CRUMBLING PILLAR? DECLINING UNION DENSITY IN JAPAN

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ABSTRACT

This paper seeks to understand the recent decline of union density in
Japan from 35% in 1975 to 28% in 1987. The decline in density is analyzed
in terms of the changing proportion of workers in high and low unionization
groups and the changes in density within those groups. Then using a stock-
flow relationship we look at how the organizing rate of new unions affects
the overall density. A regression model assesses our interpretation of
changes in Japanese density.
     Our principal findings are:
     (1) Structural shifts in the composition of employment and of the
demographics of the work force account for only a modest proportion of the
drop in Japanese density. As in the United States, most changes in density
occur within industries and among defined demographic groups of workers.
     (2) Much of the decline in density is associated with the inability of
Japanese unions to organize new establishments. We attribute this in part
to lowered worker interest and stiffened management opposition to unionism
following the oil shock, buttressed by unfavorable changes in the political
and legal environment for collective bargaining and for union organization,
and by other management actions, such as creating additional pseudo-
managerial posts for older male workers.

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Crumbling Pillar? Declining Union Density in Japan

From the mid 1970s through the 1980s, enterprise unionism, widely viewed along with lifetime employment and seniority wages and bonuses as one of the pillars of Japanese industrial relations, lost considerable ground in the Japanese labor market. Whereas in 1975 35% of Japanese workers were unionized (the vast majority in enterprise unions) in 1988 just 27% were unionized -- a decline of over half a percentage point a year that places Japan second to the United States in "de-unionization" of the labor force. One Japanese government agency has projected a union density of 14% in the year 2000 (Japan Ministry of Labor Policy Division 1987) while academics also foresee rates lower than 20% (Japan Institute of Labor 1986).

What explains the fall in union density in Japan? Is Japan headed for "ghetto unionism", where organized labor is limited to segments of the work force, as in the United States? What can be learned about the nature of enterprise unionism from the 1975-1980s Japanese experience?

This paper seeks to answer these questions. In section one we show that structural shifts in the composition of employment, usually cited as the main cause of union problems in Japan, do not in fact account for the bulk of the decline in density. In section two we trace the decline largely to union failure to organize workers in new establishments and develop a model of the organizing process. In section three we apply the model to time series and cross-industry data on density and organization of new plants and find that the reduced growth of "economic rents" that followed the oil shock underlies much of the union failure to organize new enterprises. We argue that enterprise unionism contributed to the decline by tying unions to firms' labor relations policy and limiting the incentive and resources for existing unions to organize emerging sectors.

I. The Decline in Japanese Union Density

 As a starting point for assessing the 1970s-1980s fall in Japanese density,
we contrast the change in density in Japan with that in other OECD countries.
Available international data (Freeman, 1988) shows markedly different country
trends in unionization, with density falling sharply in the United States and
Japan compared to most other developed countries[1]. The American loss of density
resulted from massive de-unionization in the private sector, which dwarfed
organization of the traditionally non-union public sector, and reduced overall
density to 17% of the work force in 1988 compared to a mid-1950s peak of 35%. In
Japan, the drop in density, which includes falling union representation in
education and in the privatized railroad sector, began in the mid-1970s.[2] The
fall in Japanese and American densities has shifted the locus of unionism in the
Western world to other countries. In 1970 the United States and Japan had 42% of
all union members in the developed OECD countries (compared to 50% of employees).
In 1986 the two countries accounted for just 34% of OECD union membership
(compared to 54% of employees) (Freeman, 1988). In the other large country with
significant 1980s de-unionization, the United Kingdom, density rose in the 1970s,
putting it on a different plane than the United States and Japan.

 The divergence in densities among developed countries occurred despite
generally similar shifts in employment toward service sector and white collar
jobs and female and part-time workers, belying structuralist interpretations of
the fall in union density in Japan, or elsewhere. Even if much of the drop in
Japanese density were mechanically "attributable" to the changing composition of
the workforce (in fact only a moderate proportion is so attributable), it would
still be necessary to explain why these structural changes adversely impacted

Japanese density but not, say, German, Canadian, or Australian density. The divergence in density between countries with similar industrial relations systems, such as the United States and Canada suggests, moreover, that seemingly modest differences in institutions may play a major role in determining the evolution of unionism in a country.

Dissecting Declining Density

Although the differing unionization experiences of OECD countries negates a pure structuralist interpretation of Japanese developments, knowledge of the degree to which the decline took the form of a falling proportion of jobs among highly unionized groups as opposed to falling unionization within groups is still useful in assessing potential causes of change. Accordingly, we present in Exhibit 1 union densities by one-digit industry in Japan for 1975 and 1986, and, for purposes of comparison, in the United States and Canada, as well. The Japanese and Canadian data include public enterprises in the appropriate industry category rather than in government (this explains the relatively high service sector density rate in Canada) but the United States data do not. Different industry classifications notwithstanding, the exhibit shows that the difference between Japan or the United States and Canada resulted largely from differences within industries: density declined in Japan and in the United States in all industries save government while falling modestly or holding steady in most industries in Canada. More disaggregate data for Japan confirm the picture of significant within-sector losses of density among two-digit industries (Japanese Ministry of Labor, Basic Survey of Labour Unions, 1975, 1986). Formally, when we use a shift-share analysis to decompose the change in Japanese union density into the part due to changes in the sectoral mix of employment (holding fixed base year sector densities); the part due to changes in within-sector densities

(holding fixed the base year sectoral mix of employment); and their interaction, we find that less than one-fourth of the 1975-86 decline in density is attributable to the changing sectoral mix (line 1 of exhibit 2).

To see whether other structural changes in the composition of employment account for the three-fourths of the drop due to within-industry changes, we performed further shift-share analyses of the gender, part-time/full-time, and temporary/regular worker mix of employment. To avoid double-counting shifts included in the industry decomposition we "nested" calculations at later stages by counting only the contribution of changed characteristics of workers within the groupings of earlier stages. Different nested orderings (looking for instance at worker characteristics first and at the industry effect last) yield different decompositions of the structural components of changes in density, as they allot interactions between changes in factors to the factor considered first, but give the same total structural effect[3].

The first characteristic that we examined in this framework is gender. Overall, the percentage of Japanese workers who are women rose by 4 points from 1975 to 1986. Given that 29% of Japanese women workers compared to 36% of male workers were unionized in 1975, the 4 point increase in the female share could have contributed at most 0.3 points to the decline in density (= .04 x (.36-.29)) As much of the increased female employment was into low density service sectors, however, we have already included it in our industry computation; our nested decomposition attributes only 0.1% of the 4.5% within-industry decline in density to the increased female share of workers within industry (line 2).

The second worker characteristic that we examined is the percentage of temporary workers. The tendency for firms to increase the percentage of temporary employees to maintain flexibility has been cited as a cause of union

decline due to the likely low rate of unionization among temporary workers (Japan Labor Problems Research Center 1988). As we have already allowed for the changing sex composition of employment within industries, we look for changes in temporary employment within sex groups. Because the percentage of temporary employees is higher for females than for males and has risen for females but not for males, we focus on the increased percentage of temporary employees among women within industries. Unfortunately, we do not have data on their union density, so we make the extreme assumption that none are unionized.[4] Given this, we estimate that at most 0.4 points of the within industry decline is due to the growth of temporary employment, which lowered the density of female workers within industries (line 3 of exhibit 2).

