

Wage strikes in 1880s America: A test of the war of attrition model[☆]

Thomas M. Geraghty^{a,*}, Thomas Wiseman^b

^a *Department of Economics, Gardner Hall CB#3305, University of North Carolina, Chapel Hill, NC 27599, USA*

^b *Department of Economics, University of Texas at Austin, 1 University Station C3100, Austin, TX 78712, USA*

Received 29 March 2007

Available online 3 January 2008

Abstract

By relating strike outcomes and durations to the value of the disputed wage change and to the cost to each side of continuing the strike, this paper tests the hypothesis that the war of attrition with asymmetric information model of strikes accurately describes the characteristics of strikes over wages in the United States in the early to middle part of the 1880s. That hypothesis is not rejected by linear, probit, or nonparametric kernel estimation. Specifically, variables that decrease a side's cost of striking or increase its opponent's cost are shown to increase its maximum holdout time, and vice versa, and strike duration increases with the value of the prize in dispute and with uncertainty about the outcome. Alternative game theoretic models of strikes—signaling and screening models, and models with ongoing negotiations—do not fit the data as well. We also explore why the strikes took the form of wars of attrition, and why later strikes did not. Our results have implications for modern union behavior in the face of globalization.

© 2008 Elsevier Inc. All rights reserved.

Keywords: Strikes; Labor unions; War of attrition; United States

1. Introduction

On Monday, June 23, 1884, nearly 1800 bituminous coal miners in Ohio's Hocking River Valley went on strike to protest a wage cut announced the previous Friday. Facing a depression, fierce competition from other mines, and slack summertime demand, the mine operators required the lower wage in order to maintain profitability (Rossel, 2002, p. 5). The feeling among the union miners, though, was that the operators intended to deprive them of their just wages, to control the labor market, and to “crush them out” (Lozier, 1963, p. 56).

[☆] We thank Joseph Ferrie and Janet Currie for sharing their data and for helpful advice. We also thank Daniel Hamermesh, Kenneth Hendricks, Michael Huberman, Peter Meyer, Paul Rhode, Stephen Trejo, Werner Troesken, two anonymous referees and an editor, and seminar participants at the University of Texas, the University of Michigan, the University of North Carolina at Chapel Hill, the 2004 Social Science History Association conference in Chicago, the 2005 Economic History Association meetings in Toronto, the Federal Reserve System Board of Governors' Applied Microeconomics Group, and the Economic Policy Institute for comments and suggestions.

* Corresponding author.

E-mail addresses: t-geraghty@unc.edu (T.M. Geraghty), wiseman@eco.utexas.edu (T. Wiseman).

For their part, the owners “expected the miners would resist the wage cut demand but did not think they could hold out long... [F]or the first two weeks the operators did nothing but wait for union submission” (Lozier, 1963, p. 58). In fact, the strike lasted nearly ten months. On March 18, 1885, the miners accepted the operators’ wage terms and returned to work. That costly strike, typical in many ways of the great wave of strikes in the United States in the 1880s, is difficult to explain with a model based on one-sided incomplete information, such as signaling or screening models. Instead, the two sides’ “mutual hostility” and “inability to understand the needs and motives of each other” (Lozier, 1963, p. 108) are suggestive of bilateral asymmetric information, and in particular of the war of attrition.

In the war of attrition (Maynard Smith, 1974), two sides compete for an indivisible prize. They keep fighting, each trying to gauge how much longer its foe can endure, until one side finally gives up. The victor obtains the prize; the loser has nothing to show for its costs. The asymmetric information version of the war of attrition, where neither side knows the exact value of its opponent’s costs, is a possible explanation of how labor strikes unfold. This paper tests whether the predictions of the war of attrition model are consistent with the characteristics of strikes over wages in the United States in the 1880s.

The *Third Annual Report of the Commissioner of Labor* (1888) contains detailed data on those strikes. The *Third Report* includes strikes over a variety of causes—the advantage of looking at wage strikes is that the value of the prize in dispute is easy to quantify. Card and Olson (1995) have previously analyzed the strikes of the 1880s using a war of attrition model. However, their aim is not to test the validity of the model. Instead, they assume that it holds and look for a relationship between the probability that workers win a strike and the wage increase conditional on success.¹ Here, by relating strike outcomes and durations to the value of the disputed wage change and to determinants of the cost to each side of continuing the strike, we fail to reject the null hypothesis that the war of attrition model is correct. Specifically, the data show that an increase in variables that lower a side’s cost of striking (the wage available in alternative employment and warm weather for workers, the capital labor ratio for firms) has a positive, statistically significant effect on that side’s maximum holdout time. Conversely, raising the value of variables that increase the cost of striking (the foregone wage and the local unemployment rate for workers, the value of yearly output and the fraction of employees out on strike for firms) results in a statistically significant drop in the holdout time. Also, the expected duration of a strike increases with the value of the prize in dispute. The duration also rises when the predicted probability of success for the workers is close to one-half—that is, strikes where one side has a clear advantage end more quickly. Alternative models of strikes based on signaling and screening do not fit the data as well, and neither do models that allow for continued bargaining during the strike.

The war of attrition, relative even to other types of strikes, is a very costly way to settle labor disputes. Why, then, did the wage strikes of the 1880s take that form? Card and Olson (1995) offer one possible explanation, that the actual issue in dispute in many of the strikes was whether or not workers had the right to bargain collectively; that issue could not be compromised. The data suggest that explanation is incorrect. Instead, we identify three factors leading to wars of attrition: the two sides did not trust each other to honor agreements, impartial arbitration was unavailable, and the surplus to be divided was small. Over time, changes in macroeconomic conditions and product market structures, combined with a growing recognition of the high costs of war-of-attrition strikes, led to an increase in negotiation and compromise.

In the conclusion, we explore how the factors that led to wars of attrition in the 1880s may arise again in an era of globalization.

2. Strikes in the 1880s

The 1860s saw the beginnings of national labor organizations in the United States, spurred by the price fluctuations of the Civil War and by the downward pressure on wages as railroads opened up businesses to

¹ Because Card and Olson (1995) find that predictors of strike success are correlated with the post-strike wage change, and because each side’s holdout time depends on that projected wage change, Card and Olson’s (1995) estimates may suffer from omitted variable bias. They also include strike duration, an endogenous variable, as a regressor.

Download English Version:

<https://daneshyari.com/en/article/5069007>

Download Persian Version:

<https://daneshyari.com/article/5069007>

[Daneshyari.com](https://daneshyari.com)