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THE PITFALLS IN JUDGING ARBITRATOR IMPARTIALITY
BY WIN-LOSS TALLIES UNDER FINAL-OFFER ARBITRATION

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This paper contains some early results of a longer term empirical study of a New Jersey arbitration statute that covers police officers and firefighters. The purpose of this larger study is twofold. First, we hope to shed some light on how differences in the structure of arbitration mechanisms affect the size and frequency of negotiated settlements as well as arbitration outcomes. This is possible in New Jersey because the same panel of arbitrators administers both final-offer and conventional arbitration systems simultaneously. Second, it is our view that arbitration systems share much in common with other judicial and quasi-judicial dispute settlement mechanisms. It is our hope to shed some light on the more general issues surrounding the design and evaluation of these systems through the much needed empirical study of the operation of one such system. In this paper we report some important results for the interpretation and evaluation of arbitrator impartiality under the New Jersey statute. We suspect these results are equally relevant for the interpretation of other arbitration experiences.

The Setting

Unsettled disputes between New Jersey police unions and municipalities have been subject to binding arbitration since 1978. The arbitration law is designed to give the parties considerable leeway in designing their own arbitration mechanisms. When the parties can agree on nothing else, however, their dispute is resolved by final-offer arbitration (FOA) on the package of economic issues. As is well known¹, under final-offer arbitra-

tion each party is required to submit to an arbitrator a single final offer. The arbitrator is required to select one or the other of these offers without compromise. As Table 1 indicates, in 1978 about 35 percent of bargaining cases in New Jersey were settled by recourse to FOA, although this percentage has dropped each year since.

The only alternative arbitration mechanism of which the parties have made much use in New Jersey is conventional arbitration (CA). Here the arbitrator fashions an award based on an analysis of the relevant facts and the arbitrator's external judgment of what would comprise a fair award. As Table 2 indicates, in 1978 about 14 percent of bargaining cases in New Jersey were settled by recourse to CA, although this percentage has subsequently stabilized at about 6-7 percent.

The Puzzle

It is natural for both employers and unions to inquire as to how they typically fare under a final-offer statute. The tabulation of "box scores" or "win-loss" records is inevitable. Even when these tabulations are not publicly available it is our impression that they are the subject of considerable informed discussion and folklore.²

In the first row of Table 1 we provide the box score for the New Jersey experience. In 1978 arbitrators selected the union offer on total compensation in 68 percent of FOA cases. In 1979 and 1980 arbitrators selected the union offer on total compensation in 65 and 73 percent of FOA cases, respectively. In sum, under the New Jersey statute union offers have been selected most of the time in FOA cases. There is no sign that this is a transitory phenomenon.³ This raises the central question we

Table 1

The Results of Final-Offer Arbitration
of New Jersey Police Disputes

	<u>1980</u>	<u>1979</u>	<u>1978</u>
Proportion of Employer Victories	.266	.348	.317
Mean of Employer Compensation Offers	5.70%	6.51%	5.01%
Mean of Union Compensation Offers	8.54%	8.29%	7.14%
Mean of Final-Offer Compensation Awards	8.10%	7.57%	6.63%
Standard Deviation of Final-Offer Awards	1.41%	1.48%	1.19%
Proportion of Bargaining Cases Going to Final-Offer Arbitration	.23	.28	.35

Table 2

The Results of Conventional Arbitration
of New Jersey Police Disputes

	<u>1980</u>	<u>1979</u>	<u>1978</u>
Mean of Conventional Compensation Awards	8.26%	8.59%	6.55%
Predicted Mean of Conventional Awards Using Data on Final-Offer Arbitration Cases Only and Assuming "Fair" Arbitrators	8.27%	8.51%	7.41%
Standard Deviation of Conventional Awards	2.10%	2.27%	2.21%
Predicted Standard Deviation of Conventional Awards Using Data on Final-Offer Arbitration Cases Only and Assuming "Fair" Arbitrators	1.48%	2.54%	2.70%
Proportion of Bargaining Cases Going to Conventional Arbitration	.07	.06	.14

address in this paper: Why have arbitrators most often selected the union offers in the New Jersey final-offer arbitration cases?

The Solution

Presumably, most of us expected to see approximately 50 percent of the union offers selected under FOA. This is why the considerably higher percentages listed in Table 1 seem surprising. To understand why this might not be a reasonable presumption, it is necessary to spell out what underlying model of arbitrator behavior and union and employer behavior we presumed would produce this 50-50 result.

First, it seems reasonable to suppose that a fair arbitrator would be one that considered the objective considerations in a particular case and then settled on what, in the arbitrator's own mind, seemed a preferred settlement. Little is known about precisely how arbitrators determine their preferred award other than the consensus that they represent a sort of "going rate."⁴ Indeed, it is essential to the process that arbitrators' preferred awards are not entirely predictable; otherwise no uncertainty exists to give an incentive to the parties to negotiate their own settlement. Given that the arbitrator has determined a preferred award, however, it seems clear that a fair arbitrator must select whichever offer is closest to it.

