

**Analysis of
the Effects of**

**The 1993
Permanent Partial Disability
Rating Schedule**



**Minnesota Department of Labor and Industry
Research and Statistics
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Prologue

September 24, 2001

This study examines what happened to the number of permanent partial disability (PPD) claims, PPD benefits per claim, and the total amount of PPD benefits when a new PPD rating schedule took effect for injuries on or after July 1, 1993. Since the study was released, it has been misinterpreted as evaluating and comparing the “projections” of a 1992 DLI actuarial study with actual outcomes. (A statutory provision required the actuarial study to be done before the new schedule was promulgated.) The purpose of this prologue is to correct this misinterpretation. The different results of the two studies are logically consistent; they could have arisen because of differences in the type and severity of injuries between the two study periods or reasons related to impairment rating behavior of physicians.

The actuarial study

The 1992 actuarial study was conducted under a statutory requirement that the new and old rating schedules produce approximately equal total benefits if applied to the same set of injuries.¹ The study estimated that the new rating schedule, if applied to 1984-1987 injuries, would generate total PPD benefits that were 3.4 percent higher than they actually were for these injuries under the old schedule. The study used injury years 1984-1987 to have sufficiently mature claims for the estimation.

The current study

The current study, by contrast, examines what happened to PPD claims and benefits when the

new rating schedule took effect. It estimates that the new rating schedule generated total PPD benefits in 1995 and 1996 that were 14.6 percent lower than they would have been under the old schedule.

Different results are consistent with each other

For two reasons, the seemingly contradictory results of the two studies are consistent with each other.

Type and severity of injuries

One possible reason is the different periods analyzed by the studies. The actuarial study used data on injuries in the mid-1980s to provide sufficiently mature claims for the estimation. The current study uses data from the mid-1990s. The type and severity of injuries probably changed between the two periods, but by how much is unknown. Some of the difference between the results of the two studies may have arisen from differences in the type and severity of injuries between the two periods analyzed.

Rating behavior

The second reason why the different results are consistent relates to physician rating behavior. When the new schedule took effect on July 1, 1993, nearly ten years had passed under the old schedule, which had taken effect January 1, 1984. Between injury years 1984 and 1992, the percentage of indemnity claims with PPD benefits increased by nearly half, from 17.5 percent to 26.1 percent (current study, page 4). The most likely explanation is that injured workers with permanent impairments became increasingly likely to receive positive PPD

¹This statutory requirement (Minnesota Statutes §176.105 subd. 4 [1992]) stated, “*assuming the same number and distribution of severity of injuries, the aggregate total of [PPD] benefits under [the 1983 law, which took effect for injuries on or after January 1, 1984] shall be approximately equal to the total aggregate amount payable for permanent partial disabilities under [the immediately prior law].*” and “*the schedule ... shall be based on the benefit level which exists on January 1, 1983.*”

ratings.² This could have occurred through increasing knowledge among rating physicians about what types of impairments were eligible for positive ratings under the 1984 schedule or through broadening interpretations of certain impairment categories in that schedule.³

To the extent that this more expansive rating behavior was tied to the old schedule, the introduction of the new schedule effectively curtailed this behavior by taking away the basis for it. Thus, the current study estimates not only the effect of using one set of rating provisions (new schedule) instead of another (old schedule), but also the effect of substituting a new, unfamiliar schedule for a familiar one. In contrast, the actuarial study estimated the pure effect of using one schedule instead of another, apart from any change in rating behavior induced by changing to an unfamiliar schedule.

²It seems unlikely that the percentage of injured workers with actual permanent impairments, by some constant standard, could have risen by this much over ten years.

³For example, in Sletten v. American Hoist and Derrick, 41 W.C.D. 473 (November 18, 1988), the Workers' Compensation Court of Appeals ruled that a bulging disc, even though that term was not explicitly included in the 1984 rating schedule, should receive the same rating as a herniated disk if it produces the same symptoms and functional impairment.

Executive Summary

The Department of Labor and Industry (DLI) promulgated a new permanent partial disability (PPD) rating schedule in 1993, effective for injuries on or after July 1 of that year. The department devised the new schedule following a statutory provision that total PPD benefits should be “approximately equal” to those under the old schedule. The department conducted an actuarial study in order to achieve this result. The study applied the provisions of the old and new schedules to department claims data for injuries that occurred during 1984-1987; it estimated that the new schedule would increase total PPD benefit payments by 3.4%.

The old schedule had assigned ratings primarily on the basis of diagnoses and surgeries performed. The new schedule relies less on these factors and more on objective findings of functional impairment and clinical test results. Thus, some cases that would have received a positive rating under the old schedule because of a diagnosis or surgery do not receive such a rating under the new schedule if the condition has completely resolved with no remaining functional impairment. The new schedule contains more zero-rated categories than the old schedule, but also contains some positively rated impairment categories not present in the old one.

This report analyzes the effects of the new rating schedule on the number of PPD claims and on total PPD benefit payments. The data are from the DLI claims database. An original goal was to analyze the effects of the new schedule by injury or impairment category, but this was precluded by insufficient data.

The report estimates that the new rating schedule reduced the number of claims with PPD benefits by approximately 19%, from approximately 26% of all paid indemnity claims just before the schedule change to 21% just afterwards. The report also estimates that the new schedule increased the average PPD rating by approximately 6%, from about 6.3% just before the change to 6.7% just afterwards. Part of the increase in the average rating may have occurred because the types of injuries that

received ratings under the old schedule but not under the new one tended to be cases with less severe injuries and lower-than-average ratings; dropping lower-valued cases from an average raises the average for the remaining cases.

The net result of these two effects is an estimated reduction in total PPD benefit payments of approximately 15%, compared to what they would have been under the old schedule.

