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The Effect of Bargaining Structure Change on Dispute Resolution Process in Korea

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Union organization structure in Korea is being rapidly changed from company-level union structures to industrial union ones, especially after the 1997 foreign currency crisis. Through industrial union restructuring, unions are seeking a political power enhancement, the organization of nonstandard workers, and the reduction of differences in wage and working conditions by firm size. This paper tries to answer the question of whether the bargaining structure affects the impasse-resolution process with frequent mediations and strikes. The data show a significant effect of bargaining structure on the impasse-resolution process: a diagonal bargaining structure has a higher probability of requesting mediation service than does traditional single-company bargaining structure. Industry-wide bargaining has a higher probability of strike given a mediation was requested. A policy implication is presupposed based on empirical results.

Keyword: industrial unions, bargaining structure, impasse resolution process, mediation, strikes.

I. Substantial Changes in Collective Bargaining After the 1997 Financial Crisis

The 1997 financial crisis in Korea changed the union's and management's basic

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approach to industrial relations. Up to the crisis, the main role of a union was to improve wages and working conditions but not job security. Prior to 1997, job security had been taken for granted by workers and management alike. There was a so-called "implicit" contract of lifetime employment between them. Korean culture, in this respect similar to Japanese culture, has emphasized management's paternalistic approach in taking care of workers. This has lead to job guarantees regardless of companies' financial performance. However, the guarantee of jobs became a burden to companies in the 1990s when the growth rate of the Korean economy began to lag after two decades of success.

In the 1990s, companies responded to slower growth of the economy but were hampered by the aforementioned tradition of paternalism. Companies adopted early retirement programs, as an alternative, with financial incentives to retirees. In early 1997 Korean Labor Standards Law was revised. The revised law explicitly stated the conditions for layoffs although enactment was postponed for two years to allow companies time to prepare. Prior to 1997, it was unusual from companies to lay off workers, even when business conditions were bad. When workers were laid off, the legitimacy of the layoffs was a judicial issue, rather than a legislative one.

The 1997 financial crisis, however, gave companies a good opportunity to adjust the number of workers, because the Tripartite Commission removed the preparation period.[1] Companies claimed that layoffs were inevitable if they were to survive the unexpected shock of their cash-flow problems. With a reluctant approval from the union side, companies began to lay off workers.

Labor unions, right after the unexpected crisis, were not ready to adopt this fundamental change in employment practice. Social pressures, however, to overcome the crisis made unions adopt the layoffs without strong resistance. Since then, unions have used different strategies to protect workers' job security in addition to wages and working conditions. Some unions' strategies include merging company-level unions to form industry-level unions, adopting industry-wide bargaining or coalition collective

1) The Tripartite Commission in Korea was established right after the 1997 crisis as the President-elected Dae-Jung Kim at the time recommended the Commission to accommodate the social unrest due to the crisis. It composed of representatives from labors, managements, and governments.

bargaining to enhance the bargaining power, and using general strike to make managements concede.

Does this change in union organizing structure and collective bargaining structures affect bargaining impasse procedures? In other words, does an industry-wide or coalition bargaining structure increase the occurrence of bargaining impasses and strikes, as management claims? This paper is an effort to answer this question by analyzing empirical data on the collective bargaining process collected by the Korea Labor Institute in 2002.

Recent changes in union organization and bargaining structure in Korea are reviewed in next section. In section III, the current situation of bargaining structures are analyzed and then the hypothesis about the effect of bargaining structure on the occurrence of bargaining impasses and strikes is tested. In section IV, the empirical results are summarized and the future of impasse resolution processes in Korea based on the empirical results is postulated.

II. Changes in Union Organization and Bargaining Structure

Since 1980, the basic structure of collective bargaining in Korea has typically been focused on single companies. Labor law changes in 1980 only allowed workers to form unions only at the level of one company or workplace. A union was assumed to bargain with a company on wages and working conditions. The government that took power with a military coup in 1980 emphasized cooperative industrial relations and enforced this company-level collective bargaining. Even a federation of unions in an industry or in a region was regarded as a third party in collective bargaining. The law strictly prohibited the third party's involvement on company-level collective bargaining. This restriction resulted in a weakening of the bargaining power of unions.

