

NBER WORKING PAPER SERIES

TRENDS IN WORKER DEMAND FOR UNION REPRESENTATION

Henry S. Farber

Working Paper No. 2857

NATIONAL BUREAU OF ECONOMIC RESEARCH  
1050 Massachusetts Avenue  
Cambridge, MA 02138  
February 1989

This study was prepared for a joint session of the annual meetings of the American Economic Association and the Industrial Relations Research Association, New York, December 1988. It will appear in the American Economic Review, May 1989. This paper is part of NBER's research program in Labor Studies. Any opinions expressed are those of the authors not those of the National Bureau of Economic Research.

NBER Working Paper #2857  
February 1989

TRENDS IN WORKER DEMAND FOR UNION REPRESENTATION

ABSTRACT

The dramatic decline in the demand for union representation among nonunion workers over the last decade is investigated using data on worker preferences for union representation from four surveys conducted in 1977, 1980, 1982, and 1984. Relatively little of the decline can be accounted for by shifts in labor force structure. However, virtually all of the decline is correlated with an increase in the satisfaction of nonunion workers with their jobs and a decline in nonunion workers' beliefs that unions are able to improve wages and working conditions.

Henry S. Farber  
Department of Economics  
E52-252f  
Massachusetts Institute of Technology  
Cambridge, MA 02139

## Trends in Worker Demand for Union Representation

Henry S. Farber\*

December 1988

The stagnation of labor unions in the United States moved into a new phase in the mid-1970's as the fraction of the workforce unionized began to fall rapidly. Tabulations of May Current Population Surveys (CPS) from 1973 through 1985 show that union membership as a fraction of private nonagricultural employment fell from approximately 25% of employment in the 1973-1975 period to approximately 15% in the 1983-1985 period. I have explored various explanations for this decline in some recent work (Farber, 1987, 1989) where I conclude, based on the analysis of data from a variety of sources, that 1) only a small fraction of the decline in unionization can be accounted for by shifts in labor force structure, 2) there has been a substantial drop in demand for union representation among nonunion workers that cannot be accounted for by shifts in labor force structure, and 3) there has been a substantial increase in employer resistance to unionization that is likely to have made it more difficult for unions to organize even those workers who desire union representation. Other work by Dickens and Leonard (1985) and by Freeman and Medoff (1984) support these conclusions.

In this study I focus on one aspect of the decline in unionization, and that is the trend in demand for union representation among nonunion workers. My earlier work on this problem relied in part on data from the 1977 Quality of Employment Survey (QES) and a survey conducted by Lewis Harris and Associates for the AFL-CIO (AFL) in 1984. Here the analysis is extended to include the 1980 wave of the National Longitudinal Survey of Young Men (NLSB)

---

\*Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. The author received support for this research from the National Science Foundation. The data used in this study are available from the ICPSR archive.

and the 1982 wave of the National Longitudinal Survey of Young Women (NLSG). Along with the usual information on personal characteristics, all four of these surveys contain responses to a question, called VFU here and asked of nonunion workers, asking whether he/she would vote for union representation on their current job if a secret ballot election were held. The response to this question (No=0, Yes=1) is interpreted as an indicator of the worker's demand for unionization. All four surveys also contain varying degrees of information regarding job satisfaction and perceptions of the instrumentality of unions in improving wages and working conditions.

#### I. The Data and Tabulations

Both the 1977 QES and the 1984 AFL Survey were designed to yield representative samples of the nonunion workforce. However, the 1980 NLSB and the 1982 NLSG are not representative. They both include only workers between the ages of twenty-eight and thirty-nine in the relevant year, and nonwhites are over-represented in both samples. Samples were generated from each of the four surveys in an identical fashion. These samples consist of all nonunion non-managerial workers outside of agriculture and mining who were not self-employed. Simple tabulations of VFU among nonunion workers show that 38.6% of 663 workers in the the QES, 37.8% of 1242 workers in the NLSB, 43.5% of 1339 workers in the NLSG, and 33.7% of 935 workers in the AFL survey would vote for union representation.<sup>1</sup> There is no apparent trend, but because preferences for union representation are likely to be correlated with both age and race, these simple tabulations will be misleading. Multivariate techniques that control for sample composition will be required to uncover any trend in the data.

II. Is there a Negative Trend in Nonunion Workers' Demand for Union Representation?: The Role of Worker Characteristics

In order to account for the differences in sample composition, a linear probability model of the probability that a worker would vote for union representation that controls for age, race, sex, and year (survey) was estimated.<sup>2</sup> A subset of these estimates are contained in table 1. All of the variables used in this analysis are 0-1 dichotomous variables with the exception of "year" which can take any of four values (77,80,82,84). The base group consists of white male workers from the QES (1977) who are under twenty-five years old.