Total PPD benefits ranged from \$36.1 to \$40.9 million per year for injuries that occurred from July 1, 1993 through June 30, 1997, the four years directly after the effective date of the new schedule. (These numbers are developed to represent estimates of what the final numbers will be when claims are mature.) The report estimates that without the change to the new schedule, total annual PPD benefits for the same period would have ranged from \$42.3 to \$47.7 million, or \$6.2-\$6.8 million more than they actually were.

Some stipulated settlements include PPD benefits — or payments with respect to permanent impairments — that are not recorded as such in the database. Thus, an additional effect on total benefit dollars may have occurred through stipulated settlements. However, it is not possible to estimate the magnitude of this additional effect.

These results were obtained by comparing experience for the injury years just before and just after the effective date of the new schedule. In view of this, it is useful to put the results in perspective by considering the longer-term trend in PPD claims as a percentage of indemnity claims. Between injury years 1984 and 1992, claims with PPD benefits rose from 18% of all indemnity claims to 26%. Thus, the percentage of indemnity claims with PPD benefits just after the change to the new schedule, around 21%, was higher than the percentage just after the old schedule took effect in 1984. Under the old schedule, the percentage of indemnity claims with PPD benefits reached 21% in injury year 1987.

Background and Introduction

The 1992 workers' compensation law clarified that permanent partial disability (PPD) ratings must be based on objective medical evidence, and further provided that (1) the Department of Labor and Industry (DLI) must review the rating schedule periodically to determine whether any omitted impairments should be included, and must amend the schedule accordingly; (2) the schedule may contain zero ratings for minor impairments; and (3) an impairment must be rated exclusively according to the categories in the schedule or, if it is not in the schedule, according to the most similar condition in the schedule.

DLI promulgated a new impairment rating schedule reflecting these provisions effective for injuries on or after July 1, 1993. The department devised the new schedule following a pre-existing statutory provision that total PPD benefits should be "approximately equal" to those under the old schedule. The department conducted an actuarial study in order to achieve this result. The study applied the provisions of the old and new schedules to department claims data for injuries that occurred during 1984-1987; it estimated that the new schedule would increase total PPD benefit payments by 3.4%.

The old schedule had assigned ratings primarily on the basis of diagnoses and surgeries performed. The new schedule relies less on these factors and more on objective findings of functional impairment and clinical test results. Thus, some cases that would have received a positive rating under the old schedule because of a diagnosis or surgery do not receive such a rating under the new schedule if the condition has completely resolved with no remaining functional impairment. The new schedule contains more zero-rated categories than the old schedule, but also contains some positively rated impairment categories not present in the old one.

This report analyzes the effects of the new rating schedule on the number of PPD claims and on total PPD benefit payments. Most of the data are from the DLI claims database. An

original goal was to analyze the effects of the new schedule by injury or impairment category, but this was precluded by insufficient data.

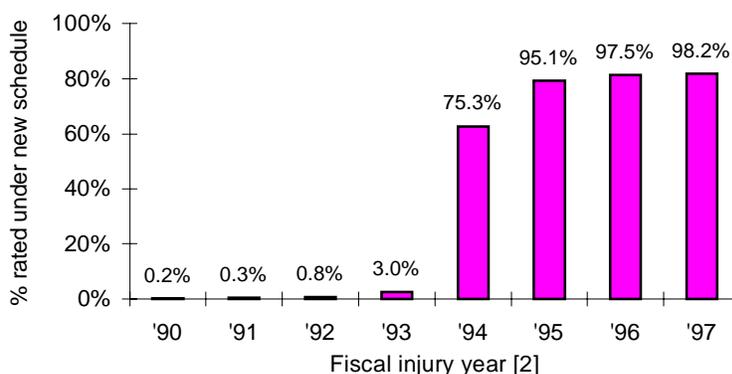
In order to facilitate analysis, this report presents data by "fiscal injury year." A fiscal injury year consists of those injuries that occurred during the twelve months ending June 30 of the given year. For example, fiscal injury year 1993 consists of those injuries that occurred from July 1, 1992 through June 30, 1993. Fiscal injury year 1993 includes the twelve months of injuries just prior to the effective date of the new schedule, and fiscal injury year 1994 includes the twelve months of injuries just after implementation. This report uses fiscal injury years 1990-1997 as the analysis period, since this period includes the four years just before and just after the effective date of the new schedule.

The data for any given injury period generally grow, or "develop," over time. This is because of the time required for a claim to reach maturity and because of reporting lags. However, as necessary, the data in this report are "developed," meaning that they include projection factors (based on historical rates of claims development) to represent estimates of what the final numbers will be when all claims are complete (see Appendix).

Implementation of the New Schedule

Figure 1 shows the timing of implementation of the new schedule. It shows that the new schedule was used for some injuries occurring before the official effective date (July 1, 1993) and that the old schedule was used for some injuries occurring afterwards. For fiscal injury year 1993, the last year before the effective date, 3% of PPD awards were based on the new schedule. For fiscal injury year 1994, the first year after the effective date, only 75% of PPD awards were based on the new schedule, the remaining 25% being based on the old. Clearly, the first year after the effective date was a transition year.

Figure 1
Percentage of PPD Claims Rated Under the New Schedule
Fiscal Injury Years 1990-1997 [1,2]



1. Data are from the DLI claims database as of February 1999. Includes only those cases with recorded rule citations.
2. A "fiscal injury year" includes those injuries that occurred during the twelve months ending June 30 of the given year. Fiscal injury year 1993, for example, consists of those injuries occurring from July 1, 1992 through June 30, 1993.