Third, we look at the effect on density of the growing number of regular employees who work part-time. Part-time employees increased from 9.9% of all employees in 1975 to 11.7% in 1986. For males the rate fell from 6.4% to 5.0% while for females it rose from 17.4% to 22.7%. In assessing the impact of these changes on unionization we again face a data problem, as the only available statistics on part-time workers by industry include non-regular workers whose growth we have already accounted for. To deal with this we assume that the increased use of part-timers is proportional to increased use of temporary employees in industries, and that no part-timers are unionized. The 1977 and 1985 Labor Force surveys indicate that 70% (1977) and 80% (1985) of the male part-timers and 57% (1977) and 53% (1985) of the female part-timers are regular employees. This suggests that the percentage of male employees who were part-time regular employees dropped from 4.5 to 4% while the percentage of female employees who were part-time regular employees rose from 9.9 to 12.0%. Among men, the proportion of temporaries showed no change, while female temporaries increased by

4.4 points as a share of all female employees. By our assumptions, the decrease in male part-timers has essentially no effect on density. Among women, the growth in regular female part-timers is about 1/2 the growth in female temporaries so we assume that the contribution of part-timers is also half as large. This produces an estimated drop in density of 0.2 points (line 4 of exhibit 2) due to the decreased within-industry union density of women.

Summing the effect on density of changes in the composition of employment by industry, gender, temporary, and part-time groups, we estimate that about one-third of the 1975-1986 decline is associated with these structural changes. Since Japanese enterprise unions include white collar as well as blue collar workers, the remaining within-sector drop is unlikely to be significantly affected by the rising white collar share of employment -- in contrast to the United States where the shift to white collar work has significantly reduced union density. Thus we conclude that the decline in density is due primarily to the loss of union representation among organizable workers within sectors.

Firm size and pseudo-management positions

Two additional structural changes may have affected unionization in Japan: potential increases in the proportion of the workforce in small firms, which are less organized than large firms; and changes in the managerial proportion of the work force, particularly in large firms. To explore the first possibility, we estimated the proportion of employees in firms in different size groups and their unionization rates in 1977 and 1985, adjusting the relevant data for the movement of the Japan National Railways, Japan Telegraph and Telephone Public Corporation and the Japan Public Monopoly from public to private sector.[5] Unadjusted data show an increase in density in large private sector firms, but this is misleading as it results from reclassification of the three privatized firms. Our corrected

figures (exhibit 3) show substantial falls in density within all size categories, and no marked change in the distribution of firms by size. Hence, we reject firm size as an explanation of the drop of union density.

Management policies toward older male Japanese workers, whose share of employment rose substantially from 1976 to 1986, has been suggested as another cause of decline in union density. To deal with the increased number of older male workers, who were too numerous to be promoted to genuine managerial slots, many companies created new "titular" and "specialist" posts, often with managerial titles that led workers to resign from their union, as Japanese law prohibits membership of individuals who "represent the interests of the employer". For example, formerly the position of section head represented the point at which a union member typically resigned, but in the 1980s many workers in the newly created positions of "assistant section-head" or "assistant vice-section head" also gave up union membership. To estimate the impact of this change on union density, we looked at data on the percentage of non-union members within firms from a 1986 survey of 330 unions (Japan Labor Problems Research Center, 1988). The survey shows that smaller firms have a higher percentage of non-participants, possibly because they have larger supervisor/worker ratios and older workforces. Over half of the unions reported an increase in the number of non-union regular employees; one in twenty reported an increase of more than 5%; almost three quarters reported that some non-member regular employees did not correspond to "management positions representing the interests of the employer"; and over half reported an increase in non-union members in management posts that do not represent the interests of the employer, with 8% estimating the increase to be over 5%. On the basis of these figures we estimate that perhaps 1.1 percentage points in the decline of male union density in existing unionized

firms between 1981 and 1986 could be due to aging and the proliferation of management posts.[6] For males this could account for much of the within-industry decline in density in large firms, where union density is high, but not for the within-industry decline for all firms, where it is lower. For all firms, the 1981-1986 drop in density due to creation of pseudo-managerial posts within organized firms reduced density by about 0.3 points (-0.3 = the drop within organized firms (-1.1%) times the union density (31%)). If this change was as large from 1975 to 1981 as from 1981 to 1986, aging/creation of new management posts would have contributed -0.6 points to the 1975-1986 decline, adding an additional 10% to our decomposition (line 5). While significant, this still leaves much attributable to other factors.

II. New Union Organization

Since even the most generous structuralist interpretation of Japanese developments fails to account for the bulk of the fall in union density, and since density did not fall in countries with similar structural changes, one must go beyond structural factors to explain the crumbling pillar. In this section we present evidence that the key factor in the decline was union inability to organize new workplaces and present a model of the determinants of new organization.

New unionization and density

Changes in union density are best understood in the context of a stock-flow relation in which the changes depend on the organization of new workers relative to the size of the work force and the "natural" depreciation or appreciation of density due to the birth/death and contraction/expansion of organized and unorganized firms (Freeman, 1988). If UDENS(t) = union density in year t; r = rate of loss in union membership due to declines in employment in organized

workplaces (r is negative when membership grows); g = rate of growth of total employment; and PCTNEW(t) = ratio of workers who were organized from t-1 to t to the work force in t-1, changes (Δ) in union density can be represented by:

(1) Δ UDENS(t) = (-r-g) UDENS(t-1) + (1-g) PCTNEW(t), which for constant r,g, and PCTNEW, has steady-state density PCTNEW/(r+g).

This equation directs attention to two determinants of changing density: the rate of organizing new workers (which could change as a result of structural shifts in the work force, decreased worker interest in unions, increased management opposition, reduced union organizing effort, etc.); and the "net depreciation" (r+g) of density (which would change due to structural shifts, changed rates of plant-closing or of the contraction/expansion of union relative to non-union plants, and changed growth of employment in new non-union workplaces, etc.).

Exhibit 4 presents evidence that Japanese unions experienced a precipitous drop in their rate of new organization from the mid-1970s through the 1980s that roughly paralleled the drop in union density. Column 1 shows that the number of Japanese workers joining newly formed unions fell from an average of 184,000 in the mid-1960s-mid-1970s to 60,000 in 1986. Column 2 shows that this decline reduced the ratio of workers in newly formed unions to the Japanese work force -- the PCTNEW of our stock-flow equation -- from 0.50-0.70% to 0.14%. Data on the rate of new organization by disaggregated industries show drops in nearly all industries, so that changes in the industrial composition of employment explain little of the aggregate drop.[7]

That the fall in PCTNEW is a key element in the decline in density can be seen by simulating what would have happened to density from 1975 to 1985 if the rate of net depreciation had remained at its 1965-75 level while the rate of new

organization followed its historic path. Between 1965 and 1974 density fell by 1
point despite a cumulative rate of new organization of 5 points, which implies a
net depreciation of 1.8% per year.[8] Using the stock-flow difference equation (1)
to simulate the levels of unions density that would have resulted from the
observed levels of PCTNEW at this depreciation rate, we obtain a drop in union
density from 33.7% in 1974 to 30.0% in 1986, which amounts to 3.7 points, or
nearly 2/3rds, of the observed 5.7 1974-1986 drop. The corresponding calculation
for manufacturing shows a drop from 39.8% in 1974 to 34.4% in 1986, explaining
all of the 5.0 point drop.

