

# **Foreign Trade and Innovation in Domestic Labor Relations**

*Eric A. Nilsson*

## **INTRODUCTION**

This paper presents empirical evidence that when an industry faces increased foreign competition, the subsequent increase in competition leads to changes in the institution regulating the capital-labor relationship within that industry. This finding is important because the possibility that trade promotes innovation in domestic institutions is generally ignored both by neoclassical trade theorists and by those who argue against neoclassical trade theory. When they discuss international trade, both orthodox and heterodox economists generally accept the premise that the economy contains no institutions.

This paper seeks to make a small contribution to the development of an alternative theory of foreign trade that underlines the centrality of institutions. I believe that a theory of foreign trade should, among other things, consider how: 1) participation in trade can alter domestic social and economic institutions, and 2) how international differences in domestic social and economic institutions can lay behind certain observed trade patterns. Support for the former claim (at the national level rather than the industry level as in this paper) is found in Nilsson (1996); support for the latter claim is found in Nilsson (1994).

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## **HISTORICAL BACKGROUND AND PREVIOUS EMPIRICAL WORK**

The system of labor relations that developed in the United States after WWII rested on the Wagner Act of 1935 and the Taft-Harley Act of 1947. This body of labor law gave workers the right to engage in collective bargaining, provided a process (i.e., the representation election) to facilitate the formation of unions, and established clear limits to the weapons that management and labor could use against one another.

This body of labor law stimulated the growth of a particular organization: the labor union. Union membership grew rapidly over the period 1935–1953, and, for a brief period, unions became important political and economic actors.

Yet, this labor law also severely restricted the power of unions. Unions were effectively limited to bargaining over wages and working conditions, and generally were unable to force management to discuss either the organization of production or firms' investment decisions.

An additional component of the postwar system of labor relations was the growth, in both union and nonunion firms, of implicit and explicit long-term employment relationships; formal grievance procedures; and explicit rules governing promotions, layoffs, and recalls. While these things reduced management's flexibility in allocating the resources within the firm, management benefitted from a higher level of labor peace within the firm brought by the postwar "capital-labor accord."

In this postwar system of labor relations, employers and unions were forced to act within an explicit set of rules, so that the behavior of unions and of firms and the outcomes of bargaining were reasonably predictable. The accord gave unions the ability to achieve tangible gains for their members and, so, gave workers a stake in U.S. capitalism. However, the capital-labor accord limited the power of unions so that their gains were narrowly constrained and would not threaten essential "management rights." In this way, the accord contributed to both economic and political stability in the early postwar United States.

Importantly, one condition of existence of the U.S. postwar system of labor relations was a stable oligopolistic market structure. Oligopolistic market structure bought with it both high profitability for firms and, as important, a high level of stability and certainty in firms' output markets. This high profitability and stability, in turn, made possible firms' "investment" in a system of

labor relationships based on unionization and long-term employment relationships (Edwards 1979).

Therefore, the loss of U.S. dominance over international trade after 1960 had important consequences for U.S. labor relations. The loss of U.S. international hegemony was experienced by individual U.S. firms as heightened import competition and competition in the foreign markets in which they competed. It undercut the conditions (stability and predictability) that were the foundation on which the then-existing system of labor relations rested. Increasingly after the mid-1970s, U.S. firms became more concerned with short-run reductions in costs and with short-run flexibility in order to meet the competitive challenge of foreign competitors than with labor peace.

The years of declining international dominance by the United States after the mid-1960s were, therefore, years of erosion of the U.S. system of labor relations. Indeed, Nilsson (1996) presented empirical evidence that the post-1960s decline in the U.S. system of labor relations was largely due to the erosion of U.S. international hegemony. According to this article, almost 50 percent of the change in U.S. labor relations after the 1960s was due to the loss of U.S. international hegemony.

### **IMPORT COMPETITION AND INNOVATION IN LABOR RELATIONS WITHIN U.S. MANUFACTURING INDUSTRIES**

This paper investigates the impact of the loss of U.S. hegemony on U.S. labor relations. But whereas I previously looked at time series evidence for the U.S. economy, I consider here pooled time-series/cross-section evidence for individual industries. In particular, I will look for evidence of the impact of increased import competition on labor relations within the twenty 2-digit manufacturing industries over a relatively brief time span: from 1977 to 1981.

This 5-year period of time was selected because it was during this time that the U.S. economy was rapidly starting to change, in due part to the growing pressure of import competition. It was also selected to avoid having to quantify two hard-to-measure potential causes of U.S. labor relations that became important after 1981. First, Ronald Reagan's firing of striking air traffic controllers in late 1981 signaled an "open season" on U.S. unions. This event stimulated the start of a long period of "meanness" by U.S. firms that led to substantial changes in U.S. labor relations (e.g.,

Gordon 1996). It is difficult to quantify the industry distribution of this “meanness” and so limiting my study to 1977–1981 allows me to avoid the quantification issue. Second, many have suggested that the introduction of personal computers in the 1980s led to significant change in the nature of work and required worker skills (see Gordon 1996, chapter 7 for a discussion of this literature). These changes (if indeed they occurred) might have led to changes in U.S. labor relations. Again, because it would be difficult to measure such changes I limit my study to the late 1970s and early 1980s.

