THE ECONOMICS OF LABOR

Edited by
George J. Borjas

CRITICAL CONCEPTS IN ECONOMICS

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Critical Concepts in Economics

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Volume IV

Unions, Contracts, and Unemployment

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Part 9

UNIONS

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THE EXIT-VOICE TRADEOFF IN THE LABOR MARKET

Unionism, job tenure, quits, and separations*

Richard B. Freeman

Source: *Quarterly Journal of Economics* 94(4) (1980): 643–73.

This paper examines the effect of trade unionism on the exit behavior of workers in the context of Hirschman's exit-voice dichotomy. Unionism is expected to reduce quits and permanent separations and raise job tenure by providing a "voice" alternative to exit when workers are dissatisfied with conditions. Empirical evidence supports this contention, showing significantly lower exit for unionists in several large data tapes. It is argued that the grievance system plays a major role in the reduction in exit and that the reduction lowers cost and raises productivity.

In the exit-voice model of the social system [Hirschman, 1970, 1976] individuals react to discrepancies between desired and actual social phenomena in one of two ways: by the traditional free market mechanism of "exiting" from undesirable situations; or by directly expressing their discomfort to decision-makers through "voice." While little attention is paid to the labor market in Hirschman's book [1970], the exit-voice dichotomy provides a potentially fruitful framework for analyzing the major employee institution of capitalist economies—the trade union. From the perspective of the dichotomy, voice is embodied in unionism and the collective bargaining system by which workers elect union leaders to represent them in negotiations with management, while exit consists primarily of quits. A major feature of the model is a predicted tradeoff between the two adjustment mechanisms: when workers have a voice institution for expressing discontent, they should use the exit option less frequently and thus exhibit lower quit rates and longer spells of job tenure with firms.

Is unionism associated with lower quit rates and higher job tenure of workers, as predicted by the model? To what extent can any reduction in quits due to unionism be attributed to union "voice" as opposed to other routes of union effects, notably wage gains?

Despite a sizeable literature on labor turnover and on the economic effects of unions, extant empirical evidence provides no clear answer to these questions. The turnover literature has focused on quit rates for aggregated manufacturing industries, which provides only weak evidence on the behavior of individuals; has not treated job tenure or permanent separations as dependent variables; and has only rarely sought to estimate the effect of unionism (see Parsons [1972] for a useful summary). As a result, the impact of unionism on turnover has been at best estimated imprecisely, differing with sample and control variables (Burton and Parker [1969]; Stoikov and Raimon [1958]; Pencavel [1970]; Parsons [1977]; and Kahn [1977]). The union literature has dealt almost exclusively with union wage effects. Summarizing the state of knowledge in his textbook, Reynolds concluded that "it is questionable whether collective bargaining has produced a major change in the pattern of labor turnover" [1974, p. 568].

To provide a better test of the relation between unionism and exit behavior, this study analyzes data on *individuals* from three surveys—the National Longitudinal Survey (NLS), the Michigan Panel Survey of Income Dynamics (PSID), and the Current Population Survey (CPS)—which contain detailed information on the personal attributes of workers and characteristics of jobs that is better suited for analysis of individual behavior than industry aggregates. Longitudinal data in the NLS and PSID and retrospective data on the CPS allow for the analysis of the effects of union status and other variables on *actual quits or separations over time*, while survey questions relating to job tenure provide information on past exit behavior. By examining several bodies of information, each of which has certain weaknesses and strengths, I hope to obtain a better fix on the hypothesized behavioral relation from that given in previous studies.

The principal finding of the paper is that, *with wages and other measures of pecuniary rewards held fixed*, trade unionism is associated with significant, large reductions in exit behavior. Diverse calculations designed to adjust the union effect for potential omitted variable biases relating to union monopoly power or selectivity do not eliminate the union effect. While interpretation of the impact of unionism in terms of "voice" is open to some question, the empirical analysis provides support for the hypothesis that trade unions alter work place relations and worker behavior in ways *not* captured by standard monopoly wage models of the institution. Some evidence is presented that the observed reduction in exit is at least in part attributable to the operation of unions as a voice institution in the job market, though the fact that all collective bargaining involves voice in negotiations and in day-to-day work activities makes any definitive separation from the other components of unionism exceedingly difficult.