Comparable figures on the number of workers newly organized in the United
States (columns 3 and 4 of exhibit 4) show a similar pattern of a collapsing rate
of new union organization that suggests a commonality in the processes
undermining union strength in the two countries. Where the United States and
Japan do differ is in the net depreciation of density, which was on the order of
5% per year in the United States from 1965 to 1975 (Freeman, 1988)--three times
our estimated rate for Japan, possibly because of the greater growth of
employment and turnover of jobs in America (a 25% rate of job turnover in the
U.S. compared to a 7% turnover rate in Japan — OECD, 1987). As in Japan,
however, the fall in density is largely traceable to the drop in new organizing.

We conclude that changes in the rate at which unions organize new
establishments — in the birth rate of unionism — underlies most of the decline
in union density, and develop next a model of its determinants.

Modeling new unionization

Our model, shown schematically in Exhibit 5, assesses the role of economic
conditions, legal institutions, management, and labor in union formation. It
diverges from many models of unionization by stressing that management as well as

labor affects union formation and by linking the behavior of both parties to the economic and legal environment. The model posits three basic relations:

1) A "production function" that relates the number of workers newly organized relative to the work force to: the resources management devotes to opposing (favoring) unionization; the resources unions and workers spend on organizing; and a catch-all vector of other factors.

The production relation depends critically on the institutions governing new unionization — institutions that vary considerably among countries. In the case of Japan, although Japanese labor law was instituted during U.S. Occupation, the Japanese mode of organizing differs from the American mode in several important ways. In Japan unions do not need majority support for certification nor are unions the exclusive bargaining representative of workers in a firm with a duty to fair representation for all. A small group of workers can organize a union, submit their union constitution and a list of members and elected officials to the Labor Relations Commission, an independent body with representatives from labor, business and government, and be officially certified. Registration with a Labor Relations Commission is optional, however, and is often done only when there are complaints of unfair labor practices.[9] The Commission can certify more than one union in a workplace, and collective agreements are automatically extended to other workers only if a union makes up more than 3/4ths of the workers in a firm. As a result of these factors, organization of new unions is less confrontational than in the United States, where management and labor contest exclusive representation rights in secret ballot government sponsored elections that are often long and bitter (Freeman, 1985).

Although Japanese labor law nominally guarantees workers the right to establish unions irrespective of management, in practice management has an

important role in union formation, as one might expect in a system where unions
are enterprise based. Indeed, our interviews with union leaders in Japan suggest
that much organizing is done by convincing managers to accept the formation of a
union at their work place.[10]

As in the United States an organizing drive usually begins with an attempt
to form a nucleus of support around dissatisfied employees, almost always with
the help of outside organizers.[11] While during the early stages unions try to
keep the drive secret from management, when they have the support of one-third or
so of employees they will often approach management to ask for support or
acquiesence to the unionization effort. The need to approach management without a
clear majority seems to be due both to the difficulty of enlisting the marginally
interested workers without such support and to the difficulty of maintaining
secrecy as the campaign proceeds. All of the union leaders we interviewed agreed
that obtaining management's approval (either by quiet persuasion or harassment
and economic threat) is critical to the success of the union. Marginally
interested workers look to the authority of the company leader or senior
management for guidance in choosing whether or not to support a union. If
management accepts the union, organizers will often ask the company president to
address the workers on their behalf whereas if management is firmly opposed to
the union, organizers will often have no option but to withdraw their organizing
effort. In the cases where the union persists in its organizing efforts despite
management resistance, it is likely to face significant management efforts to
undermine support. Management will often encourage the formation of a second,
more conciliatory union or, as a variant, create a "management-labor consultation
committee" to develop channels for employees to use voice in the establishment
without the accompanying disadvantages (for management) of genuine collective

bargaining. Some 40% of unfair labor practices cases brought before the Labor Relations Commission involve plural unionism. Another tactic is to transfer union-organizing leaders from unorganized to organized firms or establishments within the same corporate group.

That management opposition to new organization has the potential for significantly hindering the success of Japanese unions in organizing new enterprises is indicated by a 1986 survey of newly formed unions in the service sector (Tokyo City Labor Research Center, 1986). In nearly half of the cases, the union respondent reported that the employer had no knowledge of the organizing activity prior to the union's establishment, indicating that organizers feared opposition from the management. In the 52% of the cases where employers discovered the organizing activity early, 43% of the unions reported attempts by management to breakup the drive, 27% reported attacks aimed at the organizing leaders and 25% reported discrimination against the pro-union employees.[12] As these were successful organizing efforts, it is reasonable to assume that an even larger percentage of all efforts to unionize met with comparable, or greater, opposition. While we came across no evidence that Japanese management undertakes massive U.S.-style union-avoidance campaigns, the enterprise union system gives management ample opportunities to influence worker assessments of the value of organizing in more subtle ways.

Turning to the posited impact of union organizing resources on the rate of new organization, perhaps the best Japanese example of how additional resources can increase membership is the experience of Zensen Domei (The Japan Textile Workers Federation) in the service sector, especially chain stores (Nakamura; Dore). In the 1970s and 1980s Zensen structured its union leadership to concentrate on organizing; it hired over thirty regional organizers and employed

as regional chiefs professional organizers who rotate among posts. As a result
Zensen members in the distribution division have grown from 5% of union
membership in 1971 to 37% in 1987, allowing the union to increase membership
despite declining textile employment.

2) The second relation in our model links management activities to deter
unionism to economic factors likely to affect the profitability of opposing an
organizing drive: the potential loss of profits from unionization resulting from
the effect of unionism on costs through the union wage premium or other factors;
the cost of actively opposing an organizing drive, which depends critically on
the "technology" of resisting unions at work places, including the legal options
for opposition, and penalties for unfair labor practices; the cost of
establishing union-like work conditions (consultation committees, grievance
procedures) that are likely to reduce worker interest in organising; and to the
resources the union allocates to its organizing drive.