The results of this analysis are clearcut. While not presented in the table, older nonunion workers are significantly less likely to desire union representation while nonwhites and females are significantly more likely to desire union representation. There is a declining time pattern of demand for union representation, though it is not estimated very precisely. The base group for the estimates in column 1 is the QES. Workers in succeeding surveys have progressively smaller probabilities of demanding union representation. An F-test of the hypothesis that the three survey dummies have zero coefficients has a p-value of .095, suggesting that there is a significant decline in demand for union representation. The estimates in column 2 of table 1 constrain the year dummies to lie along a linear time trend. A statistically significant negative trend is estimated, and the hypothesis that the year dummies lie along this trend cannot be rejected at any reasonable level of significance. The magnitude of this trend is such that the probability that the average worker demanded union representation fell 5.8 (se=2.34) percentage points between 1977 and 1984.

Column 3 of table 1 contains estimates of a linear probability model that includes additional controls for education (4 categories), occupation (5 categories), and industry (6 categories).<sup>3</sup> The results confirm that, while

these additional variables contribute significantly to the fit of the model, there is still a significant downward trend ( $p$ -value=.031) in the probability that a nonunion worker demands union representation. These estimates suggest that approximately twenty-five percent of the 5.8 percentage point decline estimated using the model in column 2 is accounted for by shifts in the educational, occupational, and industrial structure of employment. There remains an unexplained negative trend of 4.4 ( $se=2.4$ ) percentage points.

An important issue is the extent to which the results are simply due to a peculiarity in a single survey. The VFU question is asked slightly differently in the four surveys, and the allowed responses are slightly different. In addition, the context of the surveys may differ enough to bias the results. In order to examine these issues, the model in column 3 of table 1 was reestimated deleting each of the four samples in turn. All four estimates of the time trend derived through this procedure were significantly less than zero at conventional levels, and, in no case, was the negative trend substantially smaller than the overall result.<sup>4</sup> This clearly suggests that the negative trend in the demand for union representation by nonunion workers found in table 1 is robust to the particular samples used.

### III. So Why has there been a Decline in Demand for Union Representation?

Only about one-fourth of the decline in demand for union representation among nonunion workers between 1977 and 1984 can be explained by shifts in labor force structure. Clearly, other factors must be considered.

By working with a sample strictly of nonunion workers it is appropriate to investigate the role of subjective variables, specifically measures of job satisfaction and worker perceptions of how unions change jobs, that may be important in determining the demand for union representation.<sup>5</sup> Both the QES and the AFL survey have comparable measures of 1) job satisfaction in key dimensions and 2) worker perceptions of the ability of unions in the abstract

to improve wages and working conditions (union instrumentality). In both surveys, the questions referred to are similar, and the allowed responses are scaled alike. There is less information on these issues in the 1980 NLSB and the 1982 NLSG. These surveys contain only a single overall measure of job satisfaction that is roughly comparable to those contained in the QES and AFL survey. Neither the NLSB nor the NLSG contain any information on worker perceptions of union instrumentality.

The analysis proceeds in two stages. First, the relationship of overall job satisfaction with VFU is investigated using information from all four surveys. Next, the relationships with VFU of both 1) job satisfaction in specific dimensions and 2) perceptions of union instrumentality are investigated using data from the QES and the AFL survey.

The measures of satisfaction were developed using a four value response scale. These were recoded to two values (1 = satisfied, 0 = not satisfied).<sup>6</sup> A very large fraction of each nonunion sample report that they are satisfied with their job overall (QES - 86.7%, NLSB - 93.9%, NLSG - 93.1%, AFL - 89.0%). A simple cross-tabulation of the response to the VFU question for the four surveys yields the result that overall job satisfaction is strongly related to the probability that a nonunion worker would vote for union representation ( $p\text{-value} < .001$ ). Among satisfied workers, 36.4% would vote for union representation. Among dissatisfied workers, 64.2% would vote for union representation. This result is consistent across all four surveys.

The linear probability model of VFU among nonunion workers was reestimated including additionally the measure of overall job satisfaction.<sup>7</sup> This multivariate analysis confirms the finding that the probability that a worker desires union representation is strongly and significantly related to job satisfaction. Otherwise equivalent nonunion workers who are satisfied with their job are estimated to be 27.2 percentage points ( $se=2.5$ ) less likely to desire union representation. However, this does not seem to

explain the negative trend in demand. When the measure of overall job satisfaction is included, the negative time trend is reduced from .63 percentage points per year ( $se=.34$ ) to .55 percentage points per year ( $se=.33$ ). This is a reduction of only thirteen percent.

