14.59**
Information services	15.49	20.72	15.91	21.84	21.19	**16.08**
Traditional services	10.39	10.72	10.43	12.49	12.90	**10.49**
Non-market services	14.10	16.67	14.30	20.01	37.32	**14.70**
All industries[2]	**13.52**	**16.50**	**13.72**	**19.15**	**22.85**	**13.95**

Notes:

1. Calculated, within each size-industry group, as the hourly-wage floor (threshold) of the top third of establishments sorted in ascending order on their average hourly wage.

2. Based on the wages paid by establishments in all industries including construction and government services, sectors for which individual means were not provided by Statistics Canada.

3.4 Wage Growth 1988-1995: Findings from Table 4

1. We now turn to comparisons over time. Having demonstrated in previous tables the wage disadvantage of small firms, this table as well as Chart 1 and Table 5 attempt to answer the question of whether or not the disadvantage has worsened or improved over time. There are a number cautionary notes associated with these tables.

2. Note first that the wages are in current-dollar terms. That wages are not in constant dollars will not affect the findings with respect to size-by-size and industry-by-industry comparisons over time. Expressing wages in constant-dollar terms would magnify the losses, likely wipe out any current-dollar gains, and diminish the wage gaps by industry and size, but would not change the story.

3. Overall, the simple mean of the establishment wage rates has fallen by 3.4 per cent (last entry of the second last column). This is an important statistic and should be treated with some caution. Theoretically, it is possible that wage rates have fallen as a result of a redistribution of firms toward firms with low wage rates (composition effect). But at an intuitive level, this raises two concerns. First, even though employment patterns have been moving in a way that is consistent with a composition-effect explanation, this would have to have been a very strong effect. Second, recall that these means are in current dollars — so, in real terms, this decline would have been quite dramatic, in the neighbourhood of 20 to 30 per cent depending on the deflator used.

4. However, it is important to understand the nature of these growth rates. They represent the growth rate in the establishment mean wages from one period to the next. It is quite possible, therefore, that a large shift to small firms could

suppress the overall mean establishment wage rate — without necessarily implying mean wage declines in the labour market *per se*. Indeed, the growth rate in the employment-weighted means (last column) indicate significant (*current-dollar*) wage growth (24.5 per cent).

5. With these caveats in mind, observe first the differences by industry (last 2 columns). Either in simple or employment-weighted terms, wage growth in goods industries has been generally less than that in the service sector, particularly in information services.

6. Observing wage patterns by firm size, the all-industry figures (last row) clearly indicate that wage growth increases by size. The implication is that the wage disadvantage faced by small firms, which has always existed, worsened over time.

7. By industry, the wage-growth/size link is only slightly less clear cut. Focusing on the three size categories in columns 3 to 5 (< 50, 50-299, and 300+), wage growth steadily increases with firm size in most industries. The exceptions are labour-intensive manufacturing and information services, where wage growth is somewhat higher for establishments with 50 to 299 employees than for those with 300 and more. Moreover, small-firm wage growth in information services, which was by far the most rapid among all sectors, was greater than wage growth in the largest size category of that industry.

8. The seemingly anomalous finding that the all-size growth rate of the simple mean establishment wage rates (second last column) is less than the growth rates of all the component size groups (columns 1 to 5) in a number of industries may be explained by a possible redistribution over time toward firms with low wage growth.