Contrary to the myth that Japan's enterprise-based unions are ineffectual,
and thus unlikely to induce management opposition, evidence suggests that they
have significant economic effects that ought to induce at least some management
resistance to organizing. In the area of compensation, Nakamura et al (1988)[13]
present cross-section comparisons of union and nonunion workplaces showing that
unionism: 1) raises the pay of female workers by 10-30%, reducing male-female
wage disparities; 2) raises bonuses and severance pay by 25-30%; 3) raises
severance pay for voluntary labor mobility relative to severance pay for
involuntary mobility by some 10%; and 4) reduces regular working hours per year,
as workers use holidays and paid vacation days more in unionized than in
nonunionized firms. They also report that two 1985 surveys of unions organized
between 1977 and 1985 showing wage increases beyond what would have been expected

in roughly half of the cases after unionization. In the area of work organization, Koike stresses the importance of "the union's interest and voice in a wide area of managerial affairs" (Koike, 1988, 252) while Nakamura et al note that upper limits on overtime are more rigidly observed for unionized firms and emphasize that unions limit the freedom of employers to lay-off or transfer their workers since all personnel changes must be made with some union consultation. In particular the tendency of Japanese firms to lay off more expensive senior workers (Koike 1988, 170-171) will meet with more opposition in a unionized setting. While we know of no study of the union impact on profitability per se comparable to those in the United States (Freeman and Medoff, Salinger, Ruback and Zimmerman), the evidence on what unions do in Japan suggests that, as in the U.S., they raise the workers' share of quasi-rents, potentially inducing at least some management opposition. The role of unions in opposing layoffs suggests that such opposition is likely to be more severe under adverse economic conditions.

3) The third relationship in the model links union (worker) organizing activity to: the wage premium and other benefits that unions bring to workers; existing union density; the resources management devotes to opposing unionism; and a catch-all vector of other relevant factors, largely relating to labor market conditions, such as labor market mobility, a factor often cited as an explanation for young workers' lowered interest in both firms and unions.

We make union organizing depend on existing union density for two reasons: because a high density spreads the cost of organizing new units over a larger number of existing members[14]; and because it increases the likelihood that some existing unions will have an economic interest in organizing the unorganized. This should be especially important in an enterprise union system, where interest in extending unionization into new areas, such as the growing tertiary sector,

may be small for enterprise-based organizations in other sectors.

Turning to the incentive workers have to unionize, the various compensation and noncompensation factors given earlier as costs to employers (as well as factors that may benefit both sides, such as greater voice through joint consultation channels -- Koike, 1988, p. 253) are likely to provide incentive to organize; and in fact surveys show that across age groups, firm size, education levels, and occupation groups the majority of unorganized workers in Japan have positive attitudes towards unions (Nakamura et al, 1988, p. 189).

Three aspects of our model deserve comment.

First, contrary to many analyses of union formation, our analysis posits that the union wage premium (other advantages to workers of organizing) has an ambiguous effect on organizing success. This is because higher wages/other benefits not only raise worker desires to unionize but also increase management resistance, with uncertain net effects. It is the magnitude of economic rents that has an unambiguous impact on unionisation: the smaller the rents the less likely will workers organise. If unions maintain a given premium when rents are small, management will spend greater resources opposing unions. If, by contrast, unions grant concessions/ accept smaller premiums when rents are small, worker interest in organizing will be less.

Second, the model posits interactions between labor's and management's allocation of resources to organizing. Management takes account of union organizing activity in its decision to oppose unions while unions take account of management resistance in its organizing activity, in both cases because what each side does affects the productivity of the others' sides resources. Because increased management opposition can lead unions/workers to forego organizing efforts by making the probability of successful collective bargaining small, the

interactions imply that declines in union organizing activity or in professed worker interest in unionism should not be viewed as exogenous factors: they may, instead, be endogenous responses to changes in management resistance.

Third, the interaction of management and labor decisions and the dependence of union organizing on past density can produce cumulative changes over time -- persistent increases or decreases in unionism, as has occurred historically in Japan, the United States, and elsewhere. Cumulative changes occur when organizing activity depends critically on density and/or when changes in the resources one side allots to organizing induce opposite changes in the other side, as described above.

Models of the type in exhibit 5 have been used to explain declining union density in the U.S. (Freeman, 1988), where most analysts now regard intensified management opposition to organizing drives as a -- if not the -- major cause of union decline (Freeman and Medoff; Farber; Dickens and Leonard; Goldfield); and to explain the 1980s drop in union density in the U. K., where the Tory government's labor relations policies altered the benefit/cost calculus of organizing (Freeman and Pelletier, 1989).

Does this model also illuminate the decline in density in Japan?

We argue in the next section that it does -- that much of the decline in Japanese unionism is due to increased management resistance to new unionism and reduced worker interest in unions, induced by a tougher economic environment that reduced the economic rents to be shared between the parties, and abetted by a more pro-employer legal environment.

III. Economic Determinants of the Decline in New Organization and Density

As we lack direct measures of management resistance to unionism and of labor organizing activity, the evidence for our model is indirect. We show first that

the timing of the decline in union density was roughly coincident with the tougher economic conditions that developed after the oil shock and was accompanied by court interpretation of labor laws more favorable to management and reduced worker interest in unions. We then present cross industry time series data that reveal that density and organizing success fell most in sectors of the economy with the greatest squeezes in profits per unit of capital or with the greatest deviation of quasi-rents per worker fom trend.

Changes in economic and legal environment

The image of Japan as a super-economy notwithstanding, many Japanese firms experienced sufficient economic pressures after the oil shock to make them potentially less conducive to unionization than in earlier years. Labor's share of the national output rose from 70% to 79% between 1971 and 1975 as a result of the massive wage increases that followed the oil shock, squeezing profits, and threatening hyper-inflation. A separate point of pressure on firms was their highly leveraged financial position. In 1972 the ratio of equity to total capitalization of principal corporate enterprises stood at 18% as compared with the U.S. level of 51% for all manufacturing and utilities. (Wallich and Wallich, 1976 p. 267). The slowdown in growth and increase in the price of raw materials brought many small companies to ruin after the first oil shock. In 1977 the bankruptcy rate was 1.3% with 18,000 bankruptcies in Japan and losses of $16 billion -- figures that appear to be larger than those in the United States (Saxonhouse, 1979). In ensuing years, the rise of the NICs and fluctuations in the exchange rate of the yen created additional economic problems for Japanese firms. Many firms in depressed industries cut their workforce by calling for volunteers for early retirement, or through outright dismissal (Koike 1987, p.165-173). In the context of our model, the reduction in economic rents in the

period can be expected to reduce union organizing success, either by intensifying management resistance (if the union premium is stable) or by reducing worker interest in organizing (if union effects fall, as suggested by the reduced wage demands in the Shunto offensives after 1975).

Possibly independently or possibly as a response to the post-oil shock economic conditions, the legal environment in Japan also changed in ways that weakened the ability of unions to organize new workplaces. Court decisions made some union actions on the employer's premises or during working hours a violation of employers' property and management rights, effectively restricting organizers to off-premise activity outside of working hours.[15] Even if the significance of these decisions is overstated by observers such as Kataoka (1984), they surely strengthened management's position in the organizing arena. In the public sector court decisions placed even greater limitations on union activity while the privatization of the three major public enterprises in the 1980s eliminated thousands of jobs and created profit incentives for management to oppose unions (Japan Labor Bulletin, March 1 1987, p.6). The 1984-1986 drop in union density from 60% to 56% in the transportation, communication and utilities sectors shown in exhibit 1 is mainly attributable to this administrative reform.