Trends in the Number of PPD Claims

Figure 2 shows, for fiscal injury years 1990-1997, the number of claims with PPD benefits, both by itself and relative to (1) the number of paid indemnity claims,⁴ (2) the total number of paid claims, and (3) full-time-equivalent (FTE) workers' compensation covered employment. This information does not include claims with stipulated settlements but without PPD benefits indicated separately in the database. Some of these claims probably include benefits paid with respect to a permanent impairment (and not recorded as PPD benefits), but the frequency of

this is unknown.⁵

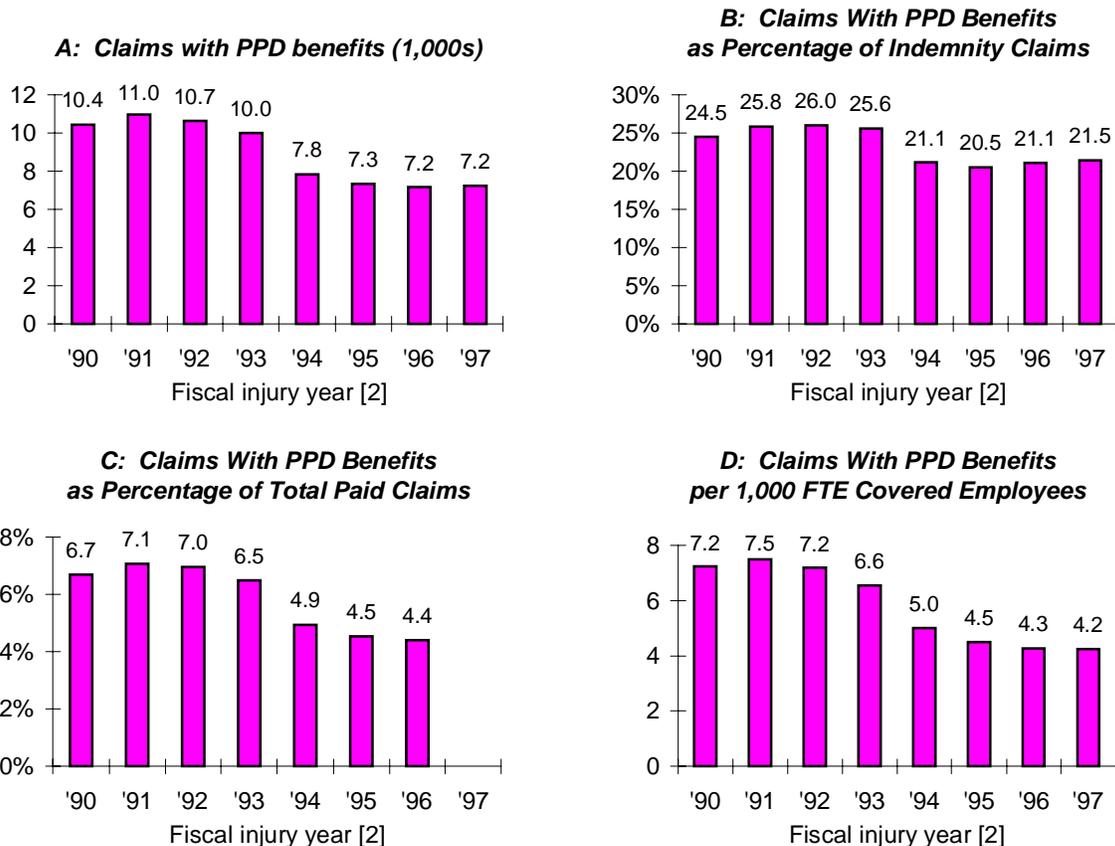
The data in Figure 2 strongly suggest that the new rating schedule sharply reduced the number of claims with positive impairment ratings. As shown in panel A, the number of claims with PPD benefits showed a slight downward trend between fiscal injury years 1991 and 1993, dropping from 11,000 to 10,000. In fiscal injury year 1994, the first year under the new PPD schedule, the number dropped sharply to 7,800. In the three ensuing years, the number of PPD claims leveled off at 7,200-7,300.

The three other panels in Figure 2 show that the number of claims with PPD benefits fell precipitously between fiscal injury years 1993 and 1994 relative to the number of indemnity claims, total paid claims, and FTE covered employment. As a percentage of indemnity

⁴Indemnity claims are those in which an indemnity benefit is paid. An indemnity benefit is a payment to the injured or ill worker or his or her family to compensate for lost wages, functional impairment, or death. Most indemnity claims involve wage-loss benefits. The worker qualifies for these if the injury or illness causes more than three days of full or partial wage loss, counting the day of injury. Indemnity claims typically include medical costs in addition to indemnity costs. Medical-only claims are those where only medical costs are paid.

⁵An earlier study of stipulated settlements by DLI Research and Statistics found that most of these settlements did not provide an accounting of the settlement amount by benefit type. Given this, it is impossible to know the proportion of stipulated cases in which PPD benefits are involved.

Figure 2
Number of Claims with PPD Benefits Relative to
Paid Indemnity Claims, Total Paid Claims,
and Full-Time-Equivalent Workers' Compensation Covered Employment,
Fiscal Injury Years 1990-1997 [1,2]



Fiscal Injury Year [2]	Claims with PPD Benefits	Paid Indemnity Claims	PPD Claims as Pct. of Indemnity Claims	Total Paid Claims	PPD Claims as Pct. of Total Paid Claims	Est. FTE WC Covered Employment (millions)	PPD Claims per 1,000 FTE Covered Employees
1990	10,400	42,700	24.5%	156,000	6.7%	1.44	7.2
1991	11,000	42,400	25.8	155,000	7.1	1.46	7.5
1992	10,700	40,900	26.0	153,000	7.0	1.48	7.2
1993	10,000	39,100	25.6	154,000	6.5	1.52	6.6
1994	7,800	37,100	21.1	159,000	4.9	1.57	5.0
1995	7,300	35,700	20.5	161,000	4.5	1.63	4.5
1996	7,200	33,900	21.1	162,000	4.4	1.67	4.3
1997	7,200	33,800	21.5	[3]	[3]	1.71	4.2

1. Indemnity and PPD claims data are from the DLI claims database. They are "developed," meaning that they are estimates (based on observed historical rates of claim development) of what the final numbers will be when claims are mature. The total number of paid claims and the number of full-time-equivalent workers' compensation covered employees are estimated as described in the Appendix.
2. A "fiscal injury year" includes those injuries that occurred during the twelve months ending June 30 of the given year. Fiscal injury year 1993, for example, consists of those injuries occurring from July 1, 1992 through June 30, 1993.
3. Not yet available.

claims, for example, the number of PPD claims fell from 25.6% in 1993 to 21.1% in 1994.