WAGE GROWTH GENERALLY RISES WITH FIRM SIZE, THOUGH THIS LINK IS NOT ALWAYS CLEAR CUT AT THE INDIVIDUAL INDUSTRY LEVEL

TABLE 4
Wage Growth,
by Industry and Establishment Size, 1988-1995

| | Percentage Change in *Current-Dollar* Mean Hourly Wages 1988-1995 by Establishment Size (no. of employees) | | | | | | |
| | < 20 | 20-49 | < 50 Total | 50-299 | 300+ | All Sizes | |
						Simple	Weighted*
Non-agr. primary	4.5	29.7	2.6	23.0	36.9	-3.5	25.2
Natural-resource mfg	0.3	19.2	1.7	11.2	24.3	0.6	14.1
Labour-intensive mfg	10.4	26.2	8.5	17.9	15.0	8.5	16.5
Scale-based mfg	-2.5	12.2	-2.1	13.6	22.3	-9.5	13.4
Research-based mfg	2.8	13.7	3.0	16.4	31.4	0.9	18.5
Distribution services	13.9	29.2	13.0	23.6	24.1	0.1	15.4
Information services	30.8	73.9	32.9	45.4	28.6	28.8	40.3
Traditional services	18.4	16.4	15.6	36.6	25.3	14.7	23.0
Non-market services**	27.3	13.7	13.8	24.0	91.3	-15.7	64.4
All industries[1]	**2.7**	**16.6**	**2.0**	**23.6**	**47.2**	**-3.4**	**24.5**

Notes:

*   Employment-weighted mean wages are computed as the sum of the products of employment and mean wages in each component size class. Strictly speaking, the weights should be the number of establishments in each size class not the number of employees, as these are establishment mean wage rates. Note that neither the employment-weighted means nor even the establishment-weighted means will match published mean hourly wage rates, where the weight is the number of person-hours within the establishment.

**   There still is a problem with the 1988 means of this industry, since the industry mean is greater than the means of the component size categories.

1.   Includes construction and government services, which are not shown individually in the table.

Wage Levels, 1988-1995:
Findings from Chart 1

1. This chart shows, for the industrial aggregate (the total non-agricultural economy) and in level form, mean establishment hourly wage rates by size for each of the years we requested data for.

2. The chart graphically depicts how the wage disadvantage of small firms remained fairly constant during the 1980s, but worsened considerably during the 1990s, particularly compared to large-firm wages.

3. Once again, expressing the wages in constant dollar terms would compress the wage gaps somewhat but not change the picture, particularly as inflation has been negligible during the 1990s when most of the divergence took place.

4. The steep drop between 1994 and 1995 registered for the two smallest size classes raises the possibility of sampling error owing to the smaller number of observations on which the 1995 data were based.

Chart 1
Wage Rates by Establishment Size, Selected Years 1983-1995
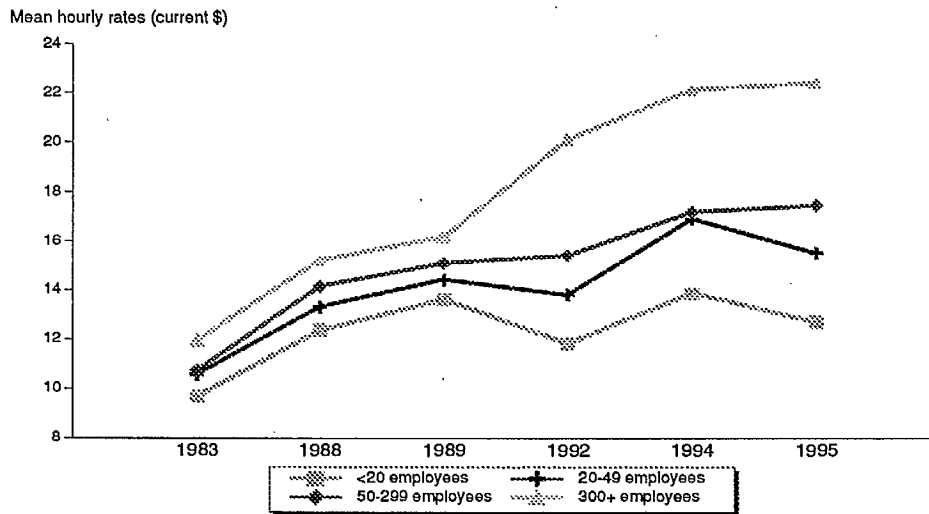
Mean hourly rates (current $)

Legend:
- <20 employees
- 20-49 employees
- 50-299 employees
- 300+ employees

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Source: Unpublished data from Survey of Employment, Earnings and Hours, Statistics Canada

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3.5   Relative Wage Rates, 1988-1995: Findings from Table 5

1. This table compares trends in the mean wage of each size group relative to the trends in the particular industry overall. This is captured by a ratio which, for each industry and the industrial aggregate, expresses the mean wage of each component size group as a percentage of the mean wage of the corresponding industry average.