The paper is divided into five sections. The first sets out the reasons for expecting unionism to reduce exit. The second develops the methodology for the empirical analysis. Sections III and IV present the empirical results, with the former focusing on the effect of unionism on exit, and the latter probing the voice interpretation. The paper concludes with a brief evaluation of the economic consequences of the union-induced increase in the attachment of workers to firms.

I. Unionism and exit behavior

Trade unionism can be expected to reduce exit behavior through "monopoly routes" of impact and through "voice routes" of impact.

In the context of the standard monopoly model of unions, exit is likely to be lowered by union-induced improvements in wages, fringes, and work conditions. Since the union wage effect is nonnegligible and high wages are likely to reduce quits significantly, the "monopoly wage" route of impact may be quite potent, and must be controlled in empirical analyses seeking to isolate the voice channels of concern. The major empirical problem in this study is to hold fixed monopoly wage effects of unionism, some of which may be unobserved, so as not to produce biased estimates of the union voice-exit tradeoff.

There are several ways in which the operation of unions as an institution of worker "voice" is likely to reduce exit behavior, producing the exit-voice tradeoff that is central to the model.[1]

First, unionism creates distinctive mechanisms for treating industrial relations problems that offer a substitute for classical exit behavior. Perhaps the most important such institution is the *grievance and arbitration system*, which offers dissatisfied workers who are considering quitting an alternative means of expressing discontent and possibly changing work conditions. Ninety-nine percent of major U. S. collective bargaining contracts provide for grievance procedures and 95 percent for arbitration [U. S. department of Labor, 1977, p. 94], making grievance and arbitration virtually synonymous with trade unionism. By contrast, only 30 percent of nonunion firms in the Bureau of National Affairs Personnel Policies Forum have formal grievance procedures, and only 11 percent allow outside arbitration to settle grievances not resolvable at lower levels [Bureau of National Affairs, 1968, p. 2]. The potential impact of a grievance system is clear: workers who feel themselves unfairly treated or who believe their supervisors erred in interpreting work rules will seek a solution through the grievance procedure before invoking the more drastic exit remedy. If the grievance is successful, the incentive to quit will be removed. Even if it is not and the aggrieved ultimately leaves, the overall rate of exit will be reduced as a result of the *delay* in the quit decision during the grievance procedure.[2]

The regular process of collective negotiation of labor contracts can also be expected to reduce exit behavior. Workers wanting new conditions who, in the absence of a bargaining alternative, might have quit will instead seek first to obtain the particular changes through bargaining. If some of the worker demands are met, quits are likely to be lower than would otherwise be the case. For work conditions and rules that are "public" to the enterprise, where standard public goods arguments suggest that enterprises would have great difficulty in eliciting true worker preferences, considerable mobility might be needed in the absence of unionism for these conditions and rules to be provided. Unions might obtain and aggregate preferences in such a manner as to produce the desired arrangements more efficiently, and with lower mobility in the market.

Union "voice" may also reduce exit by creating particular work rules and conditions of employment (which may or may not be costly to employers, once unionism is "in place") that are desired by workers, particularly what industrial relations experts call the *industrial jurisprudence system*. Under this system managerial authority is diluted by requiring that many work place decisions be made on the basis of *negotiated* rules, for instance seniority, as opposed to supervisory judgment (or whim). By straightforward application of compensating differential arguments, if workers desire these conditions and if they are provided largely by unions, then with *pay and other pecuniary benefits held fixed*, separation rates should be lower for union workers.

Voice in the absence of unions

If "voice" institutions such as grievance/arbitration and individual jurisprudence are desirable work conditions that reduce turnover, the question naturally arises as to why nonunion enterprises do not generally adopt them as part of a profit-maximizing strategy.