This single-company collective bargaining structure continued to be a common practice until late 1990s, even though the restrictions on union organization structure

were removed from labor laws revised in 1987 (Bognanno, Budd, & Lee, 1994; Bognanno, Bognanno, & Lee, 2002). Recently, however, the bargaining structure changed rapidly and significantly. This change, which was activated by the 1997 economic crisis, also included an increased number of industrial unions, the coalition of company-level unions in collective bargaining, and the increased effort to protect nonstandard workers who were not union members.

1. Transition to Industrial Unions

Both the Federation of Korean Trade Unions (FKTU) and the Korean Confederation of Trade Union (KCTU) put a lot of effort into creating industrial unions by merging either union affiliations or company-level unions since mid 1990s. At the end of 2001, 30.2% of union members were Korea are under industrial unions. In June of 2002, 24 industrial unions under the KCTU umbrella accommodated 41.1% of KCTU members (Lee, J-H, 2002).

Unions began to emphasize the union organization change from company-level union to industrial union in order to overcome the difficulties in organizing non-unionized and nonstandard workers within company-level union structures, build the solidarity above the sometimes conflicting interests of various company-level unions, reduce substantial wage differences between workers at firms of varying firm sizes, and save bargaining-related efforts with replicated company-level negotiations (KCTU, 1997; Roh, 1999). The transition from company-level union to industrial union, however, was not easy, because of varieties in union organization structures at company level, substantial size differences among unions, differences in political influence at union affiliates and companies level, and resistance by management.

Management opposed the industrial union organization because they believed this would cause an increase in bargaining expenses due to the dual bargaining structure with additional company-level bargaining. They were also concerned by increases in political power caused by increased bargaining-unit size. They assumed this increased political power would produce antagonistic industrial relations rather than cooperative ones. This antagonistic collective bargaining culture would lead to more strikes and hurt industrial peace, they believed. They also criticized unions' uniform demands

regardless of firm size difference, the large number of and high turnover among bargaining representatives and the political purpose of industrial unions' at the expense of individual union demands. In its collective bargaining guidelines for 2003, the Korean Employers' Federation (KEF), describes how to avoid coalition bargaining and how to respond to coalition bargaining if it is unavoidable (KEF, 2003).

The trend is expected to continue in the near future in spite of companies' opposition to industrial union organization. A survey on preference of union structures shows that 69.6% industrial relations managers preferred company-level unions while only 41.6% of union representatives preferred them (Lee, J-H, 2002). On the other hand, more than half of the union representatives (52.9%) preferred the structure of industrial unions.

2. Changes in Bargaining Structure

Bargaining structure is a complicated concept. To understand it, we need to consider a few concepts related to bargaining (Yoon, 1998). There are three different bargaining levels in general: economy-wide bargaining, industry-wide bargaining, and single-company bargaining. In economy-wide bargaining, representatives from both unions and companies bargain on issues and reach a master agreement. This master agreement is used as a guideline to subsequent industry-wide and company-level bargaining. Economy-wide bargaining was popular in Sweden and the Netherlands a few decades ago.

In industry-wide bargaining, an industrial union bargains with representatives from a group of companies in the same industry. This industry-wide bargaining has been widely used as a main bargaining type in many Western countries. Companies in Western countries also prefer this kind of bargaining because they can avoid time- and resource-consuming bargaining-related competition among companies in the same industry. In Korea, companies in the textile, rubber, taxi, and automobile manufacturing industries prefer this kind of industry-wide bargaining. In addition, companies can resist this type of bargaining when a coalition of unions demands a company's concession. Third, it is an easier and more efficient way for companies in the same industry to set up education programs, job security programs, and research

projects. These programs and projects can be run in efficient ways with multiple companies' support.

