

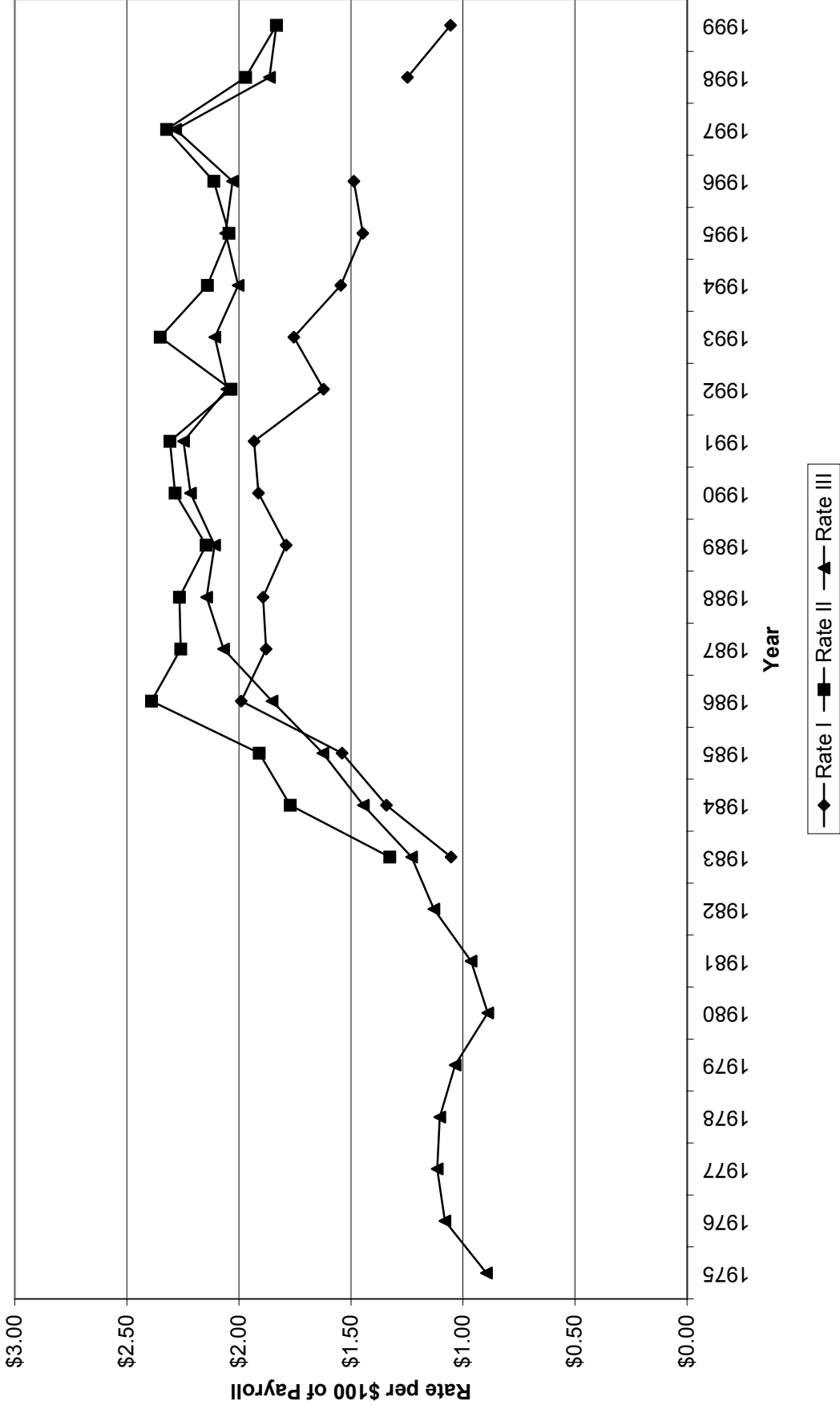
II. The Costs of Workers' Compensation in Ontario and Other Jurisdictions

A. Costs in Ontario

In this section, we first report estimates of the costs of workers' compensation for Ontario employers for the period 1975 – 1999. Our estimates depict the impact of various adjustments to Ontario manual rates, including experience-rating modifications, payroll limits, and payments toward the unfunded liability. We also discuss the efficacy of and rationale for these various adjustments.

Figure 1 presents data on three different Ontario costs measures – Rates I, II, and III – in terms of a rate per \$100 of payroll for the period 1975 -- 1999. All three measures have been adjusted for experience rating modifications and converted to total payroll rates. The diamond-shaped data points represent Rate III, which are estimates of the actual costs of workers' compensation coverage for Ontario employers (new claim costs + overhead + payment for unfunded liability – transition adjustment), while the square points represent Rate II, which are target rate estimates (new claim costs + overhead + payment for unfunded liability), which incorporate the amortized costs of the unfunded liability. Finally, the triangle-shaped points represent Rate I, which are the “current” costs of workers' compensation, i.e., without an allowance for the unfunded liability (new claim costs + overhead). As can be seen, the divergence among our three rate measures begins in 1983. For the years 1975 – 1982, there is only one rate, which is equivalent to the actual workers' compensation insurance rates paid by Ontario employers (Rate III). However, since Rate III does not include amortized payments for an unfunded liability, which was relatively insignificant prior to 1983, it is also equivalent to the “current cost” rate (Rate I).

Figure 1
Ontario Rate Estimates Using Different Adjustments for the Unfunded Liability, 1975-99

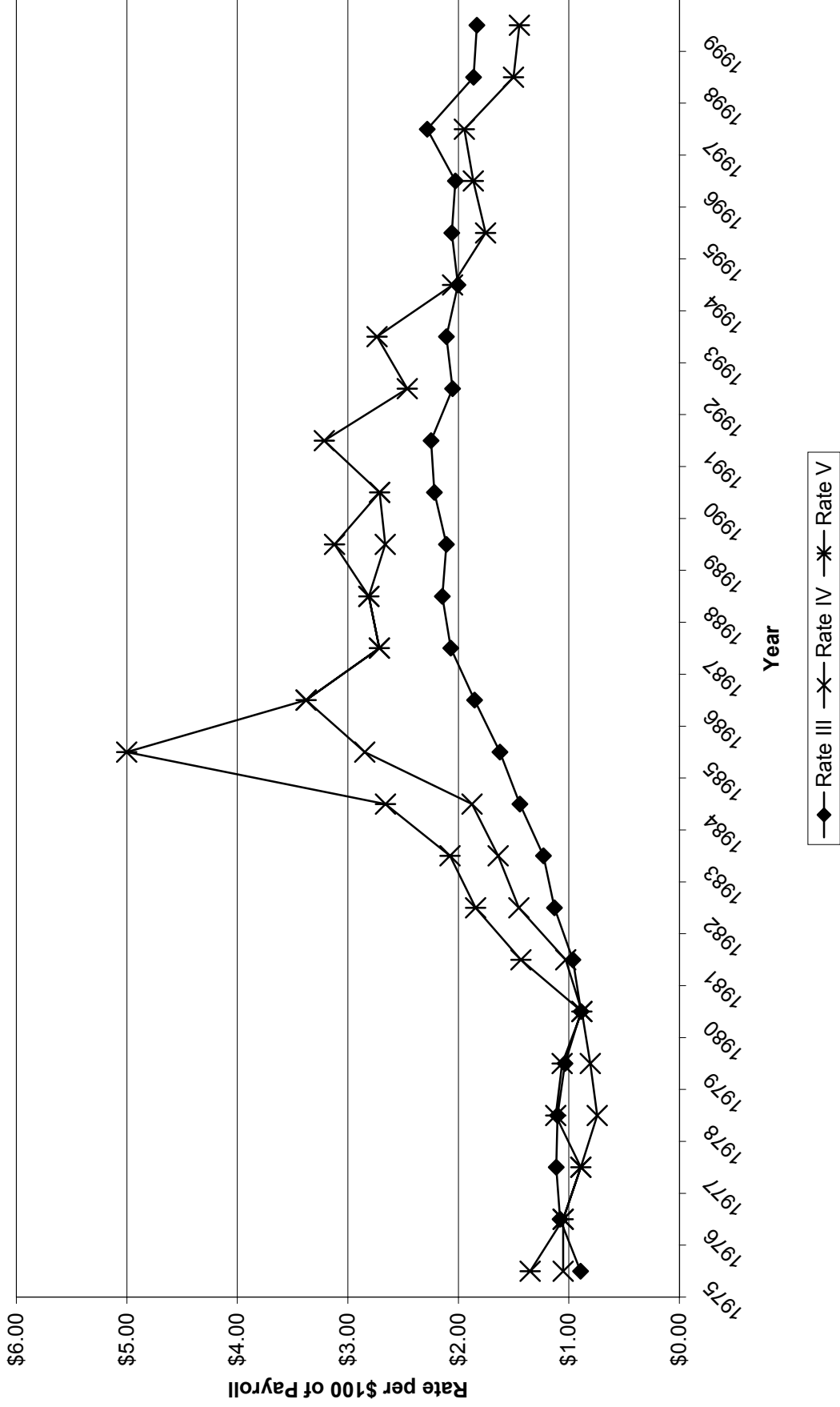


Each of these data series indicates that there was a substantial increase in the employers' costs of workers' compensation between 1981 and 1986. During this period the province-wide adjusted base assessment rate increased from around \$1.00 per \$100 of payroll to approximately \$1.90 to \$2.50 per \$100 of payroll, depending on the measure used. This represents a 100 percent increase in the actual costs of workers' compensation paid by employers. While the actual target rate measures seemed to have stabilized at somewhere between \$2 and \$2.50 after 1986, the rate defined by "current" costs declined substantially during the remainder of the period, returning to rates comparable to those seen during the late 1970s.

Figure 2 depicts Rate IV and Rate V, which are the two costs measures estimated using system-wide data on the unfunded liability, i.e., estimates that increase rates so as to eliminate the annual deficit, as well as the "actual rate" series (Rate III) from Figure 1. Once again, all three measures have been adjusted for the impact of experience rating and payroll limits. As can be seen, the system-wide measures have substantially greater variability than the "actual rate" data, illustrating the smoothing effect of the 30-year amortization schedule adopted by the Board.

These data also show, once again, that the employers' costs of workers' compensation insurance rose substantially between 1981 and 1986, with the largest increase in costs occurring between 1984 and 1985. As can be seen, this increase was largely due to a retroactive increase in legislated benefits in 1985, although the data also suggest that a significant proportion of the costs increase would have occurred in the absence of these retroactive benefits. As will be seen, the latter effect is largely attributable to the indexation of benefits in 1985. Finally, these data indicate that, like the "current cost" estimates in Figure 1, by the 1990s, employer costs had begun to decline significantly.