Econometric evidence

To test the claim that post-oil shock economic pressures on the Japanese economy contributed to the decline in union density, we have examined the time pattern of density from 1965 to 1986 for the economy as a whole and for 25 industries, linking density to lagged density, changes in employment, time trends or year dummy variables to reflect period effects and/or measures of economic pressures. Lagged density is included to reflect the impact of the past stock on current density; changes in employment is included because in Japan union workers

are usually laid off last while non-regular workers and workers in small firms
tend to be hardest hit in downturns, raising density when employment declines and
because of the fact that when unions fail to organize new workplaces growth of
employment reduces density. Time trends (one for the total period and one for
the post-1974 oil shock period)/year dummies are introduced to provide a tough
"null hypothesis" against which our model can be tested.

Exhibit 6 summarizes the results of our analysis of the aggregate union
density; in panel A we relate density to time trends, while in panel B we link it
to an indicator of profitability, the ratio of profits to capital (= net worth).
The panel A plots confirm our claim that the bulk of the drop in density occurred
post the oil shock slowdown, with the post-1974 trend variable dominating the
general trend variable. The near unit coefficient on the change in ln employment
in the underlying regression supports our claim that it is failure to organize
new sectors rather than de-unionization of existing workplaces that underlies the
loss of density as it implies an effective zero impact of employment growth on
new union membership. The panel B regressions show that our measure of profits/
capital, which dropped considerably during the post-oil shock period, does just
about as good a job explaining the pattern of density as the trends. If we
include trends and our profitability measure in the same equation, both enter
significantly, but the bulk of the decline is captured by the trend variables,[16]
as might be expected given the smooth post 1974 decline in density illustrated in
the exhibit.

To make a firmer assessment of the economic determinants of the decline in
Japanese union density than is possible with limited time series data, we
developed a cross industry/time-series data set linking union density and
organising success to measures of profitability or quasi-rents. This data set

contains upwards of 420 observations for 6 one-digit and 19 two-digit
manufacturing industries with sufficient cross-section and time-series variation
in density, organizing success, and economic conditions to provide a strong test
of our model. We estimate one equation for the change in ln density:

(2) Δ ln DENSITY = a + b Δ ln DEMP + c P + d ln DENSITY(-1)

and one for the level of organizing activity:

(3) ln PCTNEW = a + b P + c ln DENSITY(-1), where ln is the natural
logarithm; EMP is employment; and P is our measure of economic pressure.

Exhibit 7 presents the results of our cross-section time-series analysis of
changes in density (columns 1-3) and of organising success (columns 4-6) in 2
digit manufacturing and 1 digit non-manufacturing industries grouped together.
The key variable is the ln ratio of profits to net worth in each industry, which
our analysis predicts should be inversely related to changes in unionisation.[17]
In columns 1 and 4 this variable is entered with the change in employment and
lagged density but with no trend variables. Since the regressions include
industry dummy variables the coefficients on profitability provide the input
needed to estimate the effect of within-industry profit-squeezes on changes in
density/ organizing success. Columns 2 and 5 record coefficients from regressions
in which we added a time trend and a post-1974 time trend, while columns 3 and 6
record the results of regressions with individual year dummies.

There are four findings in the table. First, in all of the calculations for
the change in density, including those with the two trend variables and those
with the year dummy variables, our profitability measure obtains a positive
coefficient, indicating that a profitable economic environment is conducive to
unionization while a less profitable one is not. Second, as in the aggregate
analyses, employment changes have an adverse impact on density. Third, the

column 4-6 regressions, which look behind the changes in density to the
determinants of the rate of organizing new worker, yield substantial
statistically significant effects for profitability that indicate that it affects
density by altering organizing success, as posited in our model. Fourth, lagged
density, which plays an important role in our model because it induces cumulative
changes over time, obtains positive coefficients in all cases, with an
exceptionally large coefficient in the regressions lacking trend terms.

On the basis of the regression estimates in exhibit 7, how much have within-
industry changes in profitability contributed to the aggregate drop in density,
compared, say, to the other factors considered earlier in exhibit 2? To answer
this question, we have used the column 1 model to derive the longterm impact of
profitability on the equilibrium level of density (=coefficient on profitability/
coefficient on the lagged density term) and multiplied it by the 1975-86 change
in our profitability measure. Our resultant estimate is 5.2 ln points of ln
density, or about 2 points of the 6 point drop in density. As indicated by the
smaller coefficients on profitability in columns 2 and 3, when trend terms are
included, changes in profitability add much less explanatory power — about 1
point in the change in density.

Because any indicator of profitability is subject to problems of measurement
and definition, we supplemented the exhibit 7 analysis by examining the impact of
a second measure of profitability on changes in density and on the rate of
organizing success: "quasi-rents" per worker in manufacturing, where we have
sufficiently good data to estimate quasi-rents per worker as value added minus
compensation/ employment.[18] Since increases in the capital stock necessarily
raise quasi rents per worker, we concentrate in this analysis on deviations in
quasi-rents from trend, regressing changes in union density or rates of

organizing success on quasi-rents/employee, trend variables/year dummies, and the other variables from our model. Exhibit 8 presents the results of these calculations and, in columns 1 and 4, of comparable calculations using our previous ln profits/capital measure of profitability. With trend included, the quasi-rent per worker variable (obtained, as noted in the exhibit, from a completely different data set than that for profits/asset) obtains the hypothesized positive impact on changes in density and on union organizing success, with a statistical significance comparable to that for our original profitability measure.

Interpretation

While the available data and interactive nature of our model makes it difficult to distinguish the separate role of enhanced management resistance to unionization and reduced worker interest in organizing, the computations lend considerable support to the notion that the underlying exogenous cause of the fall in density was the change in economic conditions that followed the oil shock.[19] Consistent with our stress on the impact of profitability, a 1986 survey of labor union activity reports that 43% of unions in firms in which within-firm density fell cited falling profits as a major influence on union organizing compared to only 30% in firms with steady or rising within-firm density (Survey of Labor Union Activity 1986, p. 52). Similarly, surveys of employee attitudes in Japan show a roughly coincident drop in worker interest in unions, especially among younger workers. An NHK survey reports a drop in the percentage of workers who said they would try to form a union if they were dissatisfied with working conditions in their company from 32% in 1973 to 25% in 1983, with most of the drop occurring after 1978 and among younger age groups (Japan Ministry of Labor Policy Division 1986). A separate survey of young

employees (Japan Productivity Center 1988) shows that the percentage of labor force entrants who feel that labor unions are good for the workplace dropped from 84% in 1973 to 63% in 1988, with 7 points of this drop occurring between 1973 and 1975 and 8 points between 1985 and 1988 — both periods in which the world economy changed in ways that adversely affected profitability and thus by our analysis were likely to have reduced worker interest in organizing. As an alternative hypothesis, we also looked at the possibility that increases in union dues could be reducing worker interest in unions. While union dues rose from 1.5% of wages in 1975 to 1.8% in 1979, they fell to 1.7% in 1983 (Ohara Institute, p.197) — a pattern of change that does not seem consistent or large enough to explain the attitude changes.

All told, the mid-1970s/1980s decline in Japanese union density, like the decline in U.S. and U.K. densities, illustrates the vulnerability of decentralized unionism to adverse economic circumstances and reveals the primary weakness of enterprise unionism: the difficulty of organizing workers across firm and, by extension, sectoral lines when economic conditions make firms less willing to accept organization of their workers, and workers less interested in devoted effort to organizing in the face of management reluctance to accept unions.