The last type of bargaining structure is single-company bargaining. This type has been a traditional one for many decades in Korea with company-level union organization system. This bargaining structure is the most decentralized one. The tradition of this type of bargaining in Korea has, over decades, resulted in substantial wage differences by company, solidarity problems among union members from different companies, and difficulties in unionization of nonstandard workers.

In this paper, we define bargaining structures as one of five different types: single-company bargaining (a company-level union bargains with a company), occupation-based coalition bargaining (a group of unions organized on occupational lines bargain with a group of companies in an industry), region-based coalition bargaining (a group of unions bargain with a group of companies in a region), diagonal bargaining (an industrial union or a union federation delegates bargains with a company), and industry-wide bargaining (an industrial union bargains with representatives from a group of companies in one industry).

In Korea, in 1960s and 1970s union organization was based on the industrial union model. There were 16 industrial unions with 892 local union while the number of collective agreements was 664 in 1965 (Kim, J-H, 1999). The same structure could be found in 1971. At that time, there were 17 industrial unions with 3,370 locals. Almost every local negotiated its own contracts. The number of contracts was 2,848.

〈Table 1〉 Change in Bargaining Structure : 1994~97

	Wage bargaining		Bargaining except wages	
	single-company(%)	others(%)	single-company(%)	others(%)
1994	-	-	82.2	17.8
1995	88.4	11.6	82.7	17.3
1996	87.7	12.3	86.9	13.1
1997	85.0	15.0	84.8	15.2

Source: Ministry of Labor; from Kim, Jeong-Han (1999).

<Table 1> shows the changes in bargaining structure between the year 1994 and 1997. In Korea, collective bargaining on wages is held every year while bargaining on other issues is held in every two years. As seen at <Table 1> single-company bargaining was reduced although that trend is not clear in non-wage bargaining in this period.

Since 1997, this trend has changed rapidly. Surveys on collective bargaining between 1997 and 2001 revealed clearly that the single-company wage bargaining structure has decreased since 1997, as seen in <Table 2>. Over 90% of collective bargaining was held at company-level in 1997. By 2001, this figure dropped below 74%. Occupation-based coalition bargaining strutures, region-based coalition bargaining strutures, and diagonal bargaining strutures composed 10.7%, 4.0%, and 8.1%, respectively of collective bargaining structures in 2001. Industry-wide bargaining made up 3.8% of structures in 2001.

An analysis of the determinants of coalition bargaining showed that the power of te union positively affected the preference for coalition bargaining (MoL, 2002). Union affiliated to the FKTU is negatively related to the preference.

〈Table 2〉 Trends in Bargaining Structure: 1997~2001

	Bargaining structure (%)					
	single-company	occupation-based coalition	region-based coalition	diagonal	industry-wide	total
1997	90.8	5.0	2.1	2.1	-	100.0
1998	85.5	5.4	0.4	8.7	-	100.0
1999	86.9	5.6	2.0	5.6	-	100.0
2000	77.1	16.5	1.8	3.7	-	100.0
2001	73.4	10.7	4.0	8.1	3.8	100.0

Sources : Ministry of Labor(2002); KLI(2002).

Another survey on the preference of bargaining structure shows that 71.3% of industrial relations managers preferred single-company bargaining structure while only 36.9% of union representatives preferred the single-company structure (Lee, J-H,

2002). The remaining union representatives preferred an occupation-based coalition bargaining structure (25.9%) or an industry-based bargaining structure (22.2%).

3. Bargaining Structure Changes in Other Countries

The changes in bargaining structure have been recognized in other countries too. However, the direction seems to be opposite to the direction in Korea.[2] Windmuller (1988) argued that the decentralization trend could be seen in 10 advanced countries. Katz (1993) analyzed the bargaining structure of six countries, including Sweden, Italy, Australia, England, U.S., and West Germany up to early the 1990s, and concluded that there was a trend toward decentralization, except in West Germany, even though unions resisted decentralization. After the unification of West and East Germany, there have been many cases of decentralized bargaining. Katz argued that the reasons for decentralization included increased management power, increased importance of workplace issues, decentralization of company structure, and variety of workers' interests. A few countries, however, show a centralization trend. Norway and Portugal in recent years, and the Netherlands and Italy after 1989, show such a trend (OECD, 1997).