The QES and AFL surveys include additional information on job satisfaction and union instrumentality in particular dimensions. The dimensions along which comparable measures are available in both surveys are 1) satisfaction with pay, and 2) satisfaction with job security. These satisfaction measures were recoded to two values (1 = satisfied, 0 = not satisfied). The only dimension of the job for which a comparable measure of union instrumentality was available in both the surveys is wages and working conditions. The union instrumentality measure was also recoded from a four value response scale to two values (1= unions improve wages and working conditions, 0 = unions do not).<sup>8</sup>

Table 2 contains breakdowns of the satisfaction and instrumentality variables by union status for each of the two samples. There was a small and statistically insignificant increase in the fraction of the nonunion sample that reported overall satisfaction between 1977 and 1984 (p-value of change = .160). Job satisfaction in the two particular dimensions analyzed was lower than overall satisfaction. The most striking result for nonunion workers in table 2 is that reported levels of satisfaction with pay and job security rose dramatically between 1977 and 1984. Both of these changes are statistically significant with p-values < .001.

The analogous statistics for union members are included in table 2 in order to shed some light on the question of whether the increase in satisfaction among nonunion workers is likely to be an artifact of differences in survey design between the QES and the AFL survey. In fact, the patterns for union workers are quite different than for nonunion workers. There are no significant differences in any of the three measures of

satisfaction between 1977 and 1984. These findings suggest that the results for the nonunion workers are unlikely to be an artifact of differences in survey design.

The reasons for the increase in perceived job satisfaction among nonunion workers are not clear. Satisfaction with pay may reflect how workers evaluate their pay relative to either their best alternatives or some norm that they consider equitable. Given the well known stagnation in real earnings since the mid 1970's, the general increase in worker satisfaction with pay suggests that the standards against which workers judge their wages fell. In other words, the period from 1977 through 1984 may be marked by declining expectations, and this may be a cause of the decrease in demand for union representation.

With regard to union instrumentality, the numbers in the second part of table 2 suggest that, while most nonunion workers still believe that unions improve the wages and working conditions of workers, the fraction of nonunion workers who believe that unions are effective in this dimension fell significantly from 1977 to 1984 ( $p\text{-value} < .001$ ). Thus, nonunion workers are less likely to believe that unions can help with a central area of concern on the job. There is no corresponding decline among union workers so that, as with job satisfaction, it is reasonable to conclude that the change in attitudes among nonunion workers is not an artifact of survey design differences.

It remains to demonstrate the links between worker preferences for union representation and these subjective measures of job satisfaction and union instrumentality. While not presented here, simple cross tabulations of the data show that nonunion worker preferences for unionization are very strongly related to satisfaction and union instrumentality in the expected directions and that these relationships persist between 1977 and 1984. Each of the differences by satisfaction/instrumentality level in the fraction who

would vote for union representation is statistically significant with p-values < .001.

An important test is to determine how much of the 4.4 percentage point decline in the demand for union representation among nonunion workers between 1977 and 1984 estimated above can be accounted for by the increase in job satisfaction and the decline in perceptions of unions' ability to improve jobs. A version of the linear probability model of VFU that includes the three measures of job satisfaction and the single measure of union instrumentality along with the full set of labor force structure control variables was estimated over the sample of nonunion workers from the QES and the AFL survey. The estimated relationship is

$$VFU = X\beta \quad -.248*SAT \quad -.141*SATPAY \quad -.096*SATSEC \quad +.159*UIMPW \quad +.00223*Year$$

$$(.037) \quad (.026) \quad (.030) \quad (.031) \quad (.0035)$$

$$R^2 = .190 \quad n = 1489$$

where  $X\beta$  represents the set of labor force control variables, SAT =1 if the worker is satisfied with job overall, SATPAY =1 if the worker is satisfied with wages, SATSEC =1 if the worker is satisfied with job security, and UIMPW =1 if the worker feels that unions improve wages and working conditions. The numbers in parentheses are standard errors.

All four subjective measures are strongly significantly related to demand for union representation in the expected direction. A worker who is dissatisfied with his/her job by all three measures and who feels that unions are instrumental in improving wages and working conditions is estimated to be 64.4 percentage points (se=4.9) more likely to desire union representation than a worker who is fully satisfied and who feels unions are not instrumental.

The estimated time trend is actually insignificantly positive after controlling for satisfaction and union instrumentality.<sup>9</sup> Thus, all of the decline in demand for union representation among nonunion workers between

1977 and 1984 can be accounted for by the increase in nonunion workers' satisfaction and decrease in perceptions of union instrumentality.

#### IV. Final Remarks

In light of this evidence, what can the union movement do to recoup its losses? The results on the relationship between worker demand for union representation on the one hand and job satisfaction and union instrumentality on the other suggest that the task is to convince workers that unions can play an effective role in the workplace. The union movement has begun to define new organizing strategies for this purpose, but their task is difficult at best until workers feel that unions can help with aspects of their jobs that they are not satisfied with (AFL-CIO, 1985).