In all four panels, it should be borne in mind that (as shown in Figure 1) 1994 was a transition year. This implies that the 1994 numbers in Figure 2 would probably be lower if the new schedule had been fully implemented in that year.

The number of PPD claims seems to bear a stronger relationship to the number of indemnity claims than to total paid claims or FTE covered employment. During the period shown, the number of PPD claims as a proportion of indemnity claims was remarkably flat both before and after the change to the new schedule.

Two additional points should be made to put the present data in perspective. First, it may be wondered whether the apparent reduction in the number of PPD claims could have resulted, at least in part, from a movement of PPD cases into stipulated settlements where they would not be recorded as PPD cases. This does not seem to have occurred. The percentage of indemnity claims with stipulated settlements fell from 20.5% in calendar injury year 1992 to 19.6% in 1993 and 19.3% in 1994 (and further to 17.7% in 1997).⁶ It is possible that some PPD cases could have moved into stipulated settlements that would have occurred otherwise because of other issues such as wage-loss benefits. Even so, if there had been a large movement of PPD cases into stipulated settlements, the number of settlements probably would have risen at least somewhat.

The second point to lend perspective to the present data regards the longer-term trend in the relative number of PPD claims. Figure 3 shows the number of PPD claims as a percentage of indemnity claims for calendar injury years 1984-1997. This information is from the recent DLI

workers' compensation system report,⁷ and is by calendar year rather than fiscal injury year. It shows that between calendar injury year 1984 — when the old rating schedule took effect — and 1991, the percentage of indemnity claims with PPD benefits rose by nearly half, from 17.5% to 26.0%. The percentage for calendar injury year 1993 (23.4%) is halfway between the 1992 and 1994 values because the new schedule took effect halfway through 1993. The percentages for 1994-1997 (20.7%-21.7%) are roughly equal to the 1987 value (20.6%) and higher than those for 1984-1986.

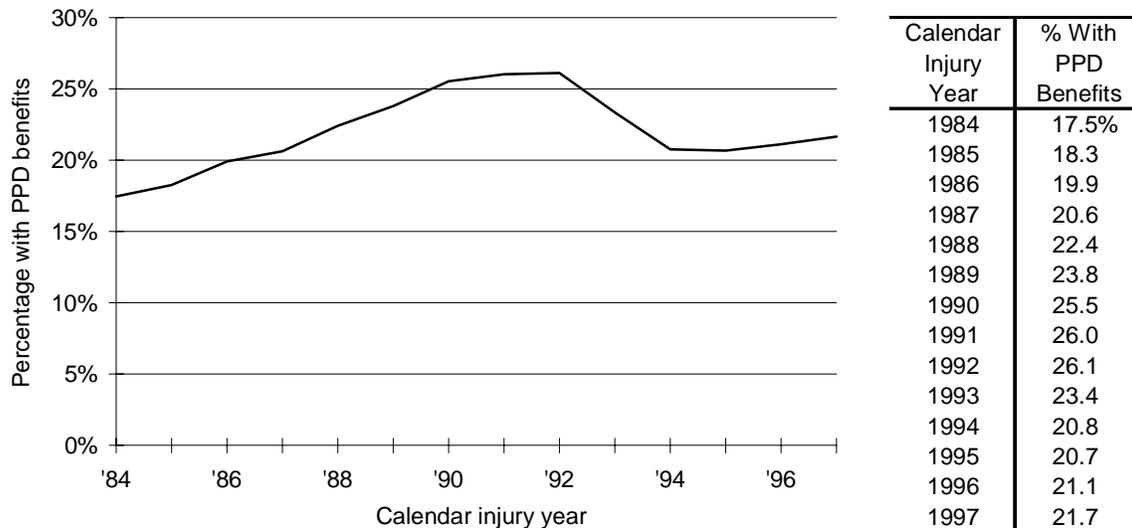
Critical assumption. The remainder of this analysis — particularly the estimation of the effect of the new rating schedule on PPD benefits — is based on the assumption that the number of indemnity claims is given — that is, determined prior to and (for the most part) independently of the number of PPD claims. Statistical justification for this is provided by Figure 2, in which the number of PPD claims bears a stronger relationship to the number of indemnity claims than to either the total number of paid claims or FTE covered employment. Theoretical justification is provided by the fact that for several larger injury categories, such as low-back injuries, a PPD award is usually not considered unless symptoms are severe and persistent, in which case wage-loss benefits would probably have been paid. In recent years, only three percent of indemnity claims had PPD benefits but no wage-loss benefits.⁸ An important implication of this assumption is that the effect of the new rating schedule on the number of PPD claims is viewed as occurring through an effect on the percentage of indemnity claims with PPD benefits, for any given number of indemnity claims.

⁶Minnesota Workers' Compensation System Report 1997, Part 4: Claims and Cost Trends (DLI, Research and Statistics, December 1998), p. 30.

⁷Minnesota Workers' Compensation System Report 1997, Part 4: Claims and Cost Trends (DLI, Research and Statistics, December 1998) p. 30.