As in Nilsson (1996) I will use rates of union decertification as a proxy for changes in U.S. labor relations. Institutions and institutional change are notoriously difficult to observe, much less to measure. Union decertification is a special case of change in labor relations that is significant, observable, and measurable. Other sorts of changes in U.S. labor relations (changes in the importance of grievance procedures, etc.) are virtually impossible to measure.

Further, union decertification is a very important, indeed pure, change in labor relations. When a union bargaining unit is decertified, the bilateral negotiation relationship is replaced by employer-determined outcomes. (Although the decertification of one union is sometimes followed by the certification of a second union, this does not happen very often.)

Workers desiring to oust a union from their establishment submit a petition to the National Labor Relations Board (NLRB) requesting that a representation election be held in their establishment. A union will subsequently be decertified if a majority of workers in the bargaining unit vote against the union. The number of decertifications at the 2-digit SIC industry level is not available in published NLRB data. However, the data on the number of decertification *petitions* filed by workers is available. I will use the latter as my measure of the pace of change of labor relations within an industry. The particular variable I will use will then be number of union decertification petitions filed per union establishment in the industry.

## **WHAT DETERMINES UNION DECERTIFICATION?**

My main concern is to test the hypothesis that import penetration provokes attempts at decertification. Import competition, by increasing output market instability and by putting

pressure on firms to lower their costs, can convince workers that they would be better off without union representation. If this is true, a higher level of import competition should be associated with an increase in worker attempts to decertify a union.

The fear that a firm might shift production to a different establishment, unless the union is ousted, can also convince workers that they should file a petition to get rid of their union. This fear is likely highest when firms are equipped to carry out the implicit or explicit threat to shift production elsewhere. That is, it should be higher in multi-establishment firms. Therefore, the more common multi-establishment firms are in an industry, the greater should be the number of attempted union decertifications.

Output market conditions of the industry should affect workers' perceptions of the benefits of unionization. Insofar as unions are thought to reduce the probability of survival of a firm in economic bad times, reduced industry output should be associated with increased attempts to decertify a union. However, it is also possible that union workers believe that unions protect jobs during economic bad times. The balance of these two effects is not clear. The effect of industry output on the filing of decertification petitions is not *a priori* clear.

But workers in industries that have experienced significant long-term decline will likely not be helped by deunionization: nothing can reverse industry decline. In this situation, workers might support their union in order to benefit from union wages and working conditions for as long as possible (e.g., Lawrence and Lawrence 1985). Long-term economic decline of an industry should, therefore, be negatively associated with attempts to decertify a union.

Unions are believed to flourish more in highly concentrated industries. Highly concentrated industries, as discussed above, benefit from high profits and greater output market stability than do other industries. An increase in industry concentration, all things remaining equal, should be associated with decreased attempts to decertify a union.

Finally, the characteristics of the workers within an industry might affect the likelihood of union decertification. Some have argued that socialization has tended to make women more likely to avoid disruptive labor relations than men, and that nonwhite workers believe they have more to gain from unions (e.g., Antos, Chandler, and Mellow 1980). In this case, a greater proportion of women and of nonwhite workers should be associated with few union decertifications.

## **EMPIRICAL RESULTS**

Table 1 presents the results of two regressions measuring the impact of import competition on the number of decertification petitions per union establishment. The independent variables appearing in this table are those discussed above. The variables used in these regressions are defined in the appendix. The regressions were estimated using annual data from 1977 to 1981 for 2-digit SIC manufacturing industries.

Because ordinary least squares regressions exhibited cross-sectionally heteroskedastic and time-wise autoregressive disturbances, the regressions were estimated using a weighted regression approach that took into account this type of disturbance (Kmenta 1971: 509-12). To assist in the interpretation of the results, beta coefficients are reported.

Regression (1) includes the industry variables discussed above. Regression (2) adds the two worker characteristics: the proportion of an industry's work force that is female and the proportion that is nonwhite. The predicted sign of each variable is indicated in parentheses after the variable name.

In both of these regressions, the coefficient of import competition achieves statistical significance at the 1 percent level. The beta coefficients indicate that an increase by one standard deviation in import competition was associated with a 0.39 to 0.46 standard deviation increase in union decertification activity. These findings support the claim that import competition promoted innovation in the institutions regulating the labor relationship within the United States. Trade does affect institutions.

