The Determinants of Strikes Over Time And Across Industries

BRUCE E. KAUFMAN
Georgia State University, Atlanta, GA 30303

This paper presents a pooled time-series, cross-section analysis of strike activity across 27 major industry groups over the years 1970-1980. While numerous studies have analyzed the time-series behavior of strike activity and fewer studies have analyzed the cross-sectional pattern of strikes, little work has been done to combine both perspectives into one empirical analysis. This paper improves on this by incorporating variables into one regression model that is capable of explaining both dimensions of the variation in strike activity. The regression results suggest that strikes over time and across industries are affected by a wide range of economic, organizational, institutional, occupational, demographic, market structure, political, and other variables.

I. Introduction

The incidence of strikes in the economy varies widely both over time and across major industry groups at a given point in time. This variation has given rise to a number of empirical studies that have attempted to identify the factors responsible for the pattern. Most of the studies have concentrated on the time-series component of the variation in strike activity; a smaller group has examined the cross-sectional distribution of strike activity across industries, metropolitan areas, or unions.

This paper attempts to integrate these largely separate lines of investigation through a pooled cross-section, time-series regression analysis of strikes across 27 major industry groups for the years 1970-1980.1 With the exception of an unpublished study by Wallace (1972) and a recent paper by Mitchell (1981), little work has been done in combining a cross-sectional and time-series analysis of strikes, even though there are several advantages from doing so. In a pooled cross-section, time-series model, not only can the traditional factors such as wages, prices, unemployment, and union membership be considered, but also a host of previously unexamined organizational, demographic, occupational, institutional, and market structure variables. Such an approach also provides a much

1The author would like to acknowledge the contributions of Louis Ederington and the research assistance of Ou Shing Shiang.
wider perspective on the causes of industrial conflict and the factors that shape the occurrence of strikes in individual industries and years. In addition, a pooled cross-section, time-series model allows for a much finer degree of disaggregation than is found in most previous studies.

This paper briefly analyzes the actual time-series and cross-sectional pattern to strike activity for the 1970s and develops a list of relevant variables to explain this pattern. It then presents the regression results for the model and discusses the results vis-à-vis previous research and hypotheses developed earlier. The paper concludes by summarizing the implications of the study for further research.

II. The Time-Series and Cross-Sectional Pattern in Strike Activity

As recognized in previous studies, the incidence of strikes varies considerably both over time and across industries. Over the period 1970-1980, the number of strikes in the United States ranged from a high of 6,074 in 1974 to a low of 4,230 in 1979, involving from 3.3 million workers in 1970 to 1.6 million in 1979. This same time-series fluctuation can also be observed for strikes in individual industries, although the particular pattern over time varies considerably from one industry to another (see Kaufman, 1982b).

There is a similar variation in the incidence of strikes across industries at a point in time. Both Ross (1961) and Kaufman (1982b) note that a relatively small number of industries in the United States account for a disproportionate share of total strike activity. Between 1970 and 1980, eight industries, comprising only 20 percent of nonagricultural employment, accounted for an average of 60 percent of all strikes and 74 percent of all workers involved during that period. In contrast, ten other industries each accounted for one percent or less of strike activity.

This paper identifies the basic set of factors that explains the variation in strike rates both over time and across industries. To do so, it is useful to note, following Kaufman (1982a), that variations in strike activity either over time or across industries can be conceptually attributed to either variations in the "propensity to strike" (i.e., a change in the probability of a strike among a given group of workers or firms) or in the "opportunity to strike" (i.e., a change in the potential number of participants in a strike, the propensity to strike constant). The task is to find the variables that best represent the determinants of both the opportunity and the propensity to strike.

Consider first the opportunity to strike. As pointed out in a number of studies (Britt and Galle, 1972; Snyder, 1977; Kaufman, 1982b), one reason strike activity fluctuates both over time and across industries is because of variations in the level of union membership. The amount of strike activity is clearly conditional on the level of union membership, since in the post-WWII period few non-union workers ever participate in strike action. Union membership is thus the best proxy for that group of workers with the "opportunity to strike," and differences in the level of union membership either between years or industries will impart a similar variation to strike activity, holding other things constant.