One reason for the general absence of voice or industrial jurisprudence practices, in the nonunion sector is that the essence of voice is to reduce managerial power and create a dual authority channel within the firm. Such a change in power relations would be difficult to attain in the absence of a genuine independent union or union-like organization. During the 1920s many firms experimented with so-called "employee representation" plans designed to provide a nonunion voice mechanism for workers (see National Industrial Conference Board [1933]). Many of these plans ended in failure, despite the best intentions, as workers are unwilling to express their desires for fear of retaliation by management and because of their own lack of power to affect decisions. Other plans led to the formation of company unions, which, in several industries, became the building blocks of independent unionism in the 1930s [Galenson, 1963]. Under current law, of course, company unions are illegal. The dilemma is that if management gives up power, it creates seeds of genuine unions; if it does not, employee representation plans face severe difficulties. This is not to say that *no* nonunion firm will have a grievance/arbitration system, for some have such systems, in part to reduce worker desire or unions.[3] The point is that it is more difficult (costly) to institute in effective system in the absence of unions or union-type organizations.

A second more subtle reason for the concentration of voice institutions in the organized sector relates to the nature of price signals in unorganized and organized markets. In the unorganized market, the desire of workers for a given condition of work is conveyed by the marginal evaluation of the condition by the marginal worker, as reflected in the reduction in wage he would take to obtain the condition. In the union market, the desire for the condition is conveyed by some average of preferences of workers: in a median voter model, by the (marginal) desire of the median worker; in a "consumer (worker) surplus"-maximizing model, by the

average intensity of preferences for the condition. Assuming that "inframarginal" workers have greater desire for voice and industrial jurisprudence or that such systems generate worker surplus or both, there will be a more intense demand for the condition under trade unionism. Given fixed costs to setting up voice institutions, the profit calculus might reject their development, while a benefit-cost calculation using the benefits to the median worker or taking account of consumer surplus would favor their development.[4]

II. Empirical analysis

Exit behavior is measured in this study by three variables: by job tenure, defined as the number of years a worker remains with a firm; by quits in a specified period; and by total separations in a period. Each of these variables has certain strengths and weaknesses for analysis of the exit-voice tradeoff. Tenure has the advantage of reflecting longer run and more permanent behavior than quits or separations because it relates to attachment between workers and firms over an extended period of time. The main disadvantage is the absence of data on characteristics of the job years earlier. Quits are useful because they measure worker behavior, which is at the core of the union voice model, but face the problem that the distinction between worker and employer-initiated changes is at least partially arbitrary (an employer may harass a worker to quit; a worker may quit because of potential plant closings or may perform poorly until fired). Separations do not have this problem but include such forms of mobility as those due to plant closings, which are not directly relevant to the model. By examining each measure, we are able to obtain a firmer set of conclusions than would otherwise be the case.

The decision to exit is analyzed in the framework of a probability model in which each person has a specific propensity to exit in a given year Q, dependent on a set of explanatory factors X_i, including unionism. Because exit is a dichotomous variable and probabilities are bounded by 0 and 1, the logistic provides an appropriate functional form for the relation:

$$Q = \left(\left[1 + \exp - \sum_i (B_i X_i) \right] \right)^{-1} \quad \text{with} \quad \frac{dQ}{dX_i} = B_i Q\,(1-Q). \tag{1}$$

Tenure is treated as a backward waiting time variable dependent on Q. When Q is fixed, the probability that tenure in year n, T_n, is a specified value t can be written as

$$PR\,(T_n = t) = (1-Q)^t\, Q, \tag{2}$$

which is a geometric distribution. Since T_n reflects behavior over $t + 1$ periods of time, while changes in one time interval reflect behavior over only one period, T_n conveys greater information about exit propensities than dichotomous quit or separation measures.

The mean of the *completed* tenure (T) distribution has a well-known relation to Q, which can be fruitfully used in analysis:

$$E(T) = \frac{(1-Q)}{Q} = \exp\left(\sum_i B_i X_i\right). \tag{3}$$

If Q depended on the X's as in (1) and was independent of past tenure, the appropriate function form for T would be the exponential, $T = \exp(\sum_i B_i X_i) + U_i$, where U_i, is a random error. With a fixed Q, renewal theory guarantees that the mean of the distribution of incompleted tenure equals the mean of the distribution of completed tenure, justifying use of the completed spell functional form. When, as appears to be the case, Q is not constant but depends on the length of tenure (separations fall as tenure increases), the exponential is no longer appropriate. The functional form of the tenure equation will depend on the slope of the hazard function (the relation between cumulated tenure and the probability of separation) and can be quite complex. The most useful way of analyzing tenure in this case is to use the linear form, which can be viewed as a first-order Taylor series approximation to more complex functions:

$$T = \sum_i B_i X_i + U_i. \tag{4}$$

Calculations show that the linear function is much superior statistically to the exponential, presumably because of the dependence of Q on tenure.