2. The second line of each panel of Table 5 repeats the message of Table 2 that (relative) wage rates rise with firm size: within every industry, mean wages in very small firms (< 20 employees) are less than average (< 100 per cent) and are generally greater than average (> 100 per cent) for firms in other size classes.

3. Comparing the 1995 ratios to 1988 indicates small-firm wages have risen against the industry average in every industry; indeed, for firms in the second small-size category (20-49 employees) it is now above the industry average. Small-firm wage growth was significant in scale-based manufacturing and, to a somewhat lesser extent, in information services.

4. Nevertheless, firms of *all* sizes have experienced wage gains against the industry average. In fact, in several industries the wage gap between small firms and other size firms has widened, confirming the message of Chart 1, which applied to the industrial aggregate.

5. Once again, the seemingly counter intuitive finding that relative wages of every size class rose over time against the industry average may be attributed to the fact that there was shift towards segments of the economy where wage growth was low.

THE WAGE DISADVANTAGE OF SMALL FIRMS
HAS WORSENED OVER TIME

TABLE 5
Relative Wage Rates
by Industry and Firm Size, 1988 and 1995

	Year	Current-Dollar Hourly Mean Wage of Each Size Class as a Percentage of the Respective Industry Mean, by Establishment Size (no. of employees)				
		< 20	20-49	50-299	300+	All sizes ($)
Non-agr. primary	1988	88.6	101.6	108.6	114.5	17.01
	1995	95.9	136.5	138.4	162.4	16.42
Natural-resource mfg	1988	91.5	100.8	111.1	115.7	13.40
	1995	91.2	119.5	122.8	142.9	13.48
Labour-intensive mfg	1988	92.9	98.5	110.7	114.5	11.64
	1995	94.5	114.6	0.2.2	121.4	12.63
Scale-based mfg	1988	83.5	93.4	103.7	127.4	15.49
	1995	99.9	115.8	130.2	157.6	14.02
Research-based mfg	1988	91.2	99.0	104.8	116.6	15.04
	1995	92.9	111.6	120.9	139.7	15.17
Distribution services	1988	84.4	96.2	106.5	107.3	13.77
	1995	96.0	124.1	135.9	145.9	13.79
Information services	1988	94.3	103.3	107.0	117.7	12.90
	1995	95.8	139.6	120.8	109.9	16.61
Traditional services	1988	95.6	105.4	103.4	111.1	8.46
	1995	98.8	107.0	123.2	121.4	9.70
Non-market services*	1988	63.0	84.2	96.1	98.2	17.06
	1995	95.1	113.5	141.2	222.8	14.39
All industries[1]	**1988**	**90.6**	**97.6**	**103.7**	**111.7**	**13.63**
	1995	**96.4**	**117.9**	**132.7**	**170.2**	**13.15**

Notes:

* There still is a problem with the 1988 means of this industry, since relative means are greater than 100 per cent for all size classes in 1988.
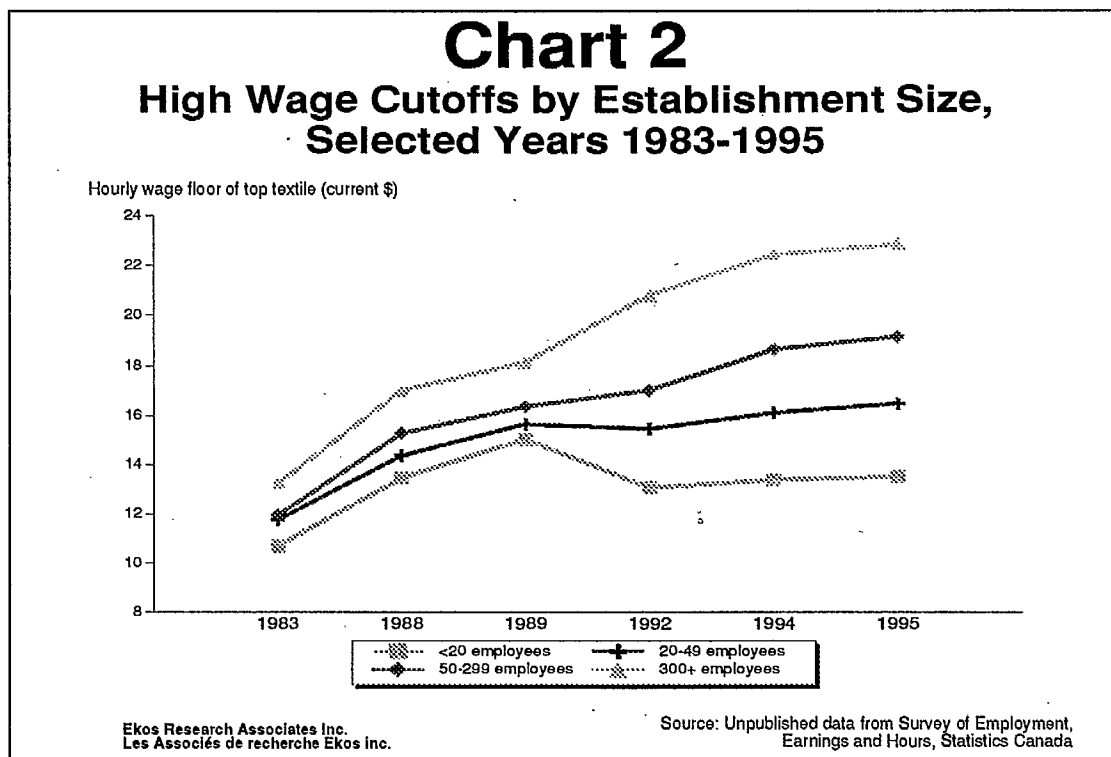
1. Includes construction and government services, which are not shown individually in the table.

3.6 Relatively Wage Cutoffs, 1988-1995: Findings from Table 6

1. This table is similar to Table 5 but examines the high-wage cutoff of each size group, not in level form, but relative to the all-size high-wage cutoff of each industry.

2. The second line of each panel repeats the message of Table 3: the (relative) high-wage cutoff rises with firm size for each industry and the industrial aggregate; for very small firms (< 20 employees) the high-wage cutoff is less than the industry's (< 100.0 per cent), but is greater than the industry's (> 100.0 per cent) for firms in other size classes.

3. From 1988 to 1995, the high-wage cutoff of small firms, like firms in other size groups in most industries, has risen against the corresponding all-size industry cutoff. The greatest progress in this respect made by small firms has been in scale-based manufacturing (73 to 90 per cent). The only industry-size group to experience a decline in relative high-wage cutoffs was large firms in labour-intensive manufacturing (133.0 to 122.7 per cent).

4. Despite small firms' progress, the gap between size groups has widened over time, implying that the high-wage disadvantage of small firms has worsened.

5. The apparent anomaly of having all size classes register a rise in their relative high-wage cutoffs may be explained in the same way as was explained in the case of the means in point 4 of Table 5.

6. Chart 2 below graphically portrays these trends.

High Wage Cutoffs, 1988-1995:
Findings from Chart 2

1. This chart shows, for the total non-agricultural economy, the current-dollar wage floors of the top tertile of establishments for all years under study.

2. The patterns for this chart parallel those for means portrayed in Chart 1: wages paid by the highest paying small firms are falling behind the wages paid by the highest paying establishments in the rest of the economy, particularly during the 1990s.

Chart 2
High Wage Cutoffs by Establishment Size, Selected Years 1983-1995

Hourly wage floor of top textile (current $)

Legend:
- ···§··· <20 employees
- ——+—— 20-49 employees
- ——◆—— 50-299 employees
- ····§···· 300+ employees

Ekos Research Associates Inc.
Les Associés de recherche Ekos inc.