⁸Tabulated by DLI Research and Statistics from department database. Another six percent of indemnity cases had no wage-loss benefits but had stipulated benefits without PPD benefits indicated separately.

Figure 3
Percentage of Indemnity Claims with PPD Benefits,
Calendar Injury Years 1984-1997 [1]



1. From *Minnesota Workers' Compensation System Report 1997, Part 4: Claims and Cost Trends* (DLI Research and Statistics, December 1998). Data are from the DLI claims database. Data are "developed", meaning that they are estimates (based on observed historical rates of claim development) of what the final numbers will be when claims are mature.

Trend in Average Impairment Rating

Figure 4 shows the average impairment rating of PPD claims for fiscal injury years 1990-1997. The average rating fell from 6.8% to 6.2% between 1990 and 1993. The average rating then rose to 6.4% for 1994, the "transition" year of implementation of the new schedule, and to 6.6%-6.7% for 1995-1997. (The declining trend through 1993 was a continuation of a longer-term trend, in which the average rating had fallen gradually from 7.2% in 1984.⁹)

To a large degree, the increase in the average impairment rating under the new schedule probably occurred because the types of injuries receiving ratings under the old schedule but not under the new one tended to be less severe cases receiving lower-than-average ratings; dropping lower-valued cases from an average raises the

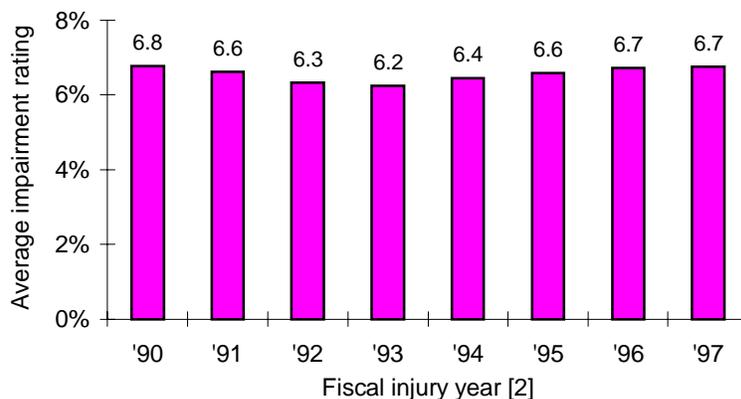
average for the remaining cases. One example is that under the old schedule, people who had successful surgery for carpal tunnel syndrome received a half-of-one-percent rating, whereas under the new schedule they would not receive a rating without a remaining functional impairment. It is possible, however, that the average rating increased for cases receiving positive ratings under both schedules, but this analysis cannot determine whether this is indeed true.

Trends in PPD Benefits

Figure 5 shows, for fiscal injury years 1990-1997, total PPD benefits by themselves and relative to (1) the number of PPD claims, (2) the number of paid indemnity claims, and (3) the total number of paid claims. It is important to bear in mind that these figures are developed, using observed historical rates of claim development, to represent estimates of what the final numbers will be when claims are mature. As with the number of claims with PPD benefits (Figure 2), it should be remembered that some

⁹Unpublished tabulations by DLI Research and Statistics.

Figure 4
Average Impairment Rating for Claims with PPD Benefits,
Fiscal Injury Years 1990-1997 [1,2]



1. Data are from the DLI claims database. The numbers are "developed," meaning that they are estimates (based on observed historical rates of claim development) of what the final numbers will be when claims are mature.
2. A "fiscal injury year" includes those injuries that occurred during the twelve months ending June 30 of the given year. Fiscal injury year 1993, for example, consists of those injuries occurring from July 1, 1992 through June 30, 1993.

claims with benefits paid for permanent impairments have stipulated settlements and in many of these cases these benefits are not recorded as PPD benefits in either the database or the stipulation agreement itself.

Panel A of Figure 5 shows total PPD benefits falling from \$59.4 million to \$50.4 million between fiscal injury years 1990 and 1993, dropping sharply to \$40.9 million in 1994, and falling further to \$36-\$37 million for 1996 and 1997. Several factors lie behind this trend.