1. In some countries density was roughly stable (Germany, Canada, Australia); in others it increased (Scandinavian countries and Belgium); while in others it increased in the 1970s but fell in the 1980s (Italy, United Kingdom, France).

2. If we consider union membership as a share of the total workforce (including agriculture), then the drop since 1975 is smaller, from about 24 to 21% (28 to 23% for nonagricultural employment). Also, the rate of coverage of by collective agreements has risen from 80% in the mid-60s to 90% by 1975. If we consider the density of covered union members, then the rate rises between 1965 and 1975, and falls by 5.4 points (90% of 6 points) thereafter. Note also that 1975-1987 is not the only time when union density fell sharply in Japan. In 1938 the military government replaced unions, which had organized upwards of 7% of the industrial workforce, with patriotic associations; and in 1940 dissolved the Sodomei federation, effectively terminating the pre-war labor movement.(Garon) In 1950-51 the unions established under the American Occupation of Japan, which achieved a peak density of 56% in 1949, suffered major losses when the Occupation authorities and the Liberal Party cabinet of Yoshida Shigeru, sought to reduce union strength following major labor turbulence, first by revising prohibitions against the formation of businessmen's associations, denying the right to strike for public employees, and tightening union certification procedures, then by encouraging the dismissal of thousands of alleged Communists in both the public and private sector. During the "Red Purge", union density fell to 42% in 1951. Slow growth of union members due in part to rationalization of the workforce in mining and manufacturing brought union density down to 32% by 1960. The industrialization of the 1960s saw a rise in density to 35%, a level which held roughly steady until 1975 when the decline on which we focus began.

3. To see this, take a simple case of two factors.

Let s_w, s_m be shares of women , men in the labor force. u_w and u_m are the unionization rates.

Then $U = s_w \cdot u_w + s_m \cdot u_m$

A. $u_w = \Sigma u_{iw} \cdot s_{iw}$ where u_{iw} is the unionization rate for women in industry i; s_{iw} is the share of women in industry i in the total female labor force.

B. $s_w = (s_{wi} \cdot s_i)/s_{iw}$ for all i, where s_{wi} is the share of women in industry i.

Then $U = \Sigma s_{wi} \cdot s_i \cdot u_{iw} + \Sigma s_{mi} \cdot s_i \cdot u_{im}$

$$\Delta U = \Sigma(\Delta s_{wi} \cdot s_i \cdot u_{iw} + s_{wi} \cdot \Delta s_i \cdot u_{iw} + s_{wi} \cdot s_i \cdot \Delta u_{iw}) +$$

$$\Sigma(\Delta s_{mi} \cdot s_i \cdot u_{im} + s_{mi} \cdot \Delta s_i \cdot u_{im} + s_{mi} \cdot s_i \cdot \Delta u_{iw}) +$$

second and third order interaction terms which we discard. (See below)

Now, the third term inside the brackets for both summations reflects changes in the base unionization rates. Since this is not a structural change we ignore this term.

Then using the fact that $\Delta s_{wi} = -\Delta s_{mi}$ and the fact that

$$s_{wi} \cdot u_{iw} + s_{mi} \cdot u_{iw} = u_i, \text{ it follows that}$$

$$\Delta U = \Sigma \Delta s_{wi} \cdot s_i \cdot (u_{iw} - u_{im}) + \Sigma \Delta s_i \cdot u_i$$

Now, the second term in this expression is the sex factor's contribution to the changes in industry share. We have already considered the contribution of this part of structural change during the shift-share analysis of industry. Then it is the first term which reflects the yet uncounted contribution of the sex factor to structural change in U. Our calculation of this term gives us the nested contribution of the sex factor.

The second and third order terms which we have ignored should be small individually, and will only be significant if they are all of the same sign. We believe this is unlikely for two reasons. First, the interaction effect in the industry shift-share analysis was negligible. Second, we calculate the nested effects for two subperiods of the total period 75-86. The sum of the effects in the two subperiods is very nearly equal to the effect over the whole period, even though the base unionization rates used for the two sub-periods are different, and the industry shares are different in both periods.

The result given above can be extended inductively to any number of sub-factors.

4. That this not that extreme an assumption is indicated by the fact that just 11% of temporary employees join unions if there is a union in their firm (Japan Ministry of Labor, 1986). If one-third of workers are unionized, then the unionization rate of temporary workers would be about 4%.

5. The Labor Force Survey places employees of the public enterprises in its enterprise size category for enterprises with over 1000 employees. The Labor Union Survey places these workers in the public sector category within each industry. Using data from the Ministry of Finance reported in the Japan Statistical Yearbook, we have shifted the public enterprise employees over to the public sector category in the Labor Force Survey to correct this discrepancy. This avoids an artificial boost in the density of the 1000+ firm size category when these public corporations are privatized. We also leave these enterprises in the public sector in 1985, after two of them were privatized to control for an

artificial increase in weight being given to the larger firms.

6. Our estimate is obtained by multiplying the % of firms with non-members who are not employer's representatives) by (% of firms showing an increase over the last five years) and by (average increase over the last five years for firms that have had increases). This gives 73% X 50% X 3% = 1.1%

7. Specifically, we have the following:

Industry	PCTNEW, 1974	PCTNEW, 1986
Manufacturing	.69%	.18%
Construction	.23	.06
Services	.55	.13
Trade	.39	.10
Transp., Commun., Utilities	.72	.22

8. We obtain these estimates by using the stock-flow equation: over the period considered union density dropped from 35.0% to 34.2%; the newly organized worker to employee ratio cumulated to 5.5 percentage points. Using the stock-flow formula, we divide the difference between -0.8 and 5.5 (=-6.3) by the 35.0% initial density to obtain the estimated rate of depreciation.

9.From 1973 to 1981, 61% of new certification applications were brought to the Commissions as a result of unfair labor practices. (Central Labor Commission)

10.The interviews were conducted January 10-13, 1989 with Zensen Domei (Japan Federation of Textile, Garment, Chemical, Mercantile and Allied Industry Workers' Unions), Jidosha-Soren (Confederation of Japan Automobile Workers' Unions),Kinzoku Rokyo (IMF-JC - Japan Council of the International Metalworkers Federation),Denki Roren (Japan Federation of Electrical Workers' Unions), JPTUC-RENGO (Japanese Private Sector Trade Union Conference), and Nikkeiren (The Japan Federation of Employers Association)

11. A survey of unions formed between 1977 and 1983 reveals that over 90% of unionization drives relied on the help of an outside organizations, with 62% receiving help from union federations; 18% unions from parent firms or other firms in the same industry; and 23% receiving aid from unions outside the industry aid the drive. Nakamura et al, p.197-200

12. Nakamura(1988) p. 199. The last results mentioned are from a multiple response question. (25% response rate on a mailed questionnaire to 500 new tertiary sector unions.) The same survey also reports that roughly 1/3 of the unions reported that management showed a hostile attitude towards the new union and its membership. (Ibid, p.73)

13. Most Japanese government surveys of workers or establishments do not include questions concerning unions. As a result, the ability to do even a simple cross-section study of union wage effects is limited. Nakamura et al (1988, pp. 24-46) use evidence from a series of mail surveys conducted by the Tokyo Labor Economics Center. In particular they focus on a survey of small- to medium-sized manufacturing enterprises in Tokyo conducted in 1982. Of the 1874 firms who received questionnaires, 362 unionized and 272 non-unionized firms responded. (Large firms are excluded since the unionization rate is virtually 100%.) There were also follow-up interviews of some 1800 personnel at 134 firms. One extreme limitation of this study is that firm size is the only control variable used. The sub-industry sample sizes are too small to use industry controls. Another possible limitation is the overrepresentation of the publishing and printing

industry, which makes up roughly 1/3 of the sample of unionized firms.