Source: Unpublished data from Survey of Employment, Earnings and Hours, Statistics Canada

Ekos Research Associates Inc., 1996

THE WAGES PAID BY HIGH-WAGE SMALL FIRMS, THOUGH RISING, ARE FALLING BEHIND THAT OF LARGER FIRMS

TABLE 6
Relative High-Wage Cutoffs
by Industry and Firm Size, 1988 and 1995

	Year	Hourly Wage Floor of Top Tertile as a Percentage of the Industry High-Wage Cutoff, by Establishment Size (no. of employees)				
		< 20	20-49	50-299	300+	All sizes
Non-agr. primary	1988	87.8	102.4	108.9	114.9	100.0
	1995	96.2	130.9	145.8	159.1	100.0
Natural-resource mfg	1988	89.8	100.5	113.0	113.0	100.0
	1995	90.7	123.4	126.5	147.5	100.0
Labour-intensive mfg	1988	94.2	106.4	121.8	133.0	100.0
	1995	94.6	111.5	121.3	122.7	100.0
Scale-based mfg	1988	73.0	95.1	106.0	115.9	100.0
	1995	90.0	114.1	131.4	162.5	100.0
Research-based mfg	1988	89.5	102.2	111.7	115.8	100.0
	1995	91.7	113.1	123.1	144.8	100.0
Distribution services	1988	82.2	95.7	109.4	119.8	100.0
	1995	95.8	123.2	133.4	150.3	100.0
Information services	1988	94.1	111.2	112.1	118.6	100.0
	1995	96.3	128.9	135.8	132.8	100.0
Traditional services	1988	93.4	106.2	104.9	117.6	100.0
	1995	99.0	102.2	119.1	123.0	100.0
Non-market services*	1988	57.4	79.8	81.3	86.5	100.0
	1995	95.9	113.4	136.1	253.9	100.0
All industries[1]	**1988**	**82.9**	**93.8**	**103.6**	**115.5**	**100.0**
	1995	**96.9**	**118.3**	**137.3**	**164.8**	**100.0**

Notes:

*   There still is a problem with the 1988 data of this industry, since the relative high-wage cutoffs are greater than 100 per cent for every size class in this year.

1.   Includes construction and government services, which are not shown individually in the table.

3.7 Wage Disparity: Findings from Table 7

1. In previous tables on high-wage cutoffs we were concerned with the upper end of the wage distribution. Here we are concerned with wage disparity (dispersion) within the entire distribution, specifically the distance between the top end and the bottom end of the distribution. Our objective is to observe how the wage spread in small firms compares to that in firms of other sizes, by industry and over time.

2. The measure of wage disparity we use is computed, within industry-size groups of establishments sorted in ascending order of their mean wage, as (1) the wage cutoff (floor) of the top (third) tertile of establishments, as a percentage of (2) the wage cutoff (ceiling) of the bottom (first) tertile of establishments. Note, therefore, this is a measure of the *between*-firm wage disparity and is not necessarily representative of wage dispersion *within* firms or among individuals.

3. In 1995, inter-establishment wage disparity did not vary much across size classes and industries, but does seem to be somewhat higher in the two small-firm size classes than the other size classes, most notably in non-agricultural primary industries (147 per cent). A notable exception is the high wage dispersion among large firms in non-market services (193 per cent), where it is by far the highest and may be suspect. It is lowest, though not by much, in small firms in research-based manufacturing.

4. Over time, wage disparity rose appreciably (20.7 percentage points). That the increase was as large as it was in such a short period of time (7 years, 1988-19 95) may be explained by the fact this is *inter*-firm wage disparity and not *intra*-firm disparity or disparity among individuals, which we know tends to move much more slowly over time.

5. Wage disparity has risen in all industries and in most size classes within industries — to varying degrees. The differences in experience are particularl y stark within the small-firm sector: while very small firms (< 20 employees) recorded the smallest increase (5.5 percentage points), the increase was the largest (among all size classes) in the 20-49 size category (18.5 percentage points).