Figure 2
Ontario Rate Estimates Using Different Adjustments for the Unfunded Liability, 1975-99



As indicated, the costs measures depicted in Figures 1 and 2 have been adjusted for experience rating and payroll limits. Figures 3 and 4 illustrate the effect of these adjustments on employer costs as measured by the “actual” adjusted rate (Rate III). Figure 3 shows that the adjusted rates were anywhere from \$0.10 to \$0.36 lower than the unadjusted rates. The data reported in Figure 4 indicate that the experience rating modification results in a costs reduction of three percent or less, while the effect of adjusting for payroll limits varies from around 2 to 18 percent. The data also show that the payroll adjustment was substantially greater (and less variable) after 1985, when the maximum earnings ceiling was indexed to the CPI, although there was a substantial reduction in the adjustment between 1990 and 1992, when the ceiling was nearly doubled.

A comparison of the adjusted assessment rates depicted in Figures 1 and 2 with those from our earlier study of Ontario rates (Thomason and Burton 2000) indicates that our revised estimates are substantially higher, particularly during the early part of the study period. Figure 5 presents data on our costs estimates from the previous study (original) with the “actual” rate measures (Rate III) from Figure 1 of this report (revised). Both estimates are measures of workers’ compensation assessment rates that have been adjusted for experience rating and payroll limits, but not for deficits or payments toward the unfunded liability. As can be seen, these data show that our revised estimates are substantially higher than the original estimates for the first 10 years of the study. The gap narrowed between 1985 and 1991, but the revised estimates continue to be higher. Only during the last four years do the revised estimates fall below our earlier ones.

Figure 3
Ontario Rate Estimates,
Unadjusted and Adjusted for Experience Rating and Payroll Limits, 1975-1999

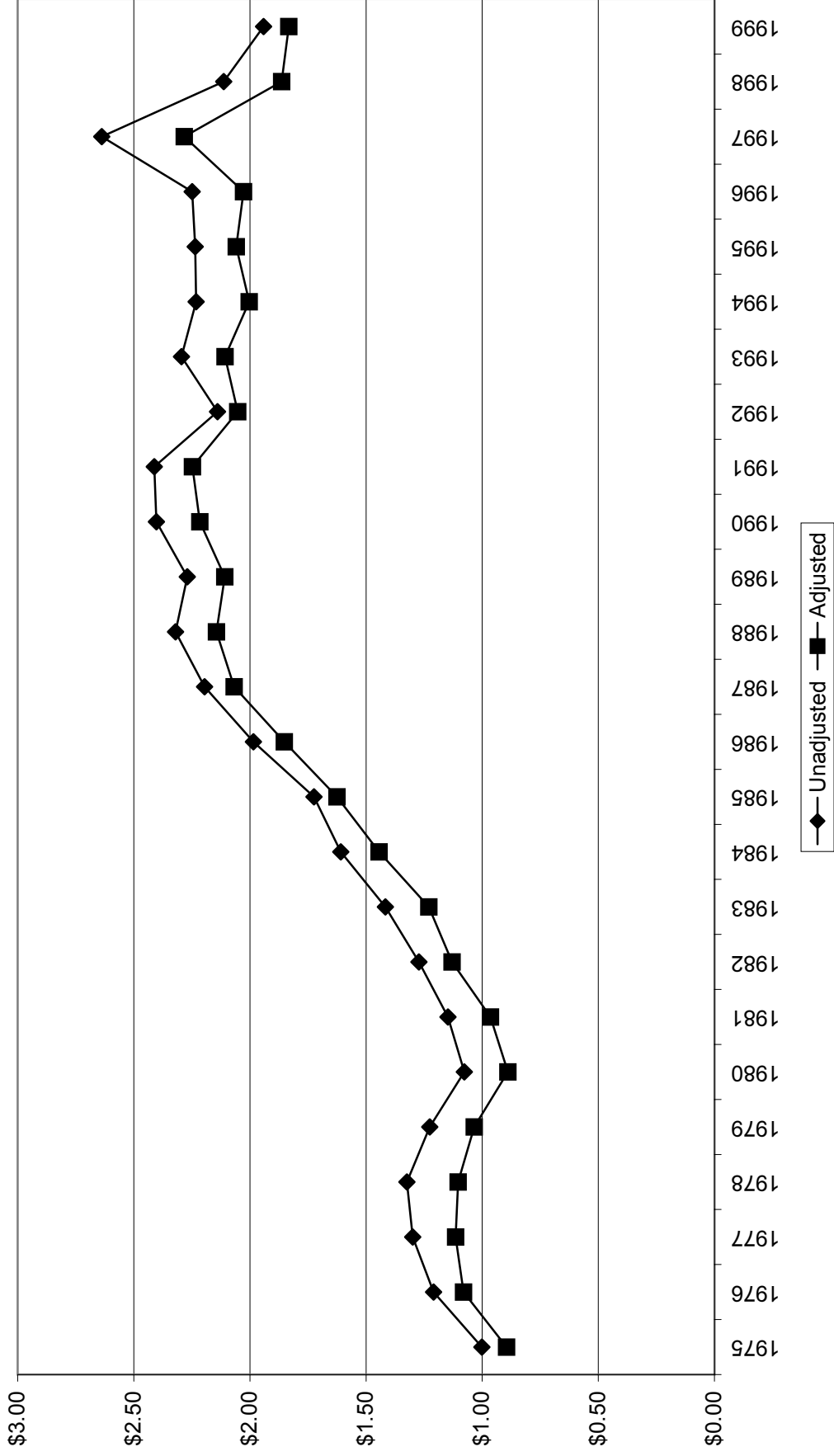


Figure 4
Impact of Experience Rating and Payroll Limit Adjustments on Ontario Rates, 1975-1999

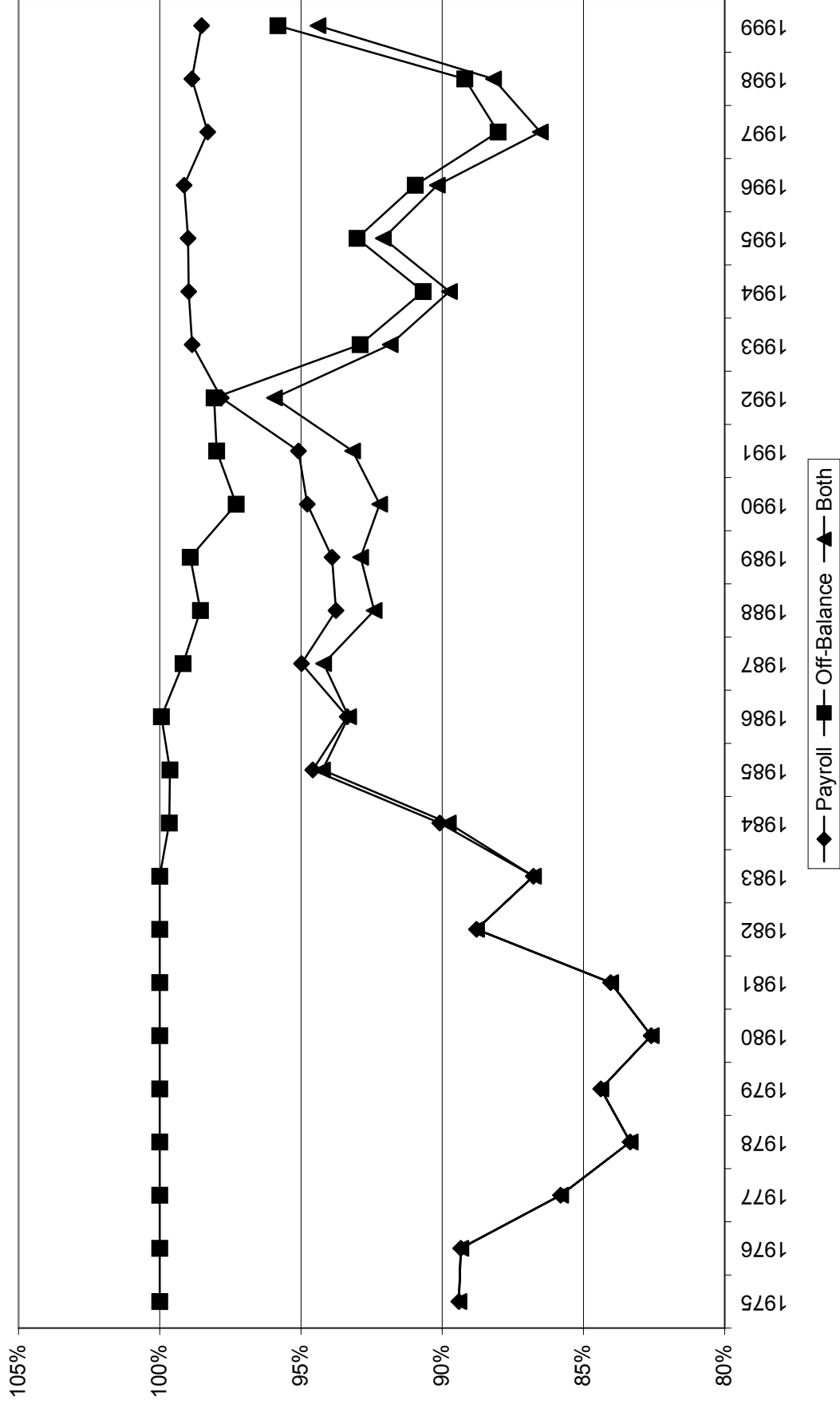
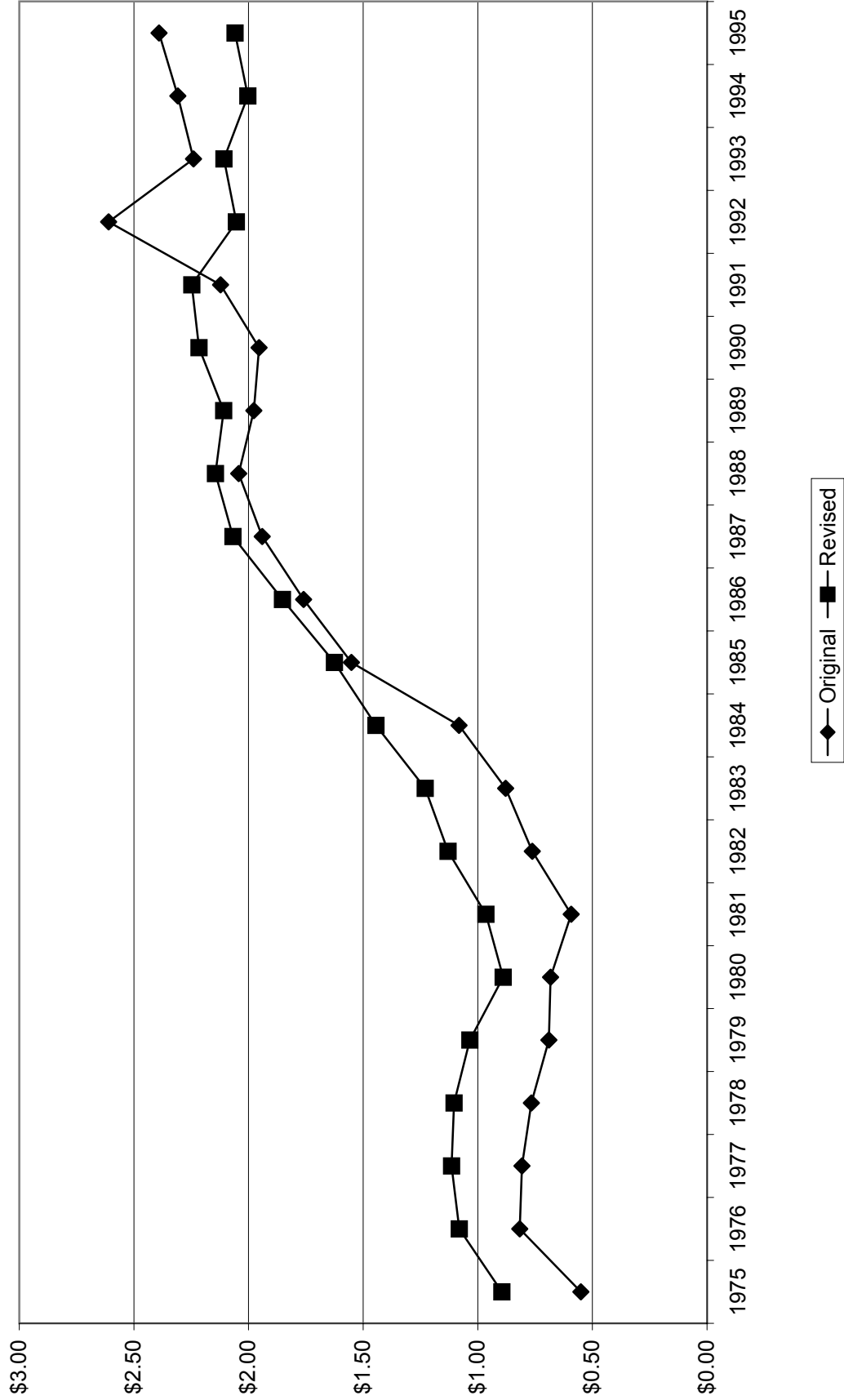