We may suppose that the union and employer also understand this process. Using their best estimates of the arbitrator's preference they will then shape their own offers. They will understand that a higher offer by either party will increase the probability that the employer's offer will be selected. Likewise, a lower offer by either party may be assumed to

increase the probability that the union's offer will be selected. As a result, most of us would expect that the union and employer offers would tend to fall equally distant from, but on opposite sides of, the parties' best estimate of the arbitrator's preferred award. If this happens, then, on average, we should naturally expect the union's offer to be selected in one-half of the cases.

It follows from this discussion that there are two different types of reasons why the union offer may not be selected in one-half of the cases. First, the arbitrators may not follow the decision process set out above. In particular, arbitrators may systematically give less weight to a generous employer offer than to a conservative union offer. If this is the case, then the integrity of the arbitration system is being seriously undermined. One may even wonder at how long it is likely to last.

Second, it may be that, for one reason or another, the parties do not typically position themselves equally distant from, but on opposite sides of, the arbitrator's expected preferred award. This could happen for one of two reasons. On the one hand, unions may have a more conservative view of what arbitrators will allow than do employers. On the other hand, unions may be more fearful of taking the risk of losing the arbitrator's decision than are employers. In either case we may expect that the union offers will be conservative relative to the award that arbitrators will typically prefer. Hence, the union offers will be disproportionately selected by the arbitrators.

It is important to inquire as to whether it is possible to distinguish empirically between these two alternative explanations for the

disproportionate selection of union offers. If FOA is operating alone, it should be obvious that there is no simple way to untangle which of these explanations is correct. After all, to determine whether the union offers are conservative relative to the employer offers we must be able to uncover the central tendency of the arbitrators' preferred awards for comparison. Since these preferred awards are unobservable when an FOA statute operates by itself, however, there would be no simple way to do this.

In New Jersey, however, the same pool of arbitrators is used in both FOA and CA cases simultaneously. If we may assume that arbitrators simply assign their preferred awards in the CA cases, then the numerical central tendency of these awards can serve as a benchmark for determining whether the union offers are conservative relative to the employer offers. A comparison of Tables 1 and 2 reveals that this is indeed the case.

In 1980, for example, the mean employer offer was an annual wage increase of 5.7 percent, while the mean union offer was an annual wage increase of 8.5 percent. According to Table 2, however, the mean CA award was 8.3 percent. Hence, if we may take the CA awards as broadly indicative of arbitrators' preferred awards, it is clear that the union and employer offers were not centered at equal distances from, and on opposite sides of, the arbitrators' preferred awards. Instead, the union offers were very conservative relative to the arbitrators' preferred awards. A comparison of the mean of the union and employer offers with the mean of the CA awards in 1978 and 1979 exhibits precisely the same phenomenon.

It is possible to test statistically whether it is reasonable to suppose that the FOA arbitration decisions in New Jersey were generated by a

set of fair arbitrators who were systematically applying the CA standards. To do this we assume that arbitrators select whichever offer comes closest to their preferred award. Examining the FOA data alone, it is then possible to estimate what central tendency (mean) and measure of variability (standard deviation) of arbitrator preferences is most likely to have generated the actual FOA decisions we observe.⁵ This part of our analysis could be constructed even if FOA were the only arbitration mechanism operating. We then compare these estimates from the FOA data against the actual central tendency and measure of variability for arbitrator preferences revealed by the CA data. This part of our analysis is only possible under a statute like New Jersey's. Lines 2, 3, 4 and 5 contain the results with which to make the comparisons.

In 1980, for example, the actual mean of CA awards was 8.26 percent, while the mean predicted as generating the FOA awards if arbitrators were applying the CA standards was a remarkably close 8.27 percent. The comparisons for 1979 and 1978 are nearly as close, as can be seen from the Table. For 1980 the actual standard deviation of CA awards was 2.1 percent, while the standard deviation predicted as generating the FOA awards was a very similar 1.5 percent. The comparisons for 1979 and 1978 are even closer. In sum, the comparison of the pattern of the FOA and CA awards explains why the union offers were most often selected by arbitrators: The union offers were very conservative relative to the pool of arbitrators' preferred awards. There is no evidence that arbitrators treat generous employer offers any differently than they treat conservative union offers. Instead, the union offers are most often selected because the frequency of

conservative union offers is considerably greater than the frequency of generous employer offers.

This finding does not imply that the New Jersey arbitrators, taken as a group, may not be more (or less) generous than some outside observer of the arbitration process in New Jersey would approve. For example, our analysis implies that the central tendency of arbitrators' preferred awards in 1980 was around 8.3 percent regardless of whether an arbitrator was working in the FOA or CA framework. Does this imply that the arbitrators were too generous in their general outlook? The framework we have used provides no answer to this question, and no doubt different answers would be given from different perspectives. Our basic point, however, is that this issue cannot be settled by an appeal to win-loss tallies under final-offer arbitration either. Only an analysis of actual awards and an appeal to some external criterion of fairness can answer the question of whether the arbitrators have behaved in a more (or less) generous fashion than is desirable.