Nineout of 17 OECD countries have 3-tier bargaining structures (economy-wide, industry-wide, and company level). The remaining eight countries have 2-tier structures (industry-wide and company level) (OECD, 1994). Many countries have industry-wide bargaining as a major structure, while an economy-wide bargaining structure is prevalent in Finland, Sweden, and England. Company-level bargaining is prevalent in Canada, Japan, and the U.S.

4. Impasse Resolution Process

A bargaining impasse occurs when negotiation between management and the union maks no meaningful progress toward an agreement. Several possible resolutions are recommended to avoid bargaining impasse: conciliation, mediation, strike and

2) Most Western countries have industrial unions except for the U.S. and a few other countries. We, thus, need to pay attention to union organization differences when making comparisons.

arbitration. Labor laws in Korea define a request for mediation as a necessary step prior to any strike in the private sector, and prior to arbitration in the public sector. Conciliation as a pre-mediation process has not been used in Korea since 1997. Most unions have the right to strike if the workplace is not an essential public service such as public transportation; water, electricity, or natural gas; petroleum refineries, medical services; banking and securities, and so on.

In 2001, 1,096 bargaining parties requested mediation services from Regional Labor Relations Commissions. In the same year, there were 96 mediation requests to Central Labor Relations Commission (Lee, Y-M, 2003). Among the 1,096 cases mediated by Regional Commissions, 385 cases ended with the adoption of committees' mediation plans, while 507 cases ended with the refusal of the mediation plan. The remaining cases ended with administrative guides or self withdrawls. Among 96 cases mediated by the Central Commission, 26 cases ended with the adoption of the plans, while 48 cases failed to reach agreements.

As the organizational structure of unions changed to industrial unions, bargaining structures also reflect this change, moving from company-level bargaining to a broader-level bargaining. Companies worried that the increased political power of unions and increased bargaining unit resulted in more frequent labor disputes and social unrest. How did bargaining structure affect the impasse-resolution process in 2001? This question is answered in the next section.

III. Empirical Analysis

To answer the question on the effect of bargaining structure change, data collected by the Korea Labor Institute (KLI) in 2002, as well as that collected from commercial companies is used. The empirical analysis begins with a probit regression on strike occurrence because the traditional analysis of strikes as a way of resolving bargaining impasses does not consider the mediation process. In this paper, a two-step approach is used to see the effect of bargaining structure on mediation requests and then on strike occurrence after the mediation process.

1. Description of Data Set

The KLI began a panel survey on industrial relations and industrial relations in 2002. A sample of 6,000 firms from the Employment Insurance Database was made with controls for industry and firm size. Survey forms from 2,417 firms were returned. Then this information was merged with another dataset about firms' basic and financial information from Korean Credit Information Co..

Finally, a sample of 2,417 firms was available to use in the analysis. Out of 2,417 firms, 876 firms are unionized and are used for this analysis. However, there is a difference in responses because the data were collected from both management and unions. In this paper, the analysis is based on the responses from the union representatives, under the assumption that they have more correct and complete information than the management[3] (See Appendix Table 1 for statistical differences). The sample size based on information provided by union representatives is 579.

Simple statistics on variables are presented in <Table 3>. Bargaining structure is categorized by five groups: single-company bargaining, occupation-based coalition bargaining, region-based coalition bargaining, diagonal bargaining, and industry-wide bargaining. Single-company bargaining is the most-commonly practiced structures among the five groups. Occupation-based coalition bargaining, region-based coalition bargaining, diagonal bargaining, and industry-wide bargaining composed 10.7%, 4.0%, 8.1%, and 3.8%, respectively.