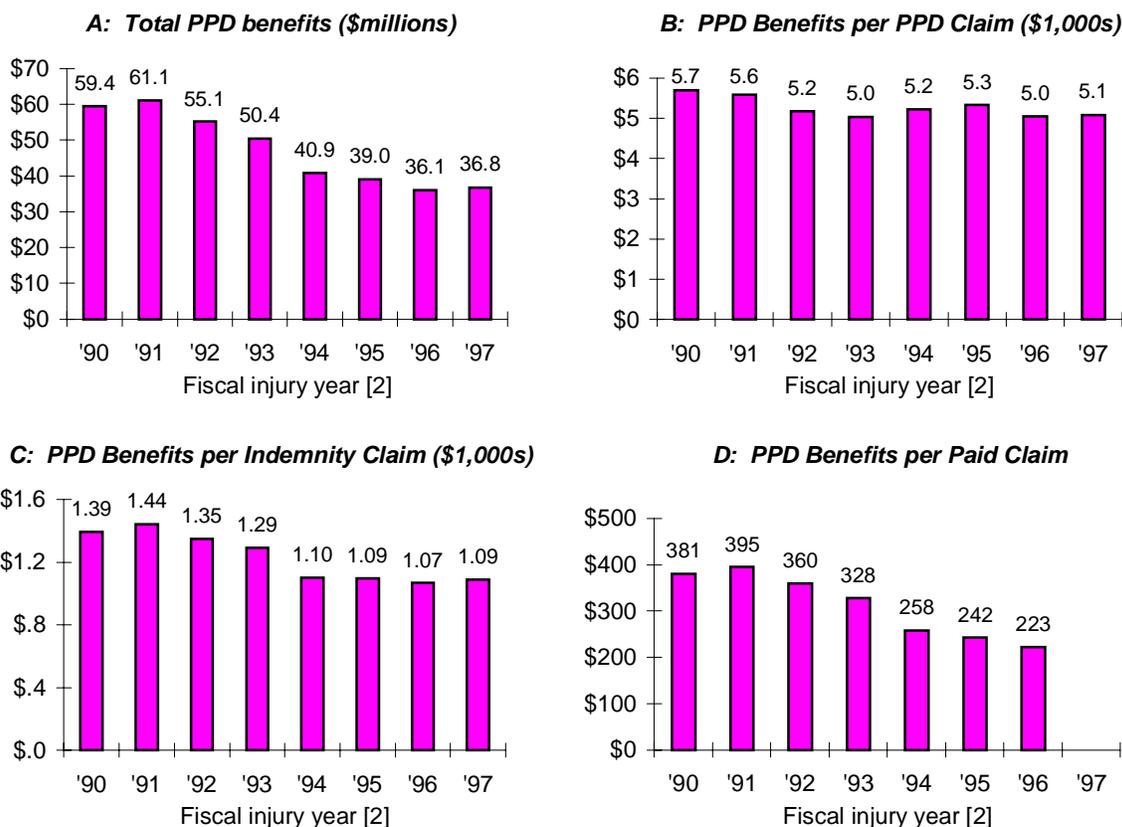
First, the number of paid indemnity claims, of which PPD claims are a component, fell from 42,700 in fiscal injury year 1990 to 33,800 in 1997 (see tables in Figures 2 and 5). Second, the percentage of indemnity claims with PPD benefits (panel B of Figure 2) dropped sharply between fiscal injury years 1993 and 1994, when the new rating schedule took effect. These two factors produced a generally decreasing trend in the number of claims with PPD benefits (panel A of Figure 2). The sharp drop in total PPD benefits from \$50.4 million to \$40.9 million between fiscal injury years 1993

and 1994 reflects the decrease in PPD claims from 10,000 to 7,800 between the same two years, which in turn primarily reflects a decrease in the percentage of indemnity claims with PPD benefits from 25.6% to 21.1% (along with a reduction in the number of indemnity claims from 39,100 to 37,100).

A third factor behind the trend in total PPD benefits is that, as shown in Figure 4, the average impairment rating fell between fiscal injury years 1990 and 1993, rose between 1993 and 1995, and remained level between 1995 and 1997. This is the principal force behind average PPD benefits per PPD claim (panel B of Figure 5), which fell from \$5,700 in fiscal injury year 1990 to \$5,000 in 1993, returned to \$5,300 in 1995, and fell to \$5,000-\$5,100 for 1996-1997.

A fourth factor is the elimination of the higher PPD benefit tier — economic recovery compensation — under the 1995 law, effective for injuries on or after October 1, 1995. This probably explains the decline in average PPD benefits per PPD claim between fiscal injury

Figure 5
Total PPD Benefits Relative to
PPD Claims, Indemnity Claims, and Total Paid Claims,
Fiscal Injury Years 1990-1997 [1,2]



Fiscal Injury Year [2]	Total PPD Benefits (\$millions)	Claims with PPD Benefits	PPD Benefits per PPD Claim	Paid Indemnity Claims	PPD Benefits per Indemnity Claim	Total Paid Claims	PPD Benefits per Paid Claim
1990	\$59.4	10,440	\$5,690	42,700	\$1,390	156,000	\$381
1991	61.1	10,960	5,580	42,400	1,440	155,000	395
1992	55.1	10,650	5,170	40,900	1,350	153,000	360
1993	50.4	10,000	5,040	39,100	1,290	154,000	328
1994	40.9	7,840	5,220	37,100	1,100	159,000	258
1995	39.0	7,330	5,330	35,700	1,090	161,000	242
1996	36.1	7,150	5,050	33,900	1,070	162,000	223
1997	36.8	7,240	5,080	33,800	1,090	[3]	[3]

1. PPD benefits, PPD claims, and indemnity claims are from the DLI claims database. They are "developed," meaning that they are estimates (based on observed historical rates of claim development) of what the final numbers will be when claims are mature. The total number of paid claims is estimated as described in Appendix A.
2. A "fiscal injury year" includes those injuries that occurred during the twelve months ending June 30 of the given year. Fiscal injury year 1993, for example, consists of those injuries occurring from July 1, 1992 through June 30, 1993.
3. Not yet available.

Figure 6

Estimation of Percent Effect of New Rating Schedule on PPD Benefits

Change in percentage of indemnity claims with PPD benefits:

Percentage of indemnity claims with PPD benefits for fiscal injury years 1992-93 [1]:	25.8%
Percentage of indemnity claims with PPD benefits for fiscal injury years 1995-96 [2]:	20.8%
Percent change between the two periods [3]:	-19.4%

Change in average rating of PPD claims:

Average rating for PPD claims for fiscal injury years 1992-93 [4]:	6.28%
Average rating for PPD claims for fiscal injury years 1995-96 [5]:	6.65%
Percent change between the two periods [6]:	+5.9%

Percent change in average PPD benefits per PPD claim [7]: **+5.9%**

Percent change in average PPD benefits per indemnity claim [8]: **-14.6%**

Estimated percent effect on total PPD benefits [9]: **-14.6%**

1. From Figure 2. Average of 26.0% and 25.6%.
2. From Figure 2. Average of 20.5% and 21.1%.
3. This is a percent change, not the difference between the two percentages.
4. From Figure 3. Average of 6.32% and 6.24% (represented as 6.3% and 6.2% in Figure 3).
5. From Figure 3. Average of 6.59% and 6.71% (represented as 6.6% and 6.7% in Figure 3).
6. This is a percent change, not the difference between the two percentages.
7. Under current and former provisions, the PPD benefit amount is directly proportional to the PPD rating for ratings up to 25%, and increases in proportion to the rating for ratings above 25%. (Under economic recovery compensation, this was true for any given pre-injury wage.) The percent change in average PPD benefits per PPD claim is assumed to be equal to the percent change in the average rating because the vast majority of ratings are less than 25%. This assumption could cause a slight underestimate of the change in PPD benefits.
8. Equal to $(1 - .194) \times (1 + .059) - 1$.
9. Assumed equal to the percent change in PPD benefits per indemnity claim, on the ground that the number of indemnity claims is taken as given, prior to and substantially independent of the introduction of the new schedule.

years 1995 and 1996 while the average impairment rating was essentially unchanged.