Figure 5
Comparison of Ontario Rate Estimates,
Original and Revised Payroll Adjusted Rates, 1975-95

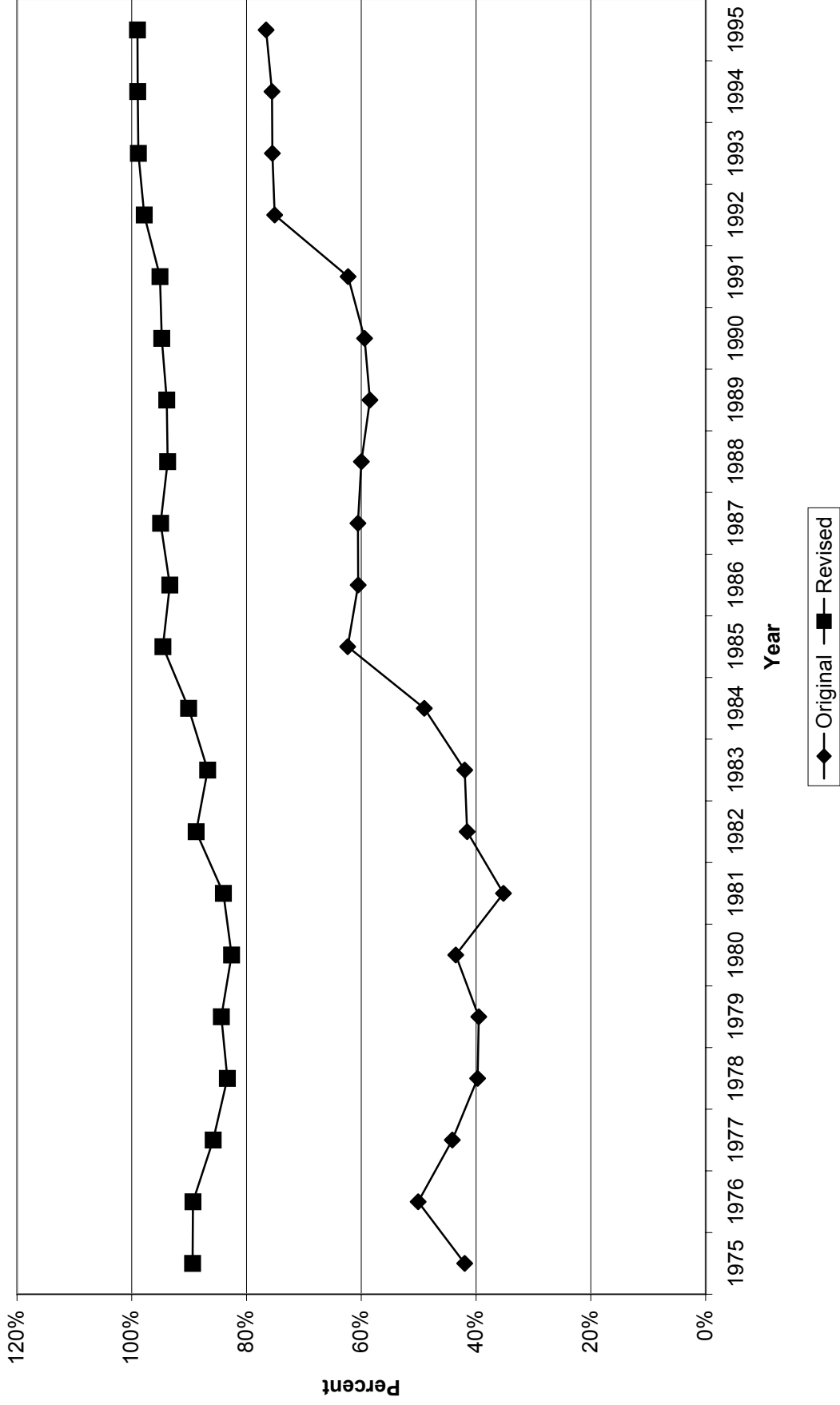


As can be seen from the data in Figure 6, differences in the adjustment for payroll limits accounts for most of the difference between our original and revised rate estimates. Figure 6 shows the payroll adjusted costs estimates for the earlier and the current study as a percentage of the unadjusted measures. While the adjusted rates from the earlier study are between 40 and 50 percent of the unadjusted rates from 1975 to 1984, adjusted estimates from the current study vary from 85 to 90 percent of the unadjusted rates for this same period. While the gap narrows somewhat in the subsequent period, the payroll adjustment from the earlier period continues to have a larger impact on rates than our revised payroll adjustment used in this report.

Each method of adjusting for payroll limits has its advantages and disadvantages, although we believe that the estimates presented in the current study are superior to those reported in Thomason and Burton (2000). Due to substantial variation in the wage distribution among rate groups, it is inappropriate to use the same system-wide proportion to adjust the rates for all classes. Because workers in hazardous industries are likely to earn higher wages than workers in safe industries, we might expect that there is negative relationship between the base assessment rate and the payroll adjustment factor. In addition, the wage distribution used in the earlier study was national in scope rather than specific to Ontario and based on self-reported weekly wages, which are likely to be less accurate than the payroll data collected by the WSIB.

On the other hand, because the rate group-specific Ontario wage data were taken from workers' compensation claim files, it is likely that the Ontario data over samples from the left-hand side of the wage distribution. That is, within each rate group, lower wage workers are more likely to be engaged in more hazardous jobs than high wage workers within the rate group. As a result, they are more likely to report a workers' compensation claim and thus appear in the WSIB's data set. Consequently, these data are likely to underestimate total Ontario payroll and, thus, the payroll limit adjustment. However, given the right-skewed nature of earnings data – i.e., the fact that low wage employees greatly outnumber high-wage employees – the extent of the bias is likely to be minimal.