Controlling for monopoly compensation effects

To isolate the nonmonopoly wage impact of unionism on exit, it is necessary to control carefully for other determinants of exit (themselves correlated with unionism), such as pecuniary and non-pecuniary compensation at the current job and at alternative jobs and personal characteristics like age or sex, which affect the transactions cost of mobility.

There are three problems in controlling for compensation at the current job. First, the surveys of individuals to be analyzed lack adequate information on fringe benefits, which are increased by unionism [Freeman, 1978a] and can be expected to reduce exit. This problem is dealt with by adjusting estimated coefficients on unionism for the omitted fringe variable using standard omitted variable bias formulae and outside information on the effect of unionism on fringes. Second, measures of nonpecuniary work conditions (above and beyond those represented by the voice or industrial jurisprudence conditions) are notoriously poor. Detailed industry and occupation dummies are used to narrow some of the possible range of variation among workers. In addition, measures that might be taken to reflect worker evaluation of nonpecuniary conditions, such as indicators of job satisfaction, are entered when available. Some effort is also made to control for omitted work conditions (and other factors) in the context of an unobservables model to be described shortly. Third, when tenure is the dependent variable in the analysis, there is a clear dual

causal relation with tenure raising wages at the same time that high wages reduce Q and raise tenure. Because of the likely magnitude of the coefficient on tenure in the wage equation, simultaneity can be expected to bias upward the estimated coefficient of wages on tenure.[5] This in turn is likely to bias downward the estimated regression coefficient on unionism. As inclusion of wages in the tenure calculations tends to work *against* the exit-voice hypothesis, I shall operate as if the causality were uni-directional and ignore the simultaneous bias.

Since the set of options facing a worker cannot be measured directly but must be inferred from his or her general characteristics, it is more difficult to obtain adequate measures of alternative compensation. The major indicators of alternatives are education, which should (wages fixed) raise exit propensities due to the better opportunities of the more educated or, in the context of a model of specific human capital, as a result of the inverse link between general and specific human capital at any fixed wage level; years of work experience, which should raise outside earnings and thus exit; and the state of the local labor market. Occupation and industry dummy variables can also be interpreted as reflecting outside opportunities. Because standard earnings regressions that include such variables as education, experience, and occupation rarely explain more than one-third of the variance in log earnings, however, it is unlikely that these variables will adequately index alternative opportunities. If, as seems reasonable, the unobserved components of alternative opportunities are correlated with current wages, as both current and alternative possibilities depend on omitted human capital or personal characteristics, statistical analyses will understate the negative effect of current compensation on exit and bias the estimated coefficient on unionism even if the unobserved alternative opportunities are uncorrected with unionism.

The effect of the omitted components of alternative compensation on the estimated impact of wages and unionism on exit can be analyzed with regression formulae that do or do not control for the omitted factor. Let W = compensation on the present job; W_A = compensation in other jobs; U = unionism; and Q = the propensity to exit. Then, using subscripts to specify partial regression coefficients with the first subscript reflecting the dependent variable, the second the independent variable, and additional subscripts reflecting controls, the least squares coefficient relating Q to W and with W_A omitted $[b_{QUW}]$ and the coefficient relating Q to U with W_A omitted $[b_{QUW}]$ are linked to the "true" coefficients with W_A included (b_{QWUW_A} and b_{QUWW_A}) as follows:

$$b_{QWU} = b_{QWUW_A} + \left(b_{QW_AUW}\right)\left(b_{W_AWU}\right) \tag{5}$$

$$b_{QUW} = b_{QUWW_A} + \left(b_{QW_AUW}\right)\left(b_{W_AUW}\right), \tag{6}$$

where all of the coefficients are conditional on the other variables in the equation. The difference between the estimated and "true" coefficients, ($b_{QWU} - b_{QWUW_A}$)