The Paradox

The conservative union behavior revealed in Tables 1 and 2 results in a paradox. Unions actually received lower average wage increases under the FOA provisions than under the CA provisions of the New Jersey statute. For example, in 1980 the mean of the actual FOA awards was 8.1 percent, but the mean of the CA awards was higher at 8.3 percent. The union offers are accepted in a vast majority of the FOA cases, but average union wage increases are lower under FOA than under CA. Although conservative union offers increase the likelihood of acceptance, this is not enough to offset the lower wage increase that is won. Appearances are indeed deceiving!

The result is that the union bargainers have taken a small loss in their mean wage increases under FOA relative to what would have prevailed under CA. It is also clear from a comparison of Tables 1 and 2, however, that the union bargainers have gained something in return under FOA. In 1980, for example, the standard deviation of CA awards was 2.1 percent, but the standard deviation of FOA actual awards was only 1.4 percent, and the same discrepancy exists in 1979 and 1978. Thus, what the union bargainers gave up by way of a decrease in the mean award under FOA they made up by a reduction in its variability. The union bargainers have bought "insurance" with their conservative offers, albeit at a cost in their wage settlements. This suggests, but does not prove, that union bargainers may be more risk averse than employer bargainers.⁶

Conclusion

The ability to compare the outcomes under final-offer arbitration and conventional arbitration from the same panel of arbitrators makes the New Jersey statute unique. The result of the comparison provides strong evidence that the union offers are most often selected by arbitrators in final-offer arbitration because the union offers are very conservative relative to the central tendency of arbitrators' preferred awards. There is no evidence that arbitrators treat generous employer offers any differently than they treat conservative union offers. Instead, the union offers are most often selected because the frequency of conservative union offers is considerably greater than the frequency of generous employer offers. This should reassure both unions and employers that the integrity of the arbitration system is intact.

There are two important conclusions we think should be drawn from these findings. First, it takes a careful analysis before box scores or win-loss records are of any value in determining the integrity or fairness of an arbitration system. Second, it follows from this consideration that an especial burden rests on the shoulders of arbitrators to resist the easy criticisms of arbitral decisions that may follow from a simplistic analysis of win-loss records. It would be tragic if the long run integrity of the arbitration system were undermined by the shortsighted criticisms of just those arbitrator decisions that were vital to its long run viability.

Footnotes

1. Carl Stevens, in a justifiably famous paper, was the first to propose and analyze this scheme. His remarkably perceptive paper raises virtually every important issue necessary to an analysis of it, and even settles some. See Carl M. Stevens, "Is Compulsory Arbitration Compatible with Bargaining?" Industrial Relations (February 1966), pp. 38-52.

2. The concern over the use of box scores to judge the impartiality of arbitration was expressed early on by George Seltzer, "Impartiality in Arbitration: Its Conditions and Bench Marks," Journal of Collective Negotiations, 6 (1977), pp. 29-36.

3. Although we do not have the data to establish it, it is our casual impression that this phenomenon has been common in other states where municipal workers are covered by a final-offer arbitration statute. The most comparable evidence to that reported in this paper is for final-offer arbitration cases involving police and firefighters in the state of Michigan reported by Ernst Benjamin, "Final-offer Arbitration Awards in Michigan, 1973-1977," Working Paper of the Institute of Labor and Industrial Relations, Wayne State University and the University of Michigan, 1978. Benjamin reports that union salary offers were accepted by arbitrators in 60 percent of the cases heard between July 1, 1973 and June 30, 1977. The difference from a 50-50 split is statistically significant at the 5 percent test level. As another example, Paul Somers, "An Evaluation of Final-Offer Arbitration in Massachusetts," Journal of Collective Negotiations 6 (1977), p. 199 reports that union offers were selected in 60 percent or more of FOA cases in a given period in Massachusetts. On the other hand, it is not our

impression that this is a universal phenomenon, an important exception being the FOA cases in professional baseball.

4. This is an important conclusion of a study of New Jersey arbitrators by Joan Weitzman and John M. Stochaj, "Attitudes of Arbitrators Toward Final-Offer Arbitration in New Jersey," The Arbitration Journal, 35 (March 1980), pp. 25-34.

5. Greater variability of arbitrator preferences will lead to a flatter slope of the relationship between the probability that an employer's offer is selected and the (average of) the union and employer final offers. Thus, the slope of this relationship in the FOA cases is a measure of the (inverse of) the variability of arbitrator preferences. The method of estimation we use is called maximum likelihood, because it assigns values to the mean and standard deviation of arbitrator preferences that are most likely to have generated the observed FOA data under our assumption about arbitrator behavior. The details of the method we use and some additional empirical material, are contained in Orley Ashenfelter and David Bloom "Models of Arbitrator Behavior. Theory and Evidence," Princeton University, Princeton, New Jersey, Industrial Relations Section Working Paper No. 146, revised version, May 1983.

6. This possibility was suggested before data such as these were available by Henry Farber and Harry Katz, "Interest Arbitration, Outcomes, and the Incentive to Bargain: The Role of Risk Preferences," Industrial and Labor Relations Review, 33 (October 1979), pp. 55-63 and Henry Farber, "An Analysis of Final-Offer Arbitration," Journal of Conflict Resolution, 5 (December 1980), pp. 683-705.