The estimated coefficients of the other variables appearing in the table are generally of the predicted sign, and most are statistically significant. The increase in the adjusted  $R^2$  between regression 1 and regression 2 indicates that personal characteristics of the industry played a role in the incidence of decertification. It also indicates that most of the action in union decertification is due to changes in industry factors.

Interestingly, the addition of the worker characteristic variables in regression 2 eliminated the significant effect of changes in industry concentration seen in regression 1. Perhaps the worker characteristic variables are simply correlated with each other or perhaps, while output market stability played an important role in determining U.S. labor relations in the 1940s, 1950s, and 1960s, gender related forces replaced output market stability as determinants of labor relations systems by the 1970s.

Table 1  
**Pooled Time-Series, Cross-Section, Weighted  
 Least Squares Regression Results**

<b>Decertification Petitions per Union Establishment, 1977-1981</b>		
<b>Regression</b>	<b>(1)</b>	<b>(2)</b>
Import Competition (+)	0.39** (-4.1)	0.46** (5.5)
Change in Industry Concentration (-)	-0.28** (-3.8)	0.00 (0.1)
Multi-Establishment Firms (+)	0.55** (6.1)	0.56** (4.9)
Output (?)	0.09 (2.0)	0.01 (1.4)
Industry Experiencing Long-Term Decline (-)	-0.30** (-3.7)	-0.38** (-4.8)
Proportion of Females in Workforce (-)		-0.28** (-3.1)
Proportion of Nonwhites in Workforce (-)		-0.11 (-0.9)
Constant	0.02 (0.3)	0.05 (0.8)
Adjusted R <sup>2</sup>	.64	.69
N	100	100

Notes: Beta coefficients reported.  
 t-statistics are reported in parentheses.  
 \*\* = 1% level of significance.  
 \* = 5% level of significance.

Also noteworthy is the relatively large size of the impact of the presence of multi-establishment firms. The implicit or explicit threat to move production to another establishment within the firm serves as a powerful weapon against union workers. This finding suggests another mechanism through which increased openness of an economy alters domestic labor institutions. Increased openness often brings increased foreign investment flows, often taking the form of the opening of a domestic establishment by a multinational firm which might already have establishments around the world. As more and more domestic firms are part of firms with production around the world, the more domestic workers have to fear that production will be shipped offshore. Union decertification will increase as a result.

### **SUMMARY**

For the most part, neoclassical trade theory has restricted its concerns to the effect that trade has on the production and distribution of commodities. It implicitly assumes that international trade leaves unchanged the institutional structure of domestic economies.

The empirical evidence presented here supports the claim that international trade induces innovation in the institutions regulating the capital-labor relationship. Existing trade theories, neoclassical or otherwise, that assume away such changes give only a partial answer to one of the central questions a theory of trade must answer: What are the effects of trade, and are these effects beneficial?

### **APPENDIX**

**Decertification Petitions per Union Establishment:** The number of union decertification (RD) petitions filed for an industry in a given year divided by the number of union establishments in the industry. Union decertification data came from National Labor Relations Board, *Annual Report of the National Labor Relations Board*, various years. Establishment data came from *Census of Manufactures*, 1977 and 1982.

**Import Competition:** The level of import penetration in 1977. Import penetration was calculated as (value of domestic output +



value of imports – value of domestic exports) ÷ (value of domestic output). The data came from Department of Commerce, *U.S. Commodity Imports and Exports as Related to Output*, various years.

**Change in Industry Concentration:** The change in industry concentration between 1977 and 1982. Concentration in each year was calculated as the weighted average of the four firm concentration ratio for the associated 4-digit SIC industries. The weight given to each 4-digit industry was the proportion of industry employment of the associated 2-digit SIC industry. The data came from Department of Commerce, *Census of Manufactures*, 1977 and 1982.

**Multi-Establishment Firms:** The ratio of multiple establishment firms to single establishment firms in 1977 in the industry. The data came from Department of Commerce, *Census of Manufactures*, 1977.

**Output:** An index of real industry output from the industry in a given year, 1977 to 1981. The data came from Federal Reserve, *Industrial Production*, 1986.

**Industry Experiencing Long-Term Decline:** A measure of long-term decline in the industry. This variable equaled 1 if the level of real industry output declined since 1950; 0 otherwise. The output data came from Federal Reserve, *Industrial Production*, 1986.

**Proportion of Females in Workforce:** The proportion of industry production workers who were female in a given year, 1977 to 1981. The data came from Bureau of Labor Statistics, *Handbook of Labor Statistics*, 1983.

**Proportion of Nonwhites in Workforce:** The proportion of industry production workers who were nonwhite in a given year, 1977 to 1981. The data came from Bureau of Labor Statistics, *Handbook of Labor Statistics*, 1983.

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Eric A. Nilsson  
Department of Economics  
California State University  
San Bernardino, CA 92407  
enilsson@mail.csusb.edu