14. This follows from the algebra. If it costs x yen for an existing union to organize a nonunion worker, then the cost of organizing a given percentage of the work force for each current union member is just x (1 - UDENS)/ UDENS.

15. The Hotel Okura case of 1975, the Kofu Railway Motive Power Union Bill-pasting case of 1975 and the Japan Air Lines case of 1976 are examples of regional court judicial precedents that favored the rights of employers (private and public) over those of workers in this fashion. The Supreme Court handed down a similar decision against the Sapporo Branch of the National Railway Workers Union during 1979. While unions can carry on activities outside of working hours and off-premises, enterprise-based unions tend to restrict themselves to activities at workplaces where they have use of firm facilities and are able to enlist the help of marginally interested workers.

16. The regression with profits/capital and the time trends is:
Δln DENS = -.3 -1.1 Δ ln EMP +.04 ln PROF/CAP -.4 ln DENS(-1) -.005 t -.001 t
          (.1)   (.2)   (.02)   (.1)   (.001) (.003)   74
where DENS is union density, EMP is employees, PROF is operating profits, CAP is total assets, and t and t are the two time trends.

17. We have not adjusted reported profits for the impact of unions on wages, and thus do not have a true measure of quasi-rents. Using reported profits rather than estimated quasi-rents is likely to work against our analysis, as sectors where union effects are greatest will report lower profits even when quasi-rents may be high.

18. Once again, we have not taken account of the impact of unionism on wages in our estimate of quasi-rents and thus bias our analysis against the model.

19. Nakamura et al, pp.9-10 refer to the work of Sano and Ono showing that union density and the density of collective agreements are highly significant in explaining interindustry wage differentials during the 1960's. If this effect has declined over time, this would tend to support the worker discouragement side of our model.

EXHIBIT 1:
Changes in Union Density by Sector: U.S., Canada and Japan

	United States			Canada			Japan		
	1973/5	1986	Δ	1975	1984	Δ	1975	1986	Δ
Total	29	18	-11	35	37	2	34	28	-6
Manufacturing	37	24	-13	49	45	-4	40	35	-5
Construction	38	22	-16	63	39	-24	18	19	1
Transportation, Communication & Utilities	50	35	-15	56	60	4	66	56	-10
Service	7	6	-1	15	36	21	26	19	-7
Mining	35	18	-17	47	33	-14	41	43	2
Trade	11	7	-4	9	13	4	11	11	0
Finance, Insurance & Real Estate	4	3	1	1	9	8	20	18	-2
Government	24	36	12	73	67	-6	67	69	2

SOURCE: U.S. 1973/5: Richard B. Freeman and James Medoff, "New Estimates of Private Sector Unionism in United States", Industrial and Labor Relations Review, 32:2, January 1979.

Canada: W.D. Wood and Pradeep Kumar, "The Current Industrial Relations Scene in Canada: 1977 and 1986" (Queens Univ, Kingston, Canada)

Japan: Basic Survey on Trade Unions, Japan Ministry of Labor
Labor Force Survey, Prime Minister's Office

The Japan National Railroad and Japan Telephone and Telegraph Public Corporation are included in Transportation, Communications and Utilities in 1975

EXHIBIT 2

Estimated Impact of Structural Changes on Union Density: 1975-86

STRUCTURAL FACTOR	1975-1986	1975-1981	1981-1986
TOTAL CHANGE IN DENSITY	-6.1	-3.6	-2.6
1. Industry	-1.4	-1.0	-0.4
2. Sex	-0.1	-0.1	0.0
3. Temporary	-0.4	-0.3	-0.1
4. Part-time	-0.2	-0.1	-0.1
PERCENTAGE FROM 1-4	34%	42%	23%
5. Firm Size	0.0	0.0	0.0
6. Aging/Management Posts *	-0.6	-0.3	-0.3
TOTAL EXPLAINED (1-6)	-2.7	-1.8	-0.9
PERCENTAGE FROM 1-6	44%	50%	35%

Sources: See text.

*   Aging/Management Posts estimates for 1975-1981 (and by
    extension 1975-1986) are extrapolated from the estimates
    for 1981-1986 based on the rates of labor-force aging in
    the two sub-periods.

EXHIBIT 3

Distribution of Private Sector Worker
and Proportion of Unionized by Firm Size

Firm Size	Proportion		Unionization Rate	
	1977	1985	1977	1985
1 to 29	40.6	38.8	0.6	0.6
30 to 99	17.9	18.1	9.0	7.5
100 to 499	16.2	17.6	33.2	26.7
500 to 999	4.8	5.4	57.8	47.4
Over 1000	20.5	20.1	82.9	74.8

Sources: Basic Survey of Labor Unions
         Labor Force Survey
         Japan Statistical Yearbook (Tables on Public Sector
             Employees)

EXHIBIT 4:
Number of Rate of Newly Organized Workers in Japan and U.S.: 1965-1985

	Japan		United States	
	(1) # Workers in new unions (in 1000's)	(2) (1)/employ- ment (in %)	(3) # workers organized by NLRB elections (in 1000's)	(4) (3)/employ- ment, private non-agricultural
1966	145	.49	314	.61
67	150	.49	340	.58
68	162	.51	261	.46
69	207	.65	279	.47
1970	225	.68	301	.52
71	231	.68	260	.45
72	163	.47	280	.46
73	182	.51	216	.34
74	189	.53	184	.29
75	165	.45	204	.33
76	120	.32	156	.24
77	108	.29	201	.30
78	87	.23	155	.22
79	107	.28	191	.26
1980	93	.24	173	.23
81	116	.29	144	.19
82	83	.20	- - -	- - -
83	87	.21	74	.10
84	65	.15	90	.11
85	74	.17	76	.09
86	60	.14	74	.09

Source: Japan, <u>Basic Survey of Labor Unions</u>, <u>Labor Force Survey</u>
All employees, including government and agriculture
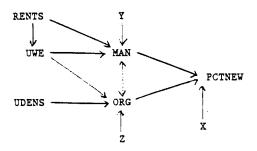but excluding self-employed

U.S., National Labor Relations Board, annual reports,
workers newly organized from RC election cases
won by unions.
Nonagricultural employment and government employment
from Council of Economic Advisors, <u>Economic Report
of the President</u>, 1989, Table B-43

EXHIBIT 5

Determinants of union organizing activity and management opposition and their effect on unionization of new workers.