The sharp decline in total PPD benefits between fiscal injury years 1993 and 1994 is also apparent in the relatively large decreases between the same two years in PPD benefits per indemnity claim and in PPD benefits per paid claim (panels C and D of Figure 5).

Estimated Effect of New Rating Schedule on PPD Benefits

Figure 6 presents an estimation of the percent effect of the new rating schedule on total PPD benefits. The estimation employs the

assumption, stated above, that the number of indemnity claims is given and that the new schedule affects the number of PPD claims by affecting the percentage of indemnity claims with PPD benefits.

The estimation uses two comparison periods — fiscal injury years 1992-1993 and fiscal injury years 1995-1996. The first period consists of the two years just prior to the effective date of the new schedule. The second period consists of the second and third years after the effective date. The first year of implementation — fiscal injury year 1994 — is excluded because it was a transition year (see Figure 1).

As shown in Figure 6, from the earlier to the later period, the percentage of indemnity claims with PPD benefits fell from 25.8% to 20.8%, a 19.4% decrease. However, the average impairment rating rose between the two periods from 6.28% to 6.65%, a 5.9% increase. This latter change implies an increase of approximately 5.9% in average PPD benefits per PPD claim, other things equal. This is because PPD benefits bear a constant proportion to the impairment rating for ratings up to 25% and the vast majority of ratings are under 25%.¹⁰

It may be questioned whether these changes between the two periods are entirely attributable to the introduction of the new schedule or are at least partly the result of other forces. Where the percentage of indemnity claims with PPD benefits is concerned, there is very little variation in this percentage within the four years before and the four years after the introduction of the new schedule, compared to the sharp drop coinciding with the schedule change (Figure 2, panel B). It thus appears quite safe to attribute the decline in the percentage of indemnity claims with PPD benefits to the new schedule.

Where the average impairment rating is concerned, it is clear from Figure 4 that other forces besides the new schedule were producing change within the eight-year period of analysis. In particular, a downward trend is evident during fiscal injury years 1990-1993. However, this trend is *reversed* just at the time of the schedule change, that is, in fiscal injury year 1994. This strongly suggests that the schedule change is responsible. Indeed, it is quite possible that the trend would have continued downward without the schedule change. If this were true, the new schedule would be responsible for an increase in the average rating of more than the 5.9% estimated in Figure 6.

Combining the percent changes in PPD claims as a proportion of indemnity claims (-19.4%)

and in average PPD benefits per PPD claim (+5.9%) gives an estimated decrease of 14.6% in average PPD benefits per indemnity claim, other things equal (see formula in note 8 of Figure 6). This is assumed to bring about a 14.6% reduction in total PPD benefits, compared to what they would have been without the schedule change, on the assumption (stated above) that the number of indemnity claims is taken as given, determined prior to the number of PPD claims and the amount of PPD benefits.¹¹

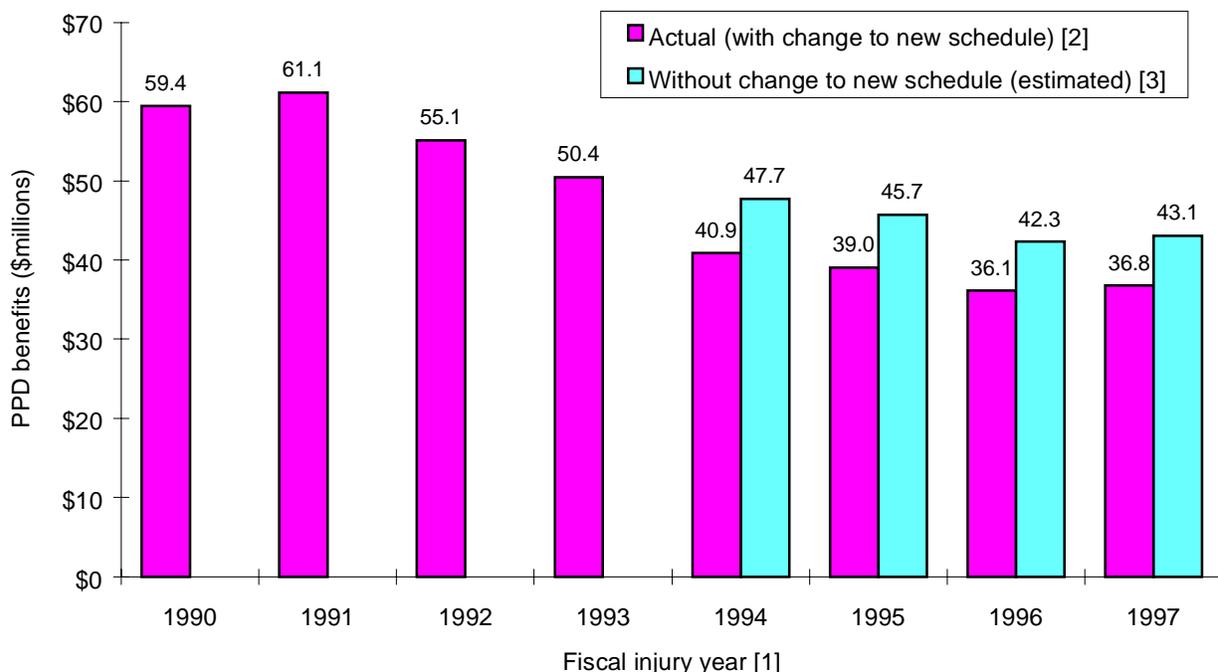
Figure 7 presents the estimated effect of the new rating schedule on total PPD benefits for fiscal injury years 1994-1997. It shows actual PPD benefits for fiscal injury years 1990-1997 from Figure 5. For fiscal injury years 1994-1997, it also shows estimates of (1) what total PPD benefits would have been without the change to the new schedule and (2) the reduction in total benefits resulting from the schedule change. Total PPD benefits in the absence of a schedule change were estimated for 1995-1997 from actual PPD benefits for those years by applying the estimated 14.6% reduction in total PPD benefits attributable to the new schedule. Since 1994 was a transition year, PPD benefits without a schedule change were estimated for that year by interpolation (see note 3 of Figure 7).