Figure 6
Comparison of Original & Revised Payroll Adjustments, 1975-95



B. Costs Comparisons Among Jurisdictions

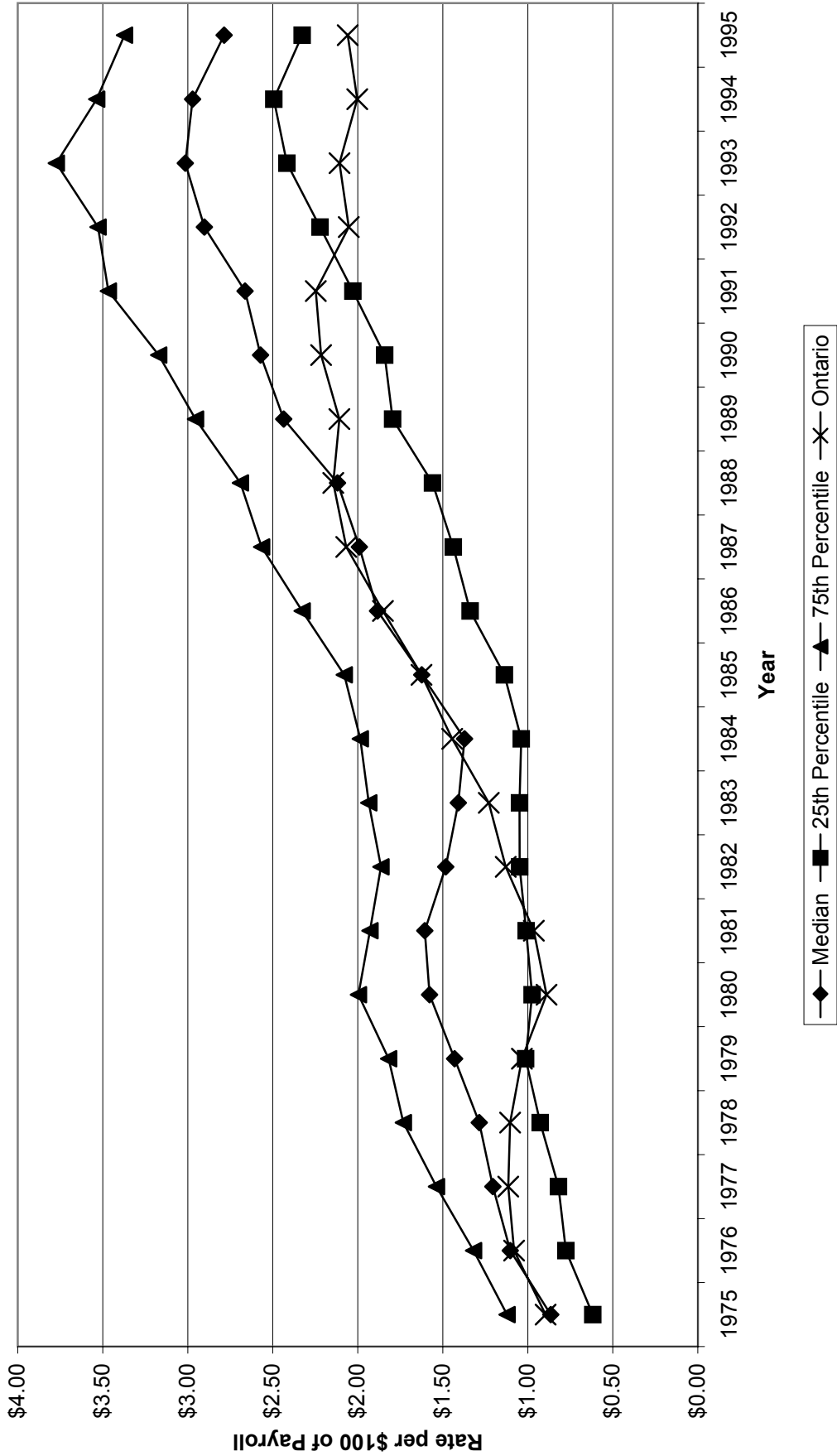
1. Costs Comparisons – 50 Jurisdictions

In this subsection, we compare the Ontario workers' compensation costs with summary costs measures of the remaining 49 jurisdictions in our sample as well as with an average of contiguous U.S. jurisdictions for the period 1975-95. We report comparisons involving two different Ontario costs measures: (1) "actual" rates (Rate III) and (2) "current cost" rates (Rate I). It is possible to argue that a costs comparison involving either of these measures is appropriate. Finally, we present costs data using three different rate group subsets: (1) manufacturing rate groups, (2) construction rate groups, and (3) other rate groups.

The data in Figure 7 depicts the median as well as the 25th and 75th percentile adjusted base assessment (or manual) rates for the 49 other jurisdictions (47 U.S. states, the District of Columbia, and the province of British Columbia) in our sample for the period 1975 - 95. The data in this Figure are actual, as opposed to current cost, rates. It is also important to note that since these costs estimates are rate measures – that is, the employers' costs of workers' compensation per \$100 of payroll – it was unnecessary to adjust these estimates for inflation or for differences in currency.¹⁹ Diamond data points represent the median rate, i.e., the rate that is equal to or greater than 50 percent of jurisdictions in the sample, while the 25th and 75th percentile rates are represented by square and triangle-shaped data points, respectively. Crosses represent the average Ontario rates.

The data show that, during the study period, actual Ontario rates were generally equal to or below the median rate for the remaining jurisdictions. In 1980 and 1981 and from 1992 through 1995, Ontario rates were below the 25th percentile.

Figure 7
 "Actual" Rate Estimates, Ontario and Summary Rates for Remaining Jurisdictions,
 1975-1995



As previously indicated, actual Ontario rates include an amortized payment for the unfunded liability. We have also estimated a “current cost” measure that excludes payment for the unfunded liability. Figure 8 depicts these costs relative to those for the 48 U.S. jurisdictions and British Columbia for the period 1975 – 1995; once again three summary statistics – the median, the 25th and the 75th percentile rates – are used to capture the distribution of non-Ontario rates.

These “current cost” estimates are, with the exception of 1986, consistently lower than the median rate for other jurisdictions in our sample and are, once again, below the 25th percentile rate for the years 1981 and 1982 and for the last four years of the sample period.

The data reported in Figures 9 and 10 provide additional information regarding the costs of workers’ compensation insurance in Ontario relative to its costs in other jurisdictions. Figure 9 depicts where Ontario ranks relative to the other 49 jurisdictions in our sample with respect to its average adjusted base assessment rate, where the lowest cost jurisdiction is ranked number 1. Figure 10 shows the number of jurisdictions, as a proportion of the total sample that has lower costs than Ontario. In both figures, we use two measures of Ontario costs: actual rates and current costs rates. Because the number of jurisdictions in the comparison group fluctuates over the period due to data availability, we shall confine our remarks to Figure 10.

The data in Figure 10 indicate that Ontario’s rank with respect to compensation costs fluctuated substantially during the study period. At the beginning of the period Ontario had lower actual costs than approximately 45 percent of the jurisdictions in our sample. By 1980, its costs, as measured by average actual rates, were lower than all but 16 percent of the sample. In the late 1980s, Ontario’s costs rose relative to other jurisdictions, before falling again. By 1994, actual Ontario costs were lower than all but 11 percent of the jurisdictions. Overall, with the exception of five years (1975, 1984, 1985, 1987, and 1988), Ontario had costs that were less than those found in over half of the jurisdictions in the sample. And, as measured by current costs rates, the employers’ costs of workers’ compensation in Ontario is even more impressive.

Figure 8
"Current Cost" Estimates for Ontario and Summary Statistics for Remaining Jurisdictions,
1975-95

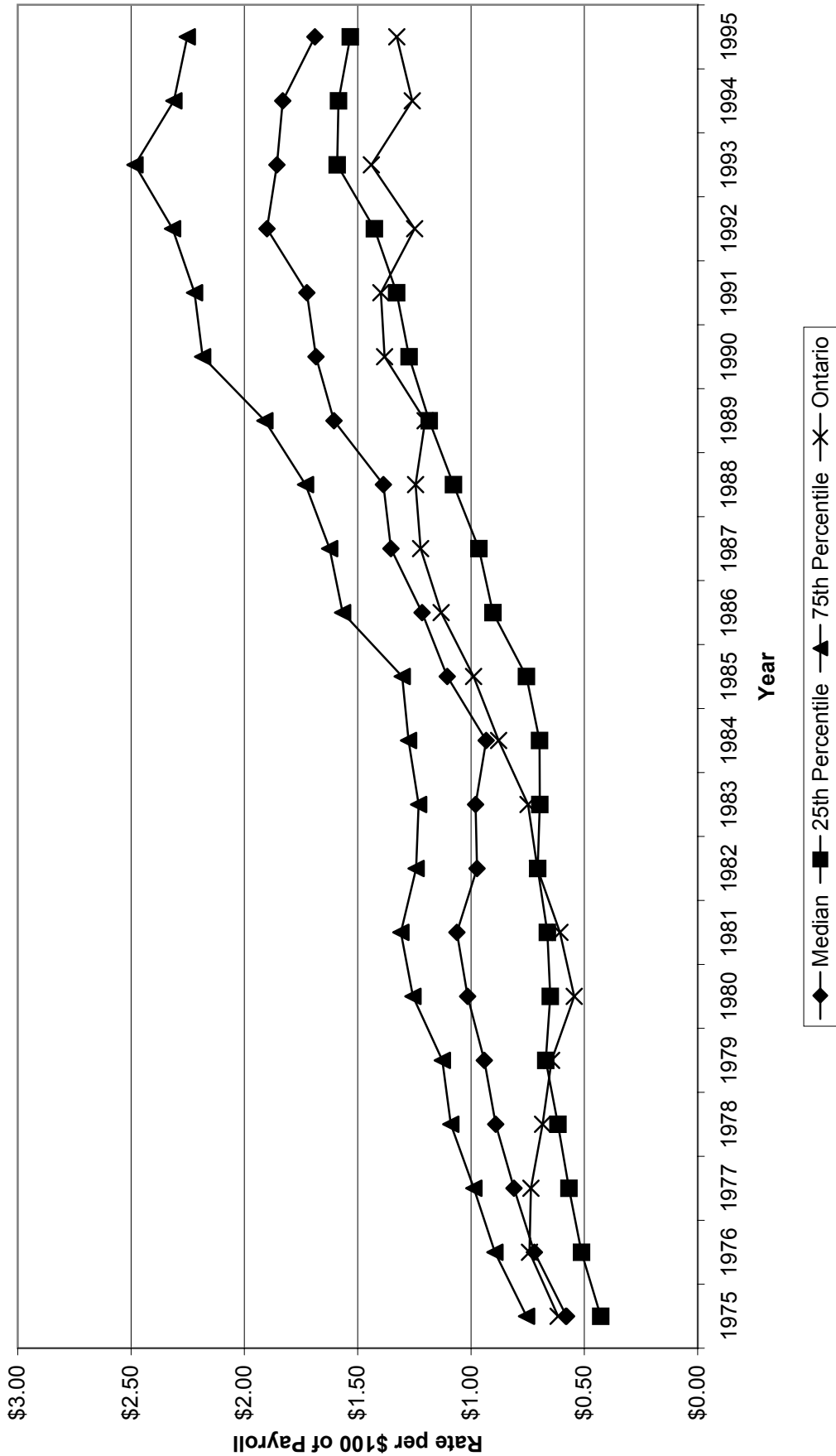


Figure 9
Ontario Rank Relative to Other Jurisdictions, Actual and Current Cost Rates, 1975-95