The majority (53.9%) of the unions had open shop clauses. Over 45% of unions had union shop clauses and 1.0% of unions had closed shop clauses. Firm size was a categorical variable: 10.2% had less than 99 workers; 32.5% with between 100 and 299 workers; 19.5% with between 300 and 499 workers; 21.2% with between 500 and 999 workers; and 16.6% with more than 1,000 workers. For industry distribution, the majority of the sample was from the manufacturing sector. About 14% were from transportation, 12.6% from service industries, and the rest from the public sector and

3) The reason for this assumption is union representatives had clearer and more correct memories on the facts about bargaining processes than the managers or first-level employees who actually filled out the survey forms in industrial relations department.

〈Table 3〉 Simple Statistics

	Variable	Description	Obs	Mean	Std. Dev
bargaining structure	struc1	single-company bargaining	579	0.734	0.442
	struc2	occupation-based coalition bagaining	579	0.107	0.309
	struc3	region-based coalition bargaining	579	0.040	0.195
	struc4	diagonal bargaining	579	0.081	0.273
	struc5	industry-wide bargaining	579	0.038	0.191
shop	unshop	union shop	579	0.451	0.498
	opshop	open shop	579	0.539	0.499
	clshop	closed shop	579	0.010	0.101
firm size	fsize1	less than 99 workers	579	0.102	0.303
	fsize2	between 100 and 299 workers	579	0.325	0.469
	fsize3	between 300 and 499 workers	579	0.195	0.397
	fsize4	between 500 and 999 workers	579	0.212	0.409
	fsize5	more than 1000 workers	579	0.166	0.372
industry	manu	manufacturing sector	579	0.554	0.497
	trans	transportation sector	579	0.142	0.349
	service	service sector	579	0.126	0.332
	public	public sector and others	579	0.178	0.383
affiliation	FKTU	Hankook Nochong	579	0.582	0.494
	KCTU	Minju Nochong	579	0.359	0.480
	Other	No affiliation	579	0.059	0.235
jobseq	job security > wage increase		579	0.100	0.300
union	year since unionization		579	18.126	10.088
lmrels	cooperative labor-management relationship		579	0.553	0.498
striexp	strike experience in the previous year		579	0.107	0.375
lncapit	log (capital)		533	9.938	2.604
lnsale	log (sale)		444	19.317	1.842
lnsalepr	log (sales profit)		366	16.635	2.157

Note: 1) Data collected from two sources, and merged to a commercial company data bank. In this analysis, however, only data collected from union representatives are used because there are a considerable difference between data collected from a company and data from union representatives. The authors have assumed that union representatives have more correct information on collective bargaining history than a company's employees who actually provided the information on collective bargaining.

other industries.

In terms of union affiliation, 58.2% of unions were affiliated with the FKTU and 35.9% were affiliated with the KCTU. About 6% of unions have no national-level union affiliation. Over 10% of unions mentioned that they focused more on job security than wage increases during this period of collective bargaining.

The average number of years since its unionization is 18.1 years. Over 51% of unions mentioned that labor-management relations are cooperative rather than antagonistic. About 10% of unions had strikes in the year 2000.

2. Probit Analysis on Strike Occurrence

As mentioned earlier, strike occurrence as a preliminary step was analyzed because most analyses of strike activity in earlier studies did not consider the mediation process in detail. Kim & Yoon (1991) was an exception. They analyzed the determinants of strike occurrence and duration. Dummy variable for coalition bargaining had a positive sign for strike occurrence although it was not significant.

As seen in <Table 4>, bargaining structure did not affect strike occurrence. Union affiliation with KCTU and strike experience in the previous year increased strike occurrence. A cooperative labor-management relationship is negatively related to strike occurrence.