According to the estimates in Figure 7, if the rating schedule had not been changed, PPD benefits would have continued their downward trend after fiscal injury year 1993, falling from \$50.4 million in that year to \$47.7 million in 1994, \$42.3 million in 1996, and \$43.1 million in 1997. The continuing downward trend through 1996 (without a change in the schedule) reflects a decreasing number of indemnity claims through that year plus the elimination of the higher PPD benefit tier (economic recovery compensation) for injuries on or after October 1, 1995.

¹⁰This is also true for economic recovery compensation cases prior to the 1995 law change, for any given pre-injury wage. Because PPD benefits bear an increasing proportion to the rating for ratings above 25%, the increase in average PPD benefits per PPD claim could be slightly greater than 5.9%.

¹¹The estimated 14.6% reduction in PPD benefits also applies to economic recovery compensation benefits before the 1995 law change, taking pre-injury wages as given (see note 7).

Figure 7
Estimated Effect of New Rating Schedule
on Total PPD Benefits



Fiscal Injury Year [1]	PPD Benefits (\$millions)		
	Actual (With Change to New Schedule) [2]	Without Change to New Schedule (Estimated) [3]	Reduction From Change to New Schedule (Estimated)
1990	\$59.4		
1991	61.1		
1992	55.1		
1993	50.4		
1994	40.9	\$47.7	\$6.8
1995	39.0	45.7	6.7
1996	36.1	42.3	6.2
1997	36.8	43.1	6.3

1. A "fiscal injury year" includes those injuries that occurred during the twelve months ending June 30 of the given year. Fiscal injury year 1993, for example, consists of those injuries occurring from July 1, 1992 through June 30, 1993.
2. From Figure 4.
3. Fiscal injury years 1995-1997 were estimated from actual PPD benefits for those years by applying the Figure 5 estimate that the new rating schedule reduced total PPD benefits by 14.6%. Since 1994 was a transition year, it was interpolated using the average ratio of PPD benefits per indemnity claim for 1993 and 1995 (the latter as estimated without the change to the new schedule).

Because of the new rating schedule, however, total PPD benefits are estimated to have fallen instead to \$40.9 million in fiscal injury year 1994, \$36.1 million in 1996, and \$36.8 million in 1997. In fiscal injury years 1994-1997, total PPD benefits are estimated to be \$6.2-\$6.8 million lower than they would have been without the schedule change. This is an estimated 14.6% difference for 1995-1997, and a somewhat lower proportionate difference for 1994, the transition year.

As previously indicated, some stipulated settlements include PPD benefits — or payments with respect to permanent impairments — that are not recorded in the database. Thus, an additional effect on total

benefit dollars may have occurred through stipulated settlements. However, it is not possible to estimate the magnitude of this additional effect. The total amount of stipulated benefits fell steadily between injury years 1991 and 1995.¹² Some of this decline may have resulted from the change in the PPD rating schedule. However, major declines also occurred over the same period in total wage-loss benefits (temporary total and temporary partial disability); it is entirely possible that these declines were responsible for the decline in total stipulated benefits.

¹²Developed estimates by DLI Research and Statistics from tabulations from department database.

Appendix

This appendix describes estimation procedures for certain data used in the report.

The number of paid indemnity claims, the number of PPD claims, the average PPD impairment rating, and total PPD benefits were tabulated by fiscal year of injury from the DLI claims database. For any given injury year, each of these quantities increases, or “develops,” over time, both because of the time necessary for claims to develop and because of time lags in reporting data to the department.

For this reason, the tabulated numbers for each injury were adjusted to reflect the expected development yet to occur after the time of tabulation. This was done using development factors derived from historical rates of growth in each quantity for each injury year. Because the developed number for any injury year is an estimate of the ultimate number, it is always subject to revision.

The annual number of medical-only claims was estimated by applying the ratio of medical-only to indemnity claims for insured employers to the total number of indemnity claims. The

Minnesota Workers’ Compensation Insurers Association (MWCIA), through special tabulations, provides this ratio by injury year for compatibility with injury-year indemnity claims numbers. The number of total paid claims is then computed as the sum of indemnity and medical-only claims. The ratio of medical-only to indemnity claims was not yet available for 1997, and so the total number of paid claims could not be estimated for that year.

The number of full-time-equivalent (FTE) workers covered by workers’ compensation was estimated as total nonfederal Reemployment Insurance covered employment (from the Minnesota Department of Economic Security (DES)), times average annual hours per employee (from the annual survey of occupational injuries and illnesses, conducted jointly by the U.S. Bureau of Labor Statistics and state labor departments) divided by 2,000, times the ratio of workers’ compensation covered payroll (from MWCIA and the Minnesota Workers’ Compensation Resinsurance Association) to nonfederal RI covered payroll (from DES).