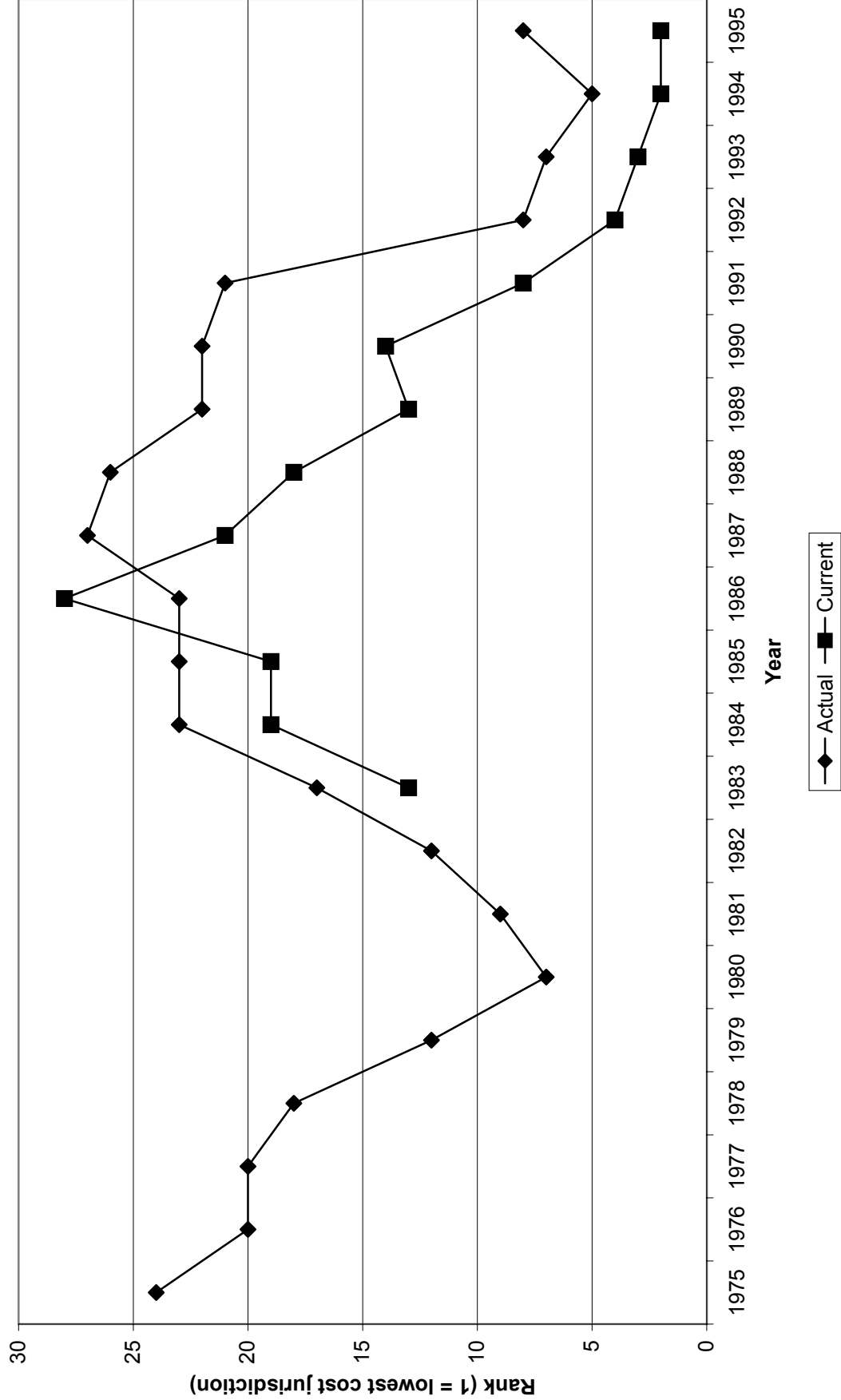
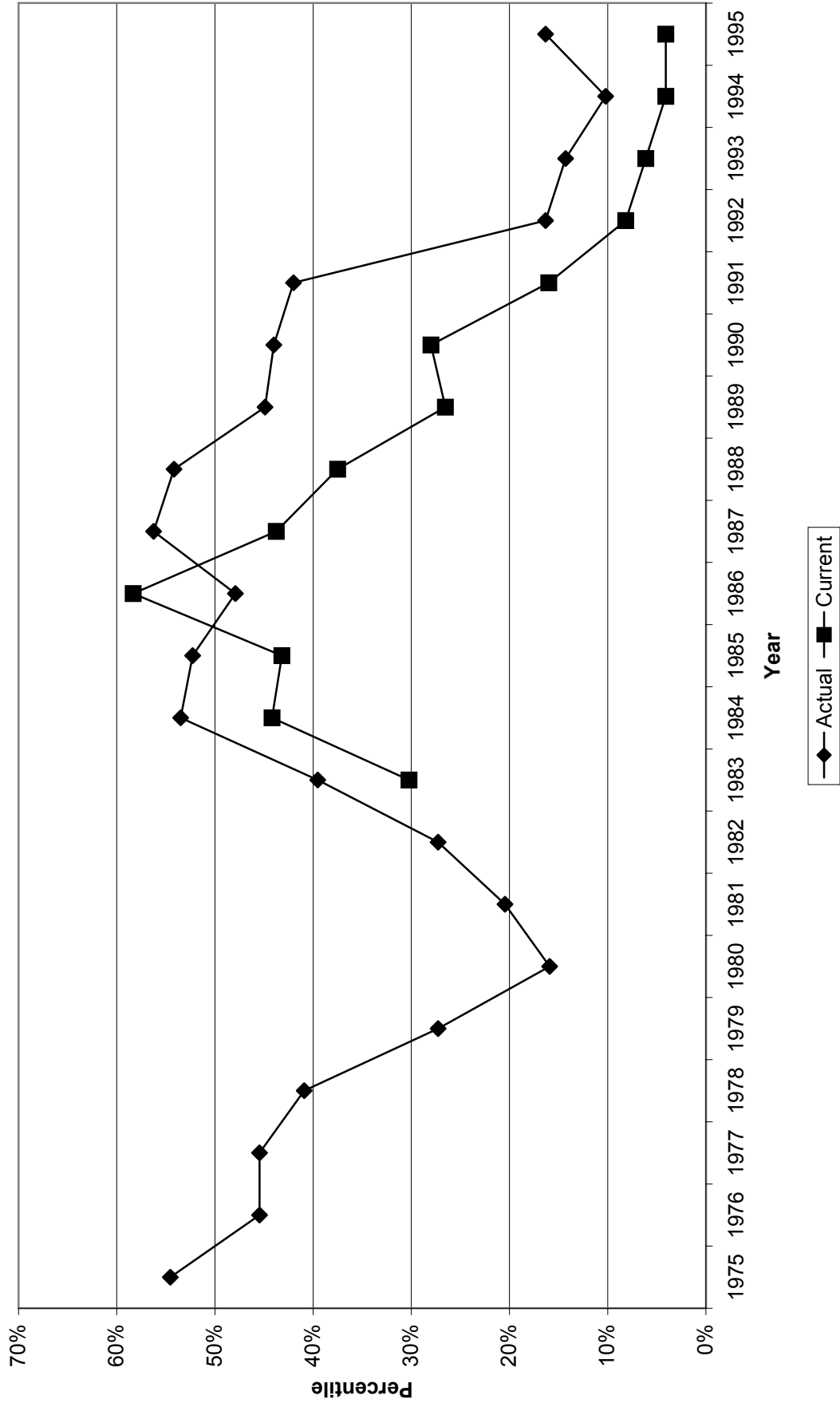


Figure 10
Ontario Percentile Scores, Actual and Current Cost Rates, 1975-95



Taken together, these results suggest that the costs of workers' compensation insurance for Ontario employers is equal to or less than the costs of more than half of the jurisdictions in North America; and, in recent years, the employers' costs of workers' compensation in Ontario have substantially declined relative to costs for other North American employers.

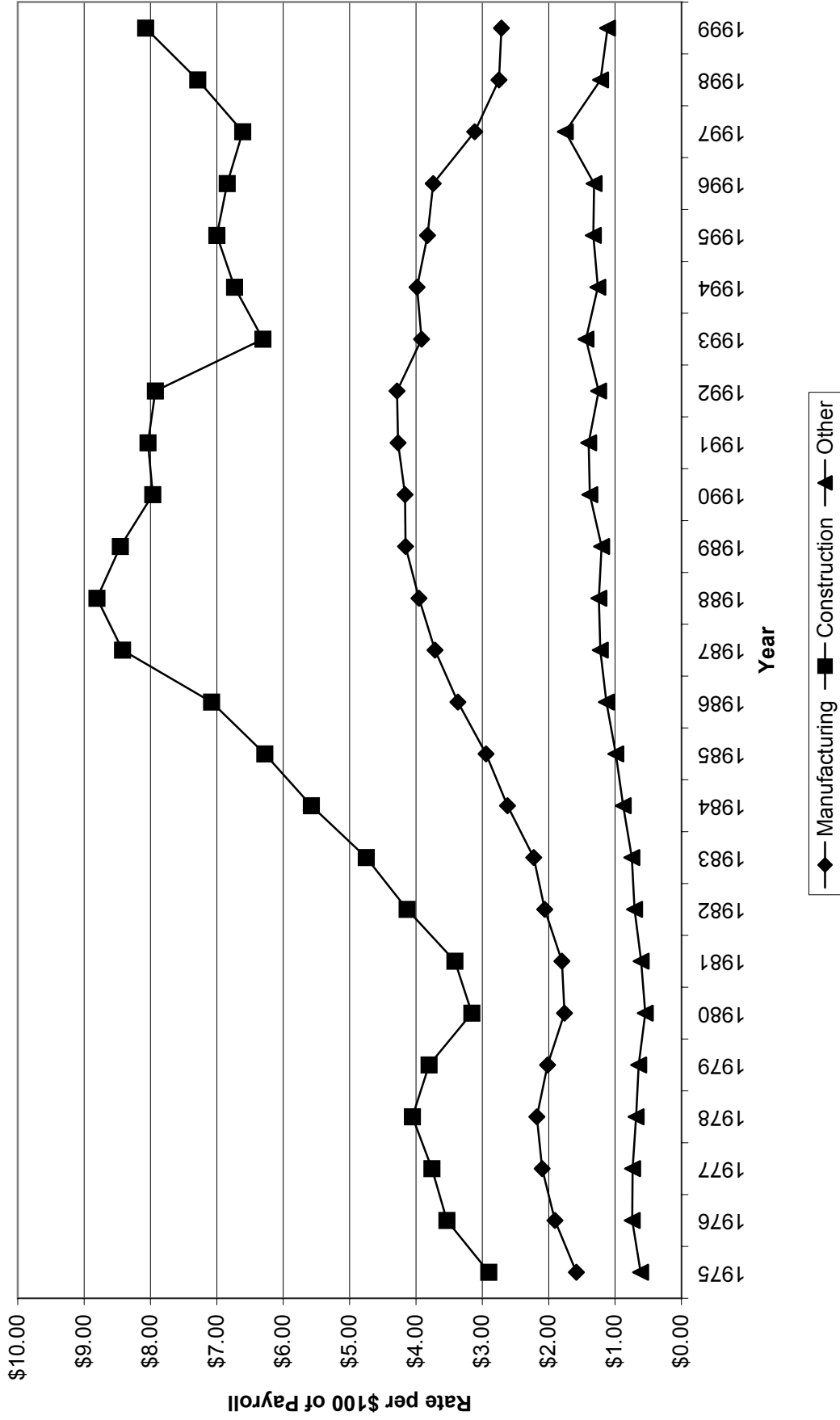
2. Costs Comparisons – Industrial Sectors

In the last subsection, we examined the relative costs of workers' compensation using a sample of rate groups that is representative of the economy as a whole. However, it is likely that an increase in relative labor costs due to higher workers' compensation premiums will be more significant for some sectors of the economy than for others. The product market for many, if not all, manufacturing industries is unlimited geographically; for example, the Ontario textile industry competes with textile producers all over the world. However, the product market for construction firms and many personal service providers tends to be highly localized; Ontario barbers need not be terribly concerned about the price of a haircut in Mississippi, much less Bangladesh. For this reason, in this subsection we present workers' compensation costs estimates for three industrial sectors: manufacturing, construction, and other. The latter category consists primarily of classifications in the service sector.