The role of increased employer resistance to union organizing activity has not been considered here, but other work (Freeman and Medoff, 1984; Farber, 1987; Farber, 1989) suggests that this is another important and related factor in the decline of unionization. Concern about employer resistance has prompted the union movement to call for reform of the National Labor Relations Act to provide an environment where current employer practices to discourage union organizing will be less effective. However, until our society as a whole is more favorably disposed toward unions, such reform will be difficult to achieve.

One recurring theme in the debate over the future of unions in the private sector is that the competitiveness of the economy has increased dramatically and that labor unions may be less viable in such an economic environment. Unions need to convince workers that they offer real value in the modern competitive economy.

REFERENCES

- AFL-CIO. "The Changing Situation of Workers and Their Unions," Committee on the Evolution of Work (February 1985).
- Dickens, William T. and Jonathan S. Leonard. "Accounting for the Decline in Union Membership, 1950-1980," *Industrial and Labor Relations Review* 38 (April 1985): 323-334.
- Farber, Henry S. "The Recent Decline of Unionization in the United States," *Science* 238 (November 13, 1987): 915-920.
- Farber, Henry S. "The Decline of Unionization in the United States: What Can be Learned From Recent Experience?" NBER Working Paper No. 2267, May 1987. *Journal of Labor Economics*, forthcoming, 1989.
- Farber, Henry S. and Daniel H. Saks. "Why Workers Want Unions: The Role of Relative Wages and Job Characteristics," *Journal of Political Economy* 88 (April 1980): 349-369.
- Freeman, Richard B. and James L. Medoff. *What Do Unions Do?*, New York. Basic Books, 1984.
- Rees, Albert. *The Economics of Trade Unions*. Chicago, University of Chicago Press, 1962.
- Seidman, Joel; Jack London and Bernard Karsh. "Why Workers Join Unions," *Annals of the American Academy of Political and Social Science*. (March 1951): 75-84.

Table 1:

Linear Probability Estimates of Pr(VFU)  
Nonunion Workers  
Selected Estimates

Variable	Mean	(1)	(2)	(3)
Constant	1.0	.383 (.0301)	1.02 (.269)	.857 (.271)
Year	81.1	—	-.00830 (.00335)	-.00627 (.00337)
NLSB	.291	-.0281 (.0273)	—	—
NLSG	.325	-.0501 (.0287)	—	—
AFL	.222	-.0578 (.0238)	—	—
Education	—	No	No	Yes
Industry	—	No	No	Yes
Occupation	—	No	No	Yes
R <sup>2</sup>		.0981	.0981	.1205

Note: The mean of the dependent variable is 0.387. The sample size is 4088. The numbers in parentheses are standard errors. All specifications include a constant and controls for race, sex, and five age categories. When included, there are controls for four categories of education, six categories of industry, and five categories of occupation.

Table 2:  
Job Satisfaction and Union Instrumentality

## QES and AFL Data

	Nonunion Workers		Union Workers	
	1977 QES	1984 AFL	1977 QES	1984 AFL
<hr/>				
Fraction Satisfied with:				
Overall	.866	.889	.879	.839
Pay	.583	.739	.751	.765
Job Security	.730	.839	.765	.783
Fraction Reporting Unions Improve Wages and Working Conditions	.903	.788	.931	.926

Note: There are 626 nonunion workers and 289 union workers in the QES sample used here. There are 927 nonunion workers and 230 union workers in the AFL sample used here. The AFL 1984 survey undersampled union workers by approximately ten percent.

Notes

<sup>1</sup>Undecided voters were deleted from this tabulation.

<sup>2</sup>A linear probability model was estimated here because interpretation of the results is much more straightforward than in a statistically more appropriate probit or logit model. Ease of interpretation is particularly important given the severe length constraints on this paper. Every set of estimates and every statistical inference in this study has been verified using a probit model. The results are identical in all relevant respects.

<sup>3</sup>The base group for this model consists of white male blue-collar workers in manufacturing with 12 years of education who are under 25 years old.

<sup>4</sup>The estimates ranged in magnitude from  $-.00547$  ( $se=.00347$ ) to  $-.0154$  ( $se=.00673$ ).

<sup>5</sup>See Seidman, London, and Karsh (1951) and Rees (1962) for early discussions of the role of these factors. Farber and Saks (1980) present relevant evidence from a different source.

<sup>6</sup>Workers who responded "don't know" were deleted from this analysis.

<sup>7</sup>While detailed results are not presented here, all specifications include controls for sex, race, five categories of age, four categories of education, six categories of industry, and five categories of occupation. See column 3 of table 1 for details.

<sup>8</sup>Workers who responded "don't know" were deleted from this analysis.

<sup>9</sup>The estimated decline in demand for union representation using the same sample of 1489 observations from the QES and AFL survey and the full set of labor force structure control variables but without using measures of satisfaction or instrumentality is 4.2 ( $se=2.5$ ) percentage points.