6. By industry, there was a large increase in disparity within very small firms in information and traditional services.

WAGE DISPARITY VARIES LITTLE BY FIRM SIZE
BUT HAS RISEN OVER TIME

TABLE 7
Hourly Wage Disparity
by Industry and Firm Size, 1988 and 1995

	Year	Hourly Wage Floor of Top Tertile as a percentage of Hourly Wage Ceiling of Bottom Tertile, by Firm Employment Size				
		< 20	20-49	50-299	300+	All Sizes
Non-agr. primary	1988	127.4	119.3	119.9	119.3	**123.4**
	1995	146.9	123.6	138.7	116.0	**147.8**
Natural-resource mfg	1988	119.8	124.0	122.0	121.9	**119.6**
	1995	124.4	130.9	128.9	134.4	**128.2**
Labour-intensive mfg	1988	115.5	133.0	127.8	134.1	**111.6**
	1995	127.1	123.8	127.3	131.7	**129.1**
Scale-based mfg	1988	112.9	132.4	121.7	109.1	**121.2**
	1995	127.2	127.1	123.5	124.7	**131.7**
Research-based mfg	1988	112.2	112.3	120.9	118.9	**111.7**
	1995	122.8	124.2	124.8	124.4	**126.0**
Distribution services	1988	113.0	111.4	114.0	111.3	**111.1**
	1995	128.5	128.4	124.7	125.0	**130.3**
Information services	1988	108.3	114.7	115.0	118.6	**107.2**
	1995	132.6	133.2	134.9	139.8	**134.1**
Traditional services	1988	109.8	117.8	118.7	125.0	**111.4**
	1995	131.5	130.6	130.1	134.8	**131.6**
Non-market services	1988	116.6	132.9	121.1	121.8	**124.7**
	1995	130.2	127.4	131.5	192.2	**131.8**
All industries[1]	**1988**	**135.5**	**129.4**	**122.8**	**123.2**	**120.2**
	1995	**140.0**	**148.1**	**138.3**	**139.2**	**140.9**

Notes

1. Includes construction and government services, which are not shown individually in the table.

Aggregated Industry Groups[1]

No.	Sector Title	Industry Contents	1980 SIC[2]
100	Non-agricultural primary	Fishing, forestry & mining	03 thru' 09
200	Natural resources manufacturing	Food, beverage, tobacco, plastics, misc paper, publishing, metal (smelting/copper/rolling), wood, non-metallic minerals, petroleum/coal products, misc. mfg (signs)	10, 11, 12; 16; 25-(251,6); 279; 283; 295,6,7; 301; 35-(351,6,7); 36; 397
300	Labour intensive manufacturing	Leather, textiles, knitting, clothing, wood box, furniture, boatbuilding, metal fabricating, misc. mfg (jewellery & other)	17; 18; 19; 24; 256; 26; 302,3,4,9; 328; 392,9
400	Scale-based manufacturing	Rubber, wood mills, paper, printing, metal mills, wire, transportation equipment, clay/glass/abrasives, fertilizers/resins	15; 251; 27-279; 28-283; 29-(295,6,7); 305; 32-(321,8); 351,6,7; 371,2
500	Research- (market- & science-) based manufacturing	Tools etc., aircraft, machinery, electrical products, chemical products, misc. mfg (sport/toys/scientific eqpt)	306,7,8; 31; 321; 33; 37-(371,2); 391,3
600	Distribution services	Trans., communications, utilities; wholesale trade	45 thru' 59, 996
700	Information services	Finance, insurance, real estate; business services	70 thru' 77
800	Traditional services	Personal, recreation, accommodation and misc. services; retail trade	60 thru' 69, 91 thru 97, 99-996
900	Non-market services	Education, health, social, religious, non-profit associations	84 thru' 86, 98

1. Excluded from this industry grouping are agriculture, construction and government services.

2. Two-and three-digit Standard Industrial Classification codes. Negative signs (-) mean that the 3-digit codes following the negative sign (usually in brackets), are substracted from the corresponding 2-digit code.