We estimated the employers' costs of workers' compensation for the three industrial subsectors by first identifying the appropriate NCCI classification for each sector and then taking the payroll weighted average of manual rates for each jurisdiction. Finally, the average manual rates were adjusted using statewide adjustment factors for the total workers' compensation market, such as off-balances for experience rating modifications.²⁰

Figure 11 presents data on the average adjusted manual (or base assessment rates) for Ontario for the extended period from 1975 to 1999. The data presented in this Figure represent "actual" rates. As might be expected, there is substantial variation in costs among sectors; workers' compensation costs for construction industry firms are approximately twice as great as employers' costs of manufacturers and over six times greater than costs for firms in the service sector.

Figure 11



The costs of workers' compensation in all three sectors increased over the period, but particularly during the 1980s; in recent years, employers' costs in all sectors, except construction, declined during the 1990s, although this decline is least evident for "other" firms. Workers' compensation costs for the construction industry peaked in the late 1980s, declined in the early 1990s, but have risen since then, particularly over the last three years of our study period.

Figures 12, 13 and 14 compares the average adjusted manual rates for Ontario for each of the three industrial sectors with summary statistics of similar rates for the other 49 jurisdictions in our sample. (These figures are limited to 1975 to 1995 because we only have data for the other jurisdictions for those years.) A comparison of the data in the three figures shows that Ontario costs for the "other" sector compares most favorably with rates found in other North American jurisdictions, while the construction industry compares least favorably. The average rate for "other" Ontario industries is below the median rate for all but the first four years of the period, while construction rates are above the median for 12 of the 21 years in the study period.

The costs of workers' compensation for Ontario manufacturing firms, the sector that is probably the most vulnerable to competition from other North American firms, generally compares favorably with costs in other jurisdictions. Manufacturing rates are at or below the median every year, except during the 1980s when they were only slightly above the median rate.

Ontario percentile scores for actual assessment rates for the three industrial sectors, similar to those depicted in Figure 10 are shown in Figure 15. The data for each subsector display the same pattern over time as the percentile scores for the economy wide average assessment rate. Ontario rates tend to be high relative to those of other jurisdictions at the beginning of the period (1975-78) and during the mid to late 1980s. With the exception of the 1990s, Ontario construction rates are higher relative to those of other North American jurisdictions than the rates for the other two sectors, while "other" rates tend to rank relatively lower. The percentile scores for manufacturing rates are less variable than those for the other sectors, ranging between the 20th and 60th percentile.