The first relation
Determination of organizing success: PCTNEW = f(MAN, ORG, X)
 where PCTNEW = number of workers organized/labor force
 MAN = resources devoted by management to opposing unions
 ORG = resources devoted by unions to organizing
 X = other factors that influence outcome

The second relation
Management opposition: MAN = g(UWE, RENTS, ORG, Y)
 where UWE = union wage effect and union effect on working conditions
 where RENTS = quasi-rents or profits
 where Y = other relevant factors, largely relating to product
  market factors such as deregulation of industries, etc., which determine
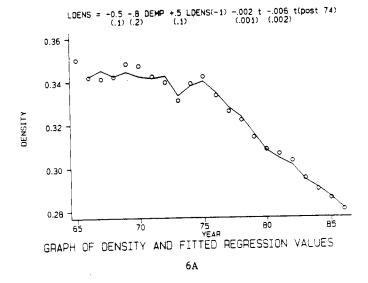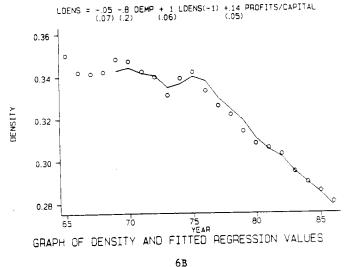 effect of unionism on profitability

The third relation
Union and worker organizing effort: ORG = h(UWE, MAN, UDENS, Z)
 where UDENS = union density at the beginning of the period
 Z = other relevant factors, largely relating to the labor market

EXHIBIT 6

LDENS = -0.5 -.8 DEMP +.5 LDENS(-1) -.002 t -.006 t(post 74)
        (.1) (.2)   (.1)   (.001) (.002)

GRAPH OF DENSITY AND FITTED REGRESSION VALUES

6A

LDENS = -.05 -.8 DEMP + 1 LDENS(-1) +.14 PROFITS/CAPITAL
        (.07) (.2)   (.06)   (.05)

GRAPH OF DENSITY AND FITTED REGRESSION VALUES

6B

LDENS is ln density. DEMP is the change in ln employees. LDENS(-1) is
lagged ln density. t and t(post-74) are time trends..

Sources: Density from the <u>Survey of Labor Unions</u> and the <u>Labor
          Force Survey</u>.

          Employees from the <u>Labor Force Survey</u>.

          Profits and capital from the <u>Survey of Commercial Enterprises</u>

EXHIBIT 7

The Effect of Profits and Value Added on Changes in Union Density
And Organizing Rate - Pooled Cross-Section and Time Series: 1966-1986

	ALL INDUSTRIES					
	(1)	(2)	(3)[a]	(4)	(5)	(6)[a]
DEPENDENT VARIABLE:	DDENS	DDENS	DDENS	LPCTNEW	LPCTNEW	LPCTNEW
Δ ln Employment	-.83 (.03)	-.88 (.03)	-.86 (.03)			
Profits/Capital	.052 (.009)	.034 (.01)	.029 (.01)	2.4 (.30)	1.0 (.29)	1.1 (.29)
ln Density (-1)	-.15 (.02)	-.19 (.02)	-.18 (.02)	3.2 (.50)	.96 (.47)	1.1 (.45)
Time x 100		-.43 (.08)			-7.2 (2.1)	
Post-74 time x 100		.31 (.10)			-2.4 (2.9)	
Industry dummies	25	25	25	25	25	25
Year dummies	no	no	18	no	no	18
Constant	-.18	-.18	-.01	-3.0	-4.1	.52
R^2	.68	.74	.76	.37	.55	.50
N	386	386	386	383	383	383

a) For regressions with year dummies the dependent and independent variables
   are the deviations from the industry means calculated by regressing all of
   the variables on the vector of industry dummies. The DDENS dependent
   variable is the change in ln union density where union density is
   calculated as union members over employees. LPCTNEW is the log of the ratio
   of members of new unions to employees.

Sources:

   The profit variable is the "operating profits or losses" (eigyo soneki) and
   the capital variable is the "total assets" (shihon) from the Survey of
   Commercial Enterprises as reported in the Japan Statistical Yearbook. The
   regressions using these variables include six one-digit industries (mining,
   construction, manufacturing, transportation and communications, trade and
   utilities) and 16 two-digit manufacturing industries. Values are converted
   to calendar year values from fiscal year values using the formula

v(calendar) = v(fiscal)*2/3 + v(fiscal) (-1) *1/3 .The panel is not balanced as industry coverage varies from year to year, and the years 1967 and 1968 are missing as data is unavailable. (A Statistical Appendix is available from the authors on request.) The variables are deflated using the consumer price index series from Katsuyo Rodo Tokei (Practical Labor Statistics), Tokyo: Japan Productivity Center, 1988, p.39, series no. 13.

The Employees variable is from the Census of Manufacturers for two-digit manufacturing industries and from the Labor Force Survey for one-digit industries outside of manufacturing.

The union members series is from the Survey of Labor Unions, using the series for unit unions (tan'i kumiai). Union density is calculated as union members/ employees.

The members of new unions series is from the Survey of Labor Unions, using the series for "actual new union members" (Jisshitsuteki Shinsetsu Kumiaiin).

EXHIBIT 8

The Effect of Profits and Value Added on Changes in Union Density
And Organizing Rate - Pooled Cross-Section and Time Series: 1966-1986

			MANUFACTURING			
	(1)	(2)	(3) [a]	(4)	(5)	(6) [a]
DEPENDENT VARIABLE:	DDENS	DDENS	DDENS	LPCTNEW	LPCTNEW	LPCTNEW
Δ ln Employment	-.92 (.05)	-.88 (.05)	-.85 (.05)			
Profits/Capital	.045 (.012)			2.0 (.39)		
ln Quasi Rents per Employee		.056 (.01)	.045 (.01)		.91 (.27)	.97 (.35)
ln Density (-1)	-.21 (.02)	-.24 (.02)	-.20 (.02)	.84 (.67)	.27 (.54)	.39 (.57)
Time / 100	-.41 (.1)	-.39 (.09)		-6.8 (2.4)	-5.4 (2.1)	
Post-74 time / 100	.27 (.1)	-.04 (.11)		-2.5 (3.4)	-10 (2.8)	
Industry dummies	19	19	19	19	19	19
Year dummies	no	no	20	no	no	20
Constant	-.18	-.64	.03	-4.5	-12	.95
R^2	.64	.55	.60	.58	.55	.46
N	283	420	420	281	413	413

a) For regressions with year dummies the dependent and independent variables
    are the deviations from the industry means calculated by regressing all of
    the variables on the vector of industry dummies. The DDENS dependent
    variable is the change in ln union density where union density is
    calculated as union members over employees. LPCTNEW is the log of the ratio
    of members of new unions to employees.

Sources:

    The Quasi Rents variable is calculated as Value Added - Compensation *
    Employees and is in Yen (Constant).

The Value Added variable is from the Census of Manufacturers as reported in the Japan Statistical Yearbook. The variable is for all firm sizes with the post-1980 series for firm size 4 and over spliced to the earlier series. The variable is deflated as for profits. Industry coverage is for manufacturing and 19 two-digit industries within manufacturing. As for profits coverage varies from year to year.

The Compensation variable is from the Monthly Labor Survey for extablishments with more than four regular workers. Deflated by CPI.

Other variables as in Exhibit 7.

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