Figure 12
Actual Adjusted Rates for Manufacturing,

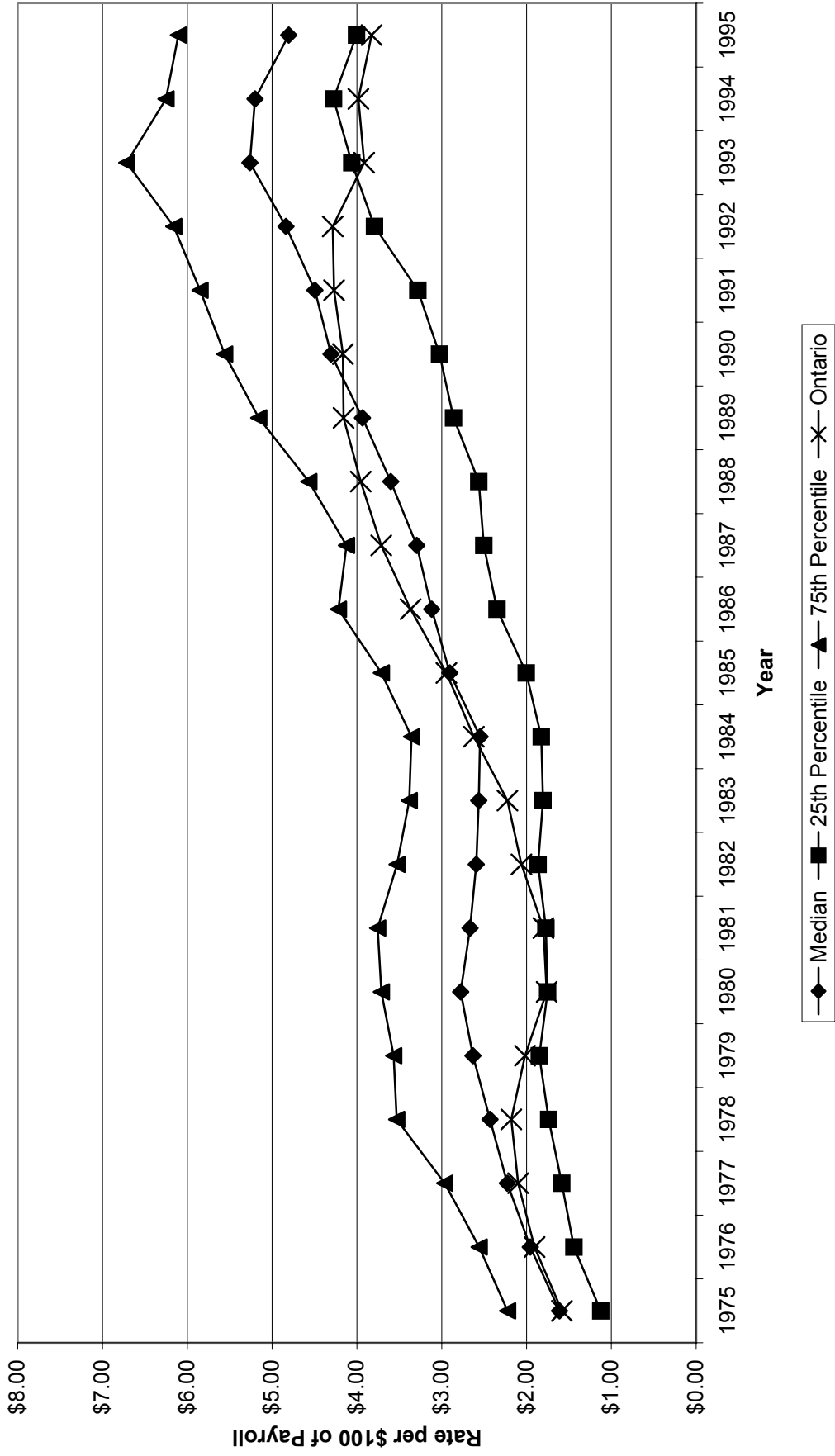


Figure 13
Actual Adjusted Rates for Construction,

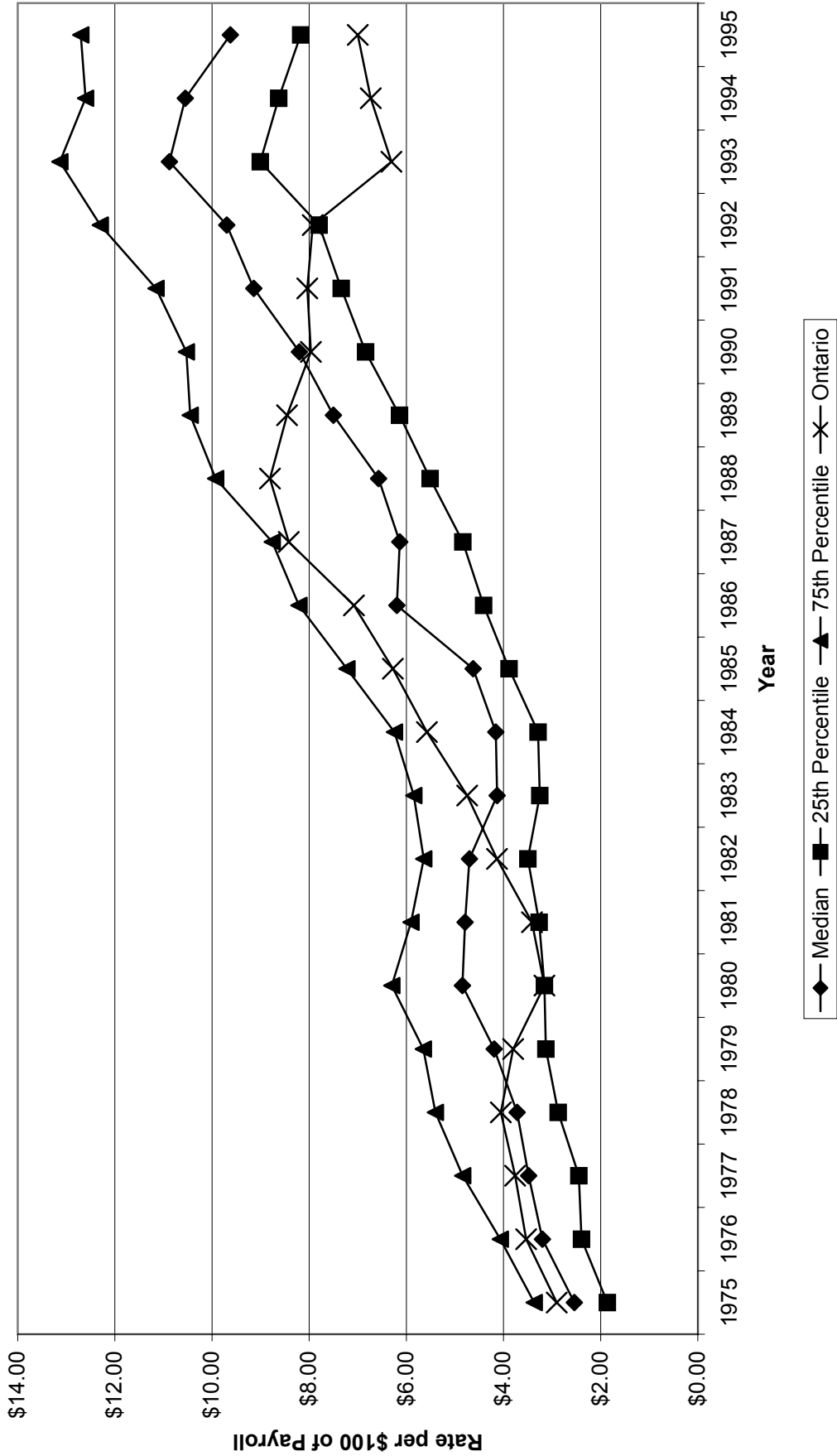


Figure 14
Actual Adjusted Rates for Other Industries,

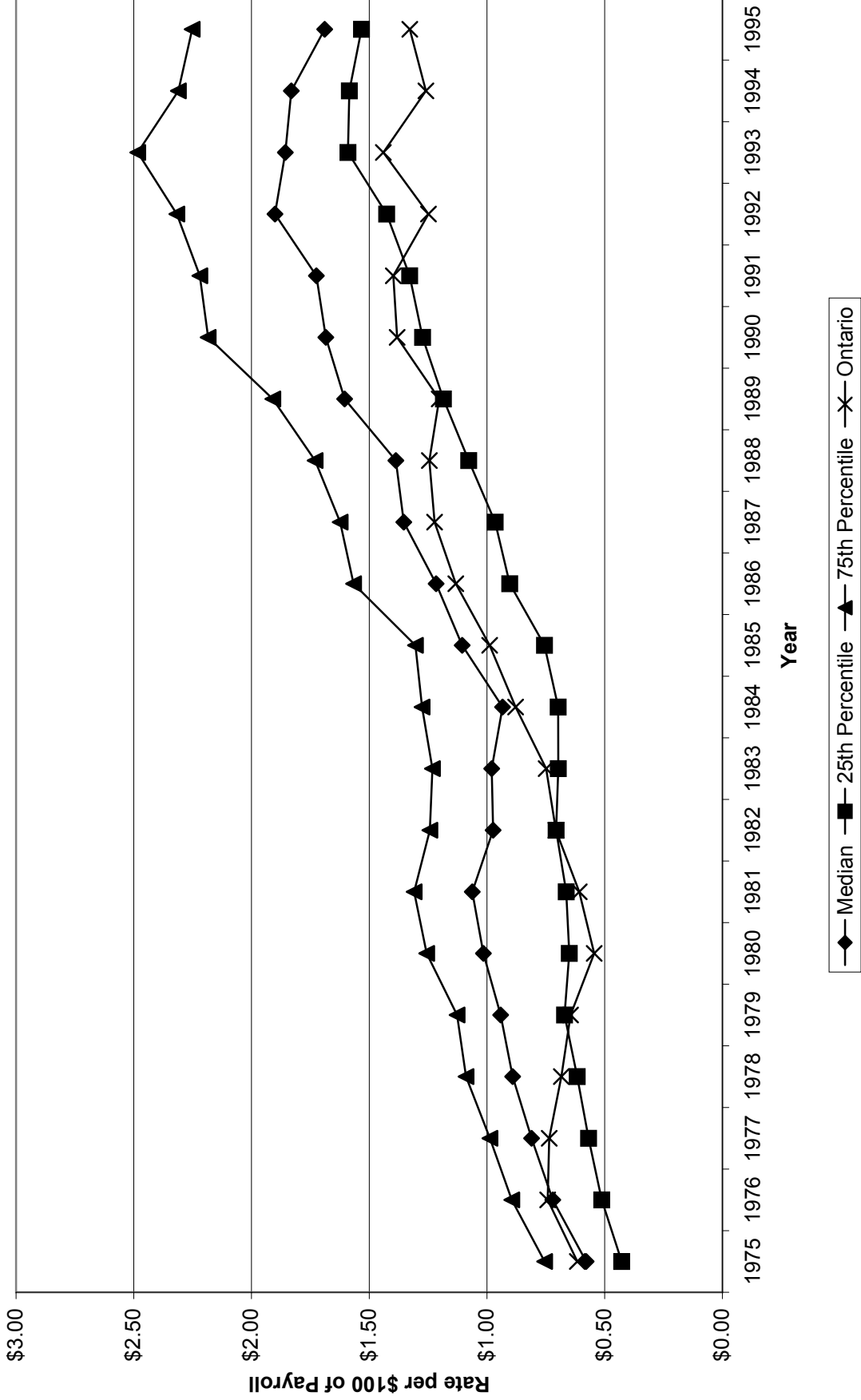
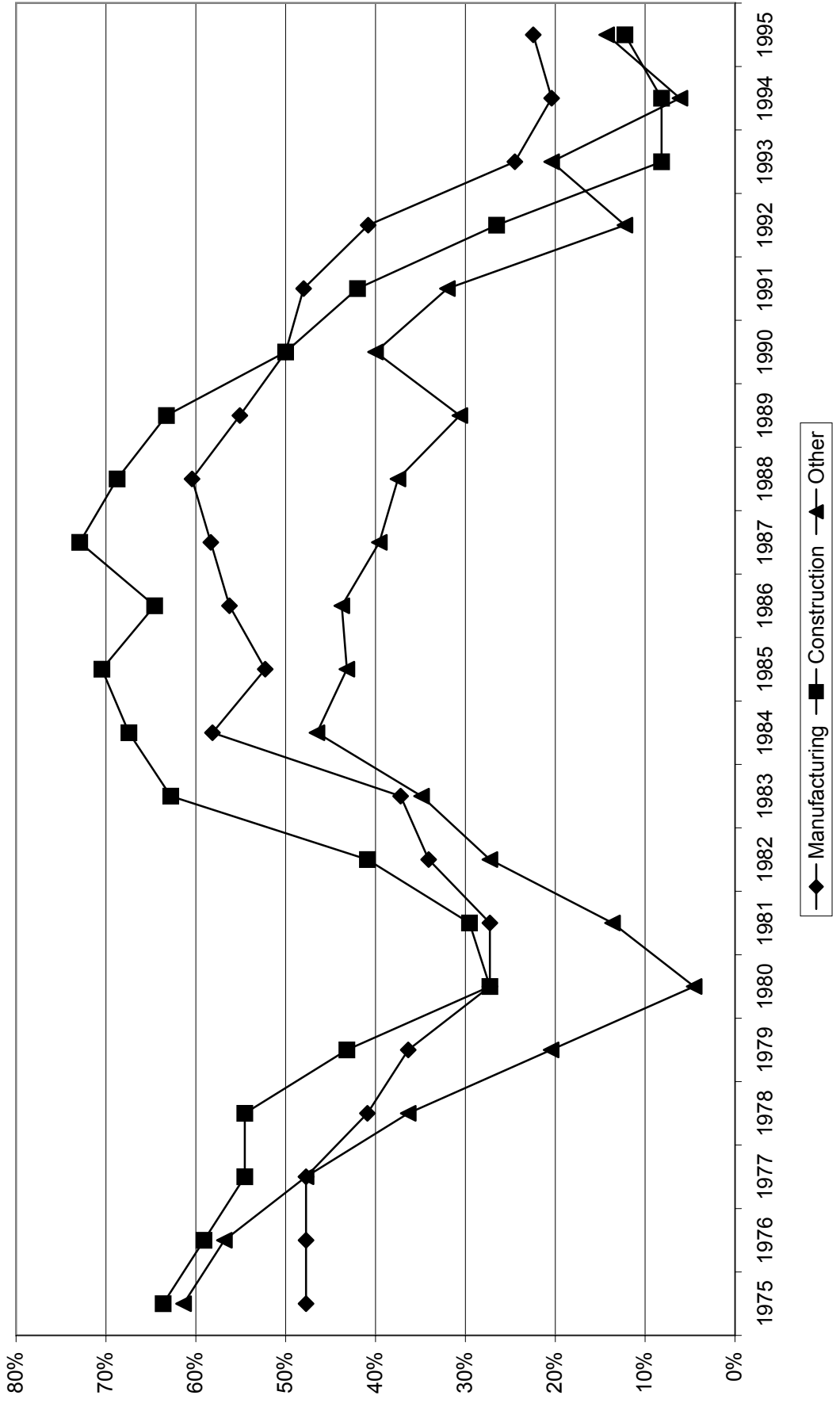


Figure 15



Overall, these data suggest that the costs of workers' compensation insurance for Ontario manufacturing firms and for employers in the "other" sector compares favorably with costs experienced by employers in these same sectors in other jurisdictions. However, workers' compensation costs for Ontario firms in the construction industry tend to be somewhat higher than those found elsewhere. The latter result may be attributed to differences in climate affecting occupational health and safety in the construction industry. A harsher winter climate in Ontario may be expected to adversely affect loss experience for construction firms relative to that of U.S. employers. Climate is much less likely to be a factor affecting health and safety for manufacturing firms or for firms in the "other" sector.

3. Costs Comparisons – Great Lakes States

As previously indicated, markets have a geographic dimension. Due to transportation and communication costs, Ontario firms are more likely to be vulnerable to competition from other Canadian firms; and, since the advent of the Free Trade Agreement and NAFTA, Ontario employers are more likely to be vulnerable to competition from contiguous U.S. states than from states in the Deep South. Consequently, in this section we compare Ontario workers' compensation costs with those for nine U.S. states that border the Great Lakes: New York, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Wisconsin, and Minnesota.

Figure 16 reports the actual assessment rates per \$100 of payroll for Ontario and the median rate for the Great Lake states for the period, 1975 – 1995. Figures 17 to 19 show these same rates for the three industrial subsectors described in the previous section.

These data uniformly indicate that the costs of workers' compensation for Ontario compares favorably with its costs in the Great Lake states. Furthermore, these costs comparisons are generally more favorable than earlier comparisons involving the entire sample of North American jurisdictions. Once again, the conclusion may be drawn that, at worst, the costs of workers' compensation insurance in Ontario is usually below average, and often well below average, when compared to costs in contiguous U.S. states.

Figure 16
Actual Ontario and Median Rate of Great Lake States, 1975-1995

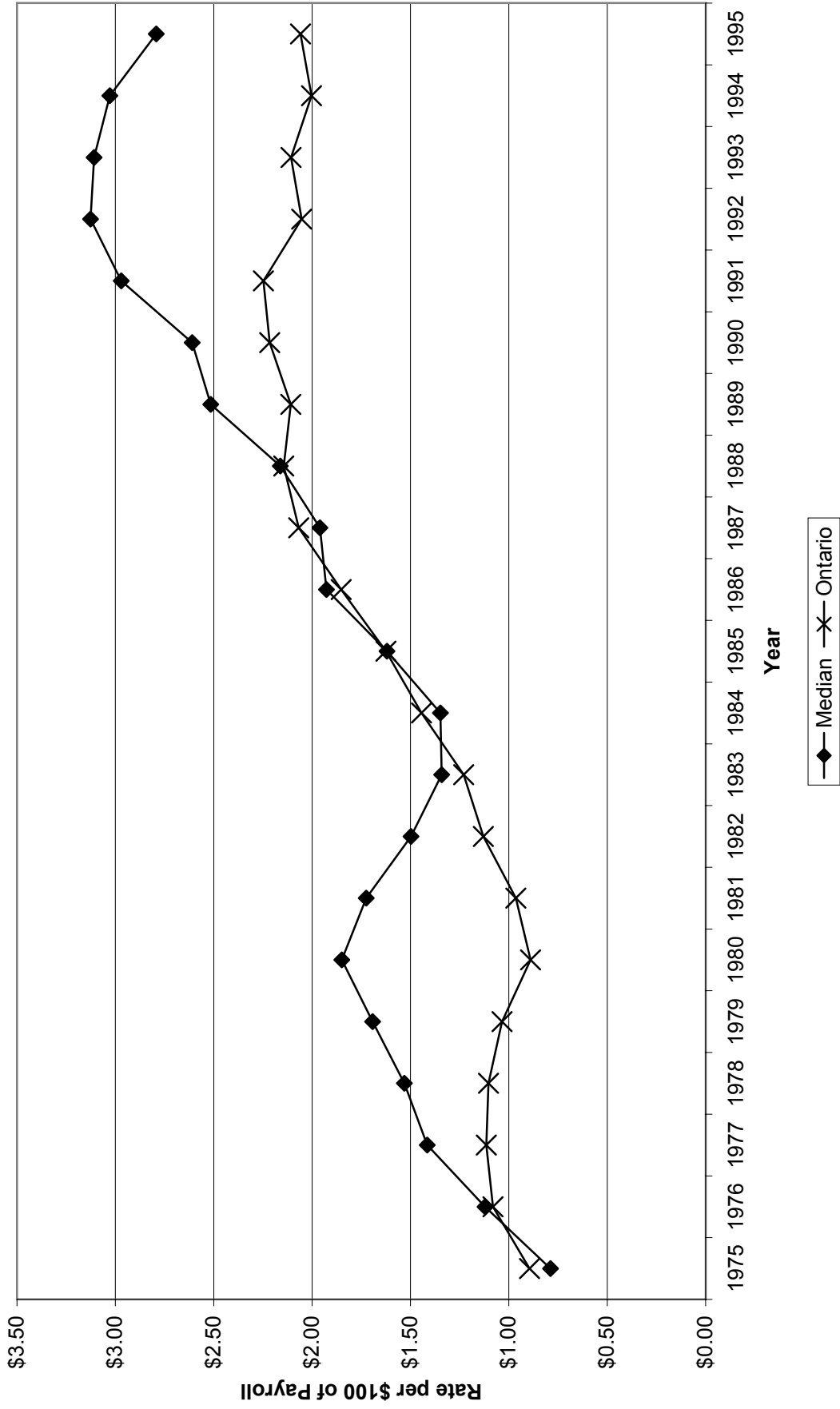


Figure 17
Actual Ontario and Median Rate of Great Lake States, Manufacturing, 1975-1995

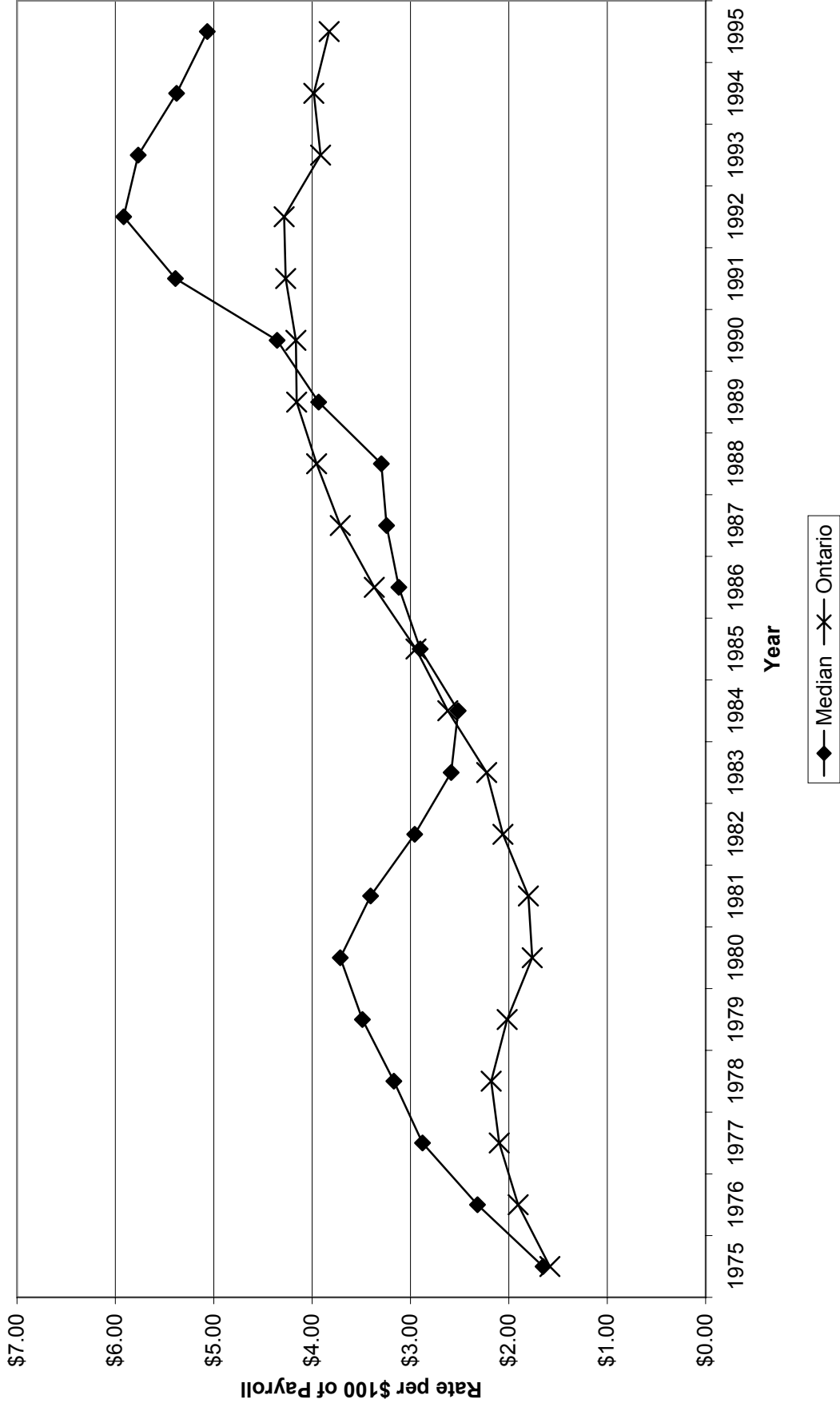


Figure 18
Actual Ontario and Median Rate of Great Lake States, Construction 1975-1995

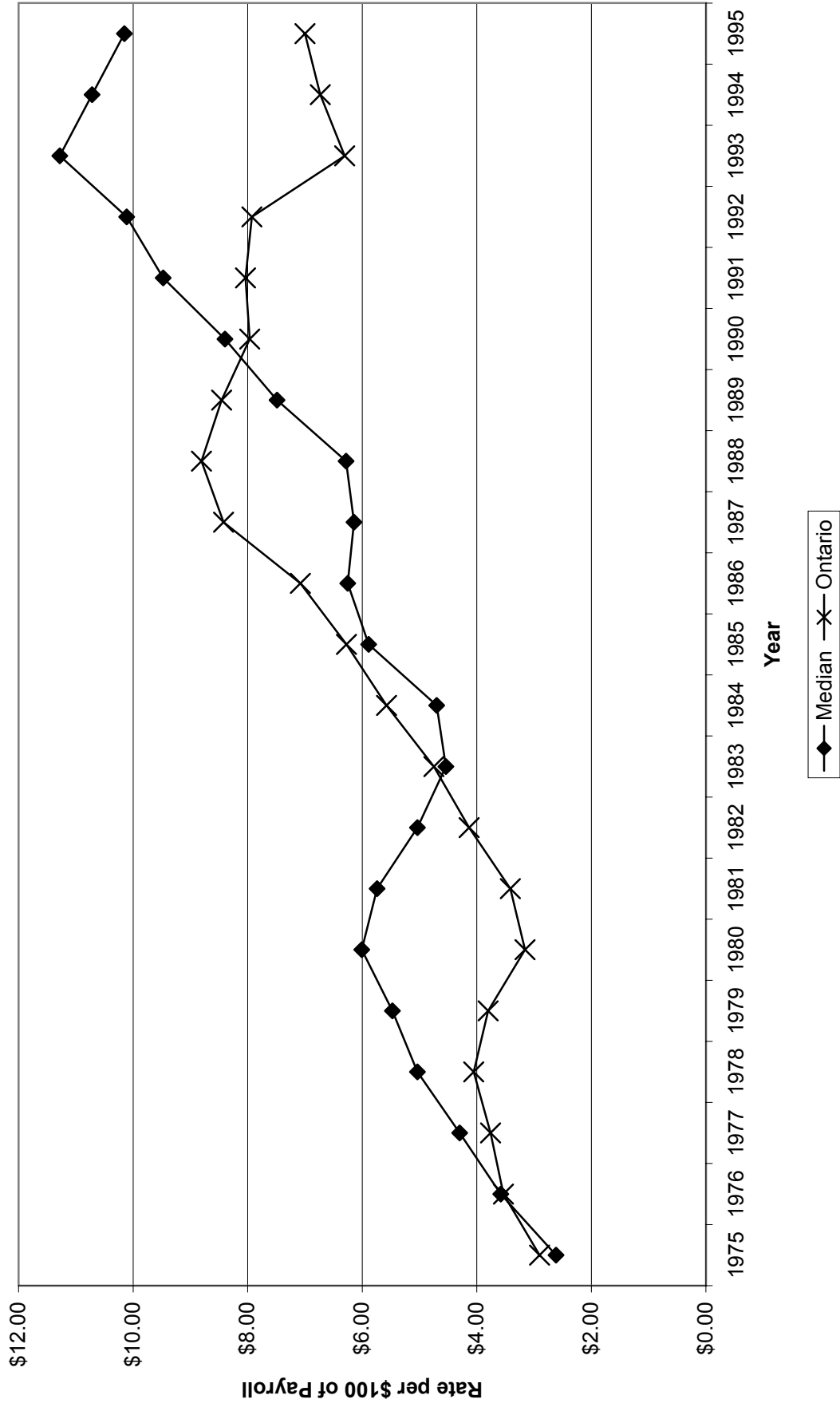


Figure 19
Actual Ontario and Median Rate of Great Lake States, Other Industries, 1975-1995