With financial information, Model 1 has a profit and shows an expected negative effect. Higher the profit level, the lower the probability of strike occurrence. In Model 2, financial information variables for capital and sales were added. The effect of profit went away and a weak effect of size popped up. With this additional financial variable, the effect of KCTU disappeared gone while the effect of the other variables basically remained.[4)]

4) The effect of capital to the strike occurrence is not quite clear at this point, although the capital in the estimation counteracts the significance of the KCTU. Also, the amount of capital changes the effect of profit and sales in the estimation. The correlation between capital and firm size is about 0.2 and the multi-collinearity problem may not exist in the estimation.

〈Table 4〉 Probit Estimation for Strike Occurrence[1)]

(Dependent variable = 1 if a strike occurs in bargaining
0 if no strike occurs in bargaining)

Independent Variable		Model 1 Coeff.	S E	z	Model 2 Coeff.	S E	z
bargaining structure (reference: single-com bargaining)	occupation-coalition	0.148	0.405	0.365	-0.483	0.799	-0.605
	region-coalition	-0.161	0.607	-0.265	-	-	-
	diagonal	0.381	0.318	1.200	0.400	0.493	0.810
	industry-wide	0.481	0.427	1.127	-0.432	0.690	-0.627
union shop		0.055	0.221	0.249	-0.245	0.337	-0.728
firm size (reference group: 100<fs<299)	fs<99	0.144	0.363	0.398	0.368	0.601	0.613
	300<fs<499	-0.454	0.400	-1.135	-0.295	0.621	-0.474
	500<fs<999	0.141	0.289	0.489	0.559	0.432	1.295
	fs>1,000	0.117	0.332	0.352	0.553	0.505	1.095
KCTU		0.680	0.262	2.589**	0.571	0.378	1.511
job security		-0.431	0.524	-0.823	-0.149	0.632	-0.236
year since unionization		-0.022	0.015	-1.467	-0.016	0.021	-0.757
cooperative relationship		-0.542	0.254	-2.135**	-0.654	0.379	-1.727*
strike experience in previous yr		0.841	0.194	4.348***	1.055	0.262	4.027***
financial information	log(capital)				0.175	0.185	0.946
	log(sale)				-0.266	0.161	-1.654*
	log(profit)	-1.453	0.344	-4.229***	-0.756	1.984	-0.381
constant		-1.31	.556	-2.360**	-.420	1.796	-.234
Sample size		579			357		
Log-likelihood		-85.2397			-44.6		
LR χ^2		92.89			56.60		
Probability > χ^2		0.000			0.000		

Notes : 1) Analysis is based on the data provided by union representatives.
2) Variable region-based coalition bargaining predicted failure perfectly and was dropped from the analysis.
3) Industry dummies for manufacturing, transportation, public and others are controlled but is not reported here.
4) * <0.1; ** <0.05; *** <0.01

A study of strike occurrence in Korea between 1988 and 1990 showed that strike occurrence is more related with lack of bargaining experience, union rivalry than with profits (Lee, 1992). Kim & Yoon (1991) did not include a firm performance variable

in their regression. This means that they assumed strike occurrence in the late 1980s was more affected by experience in collective bargaining and characteristics of industrial relations than by a firm's economic performance.

However, ten years later, the firm's economic performance seems to affect strike occurrence. Both Model 1 and Model 2 show that a firm's good economic performance seems to reduce strike occurrence. Another study using collective bargaining data from the year 2000 showed that strike occurrence is negatively related with sales profit per capita (MoL, 2002). This can be interpreted as showing that bargaining parties negotiate rationally as they accumulated experience during the 15 years since the struggles of the 1987 democratization movement.

3. Probit Analysis on Mediation Request

The next analysis examined the factors that affected the mediation service request. In Korea, either of the bargaining parties who is in a bargaining impasse should request mediation service in order to resolve the impasse. For unions, it is a necessary step prior to striking; arbitration is usually requested by management.

A probit model is used to estimate the effect of bargaining structure on requests for mediation. The probability of requesting mediation is higher in region-based coalition bargaining or diagonal bargaining structures than in single-company bargaining structures which were used as a reference group in the estimation, as seen in <Table 5>. This means that the number of mediation requests will increase as the bargaining structures of coalition bargaining or diagonal bargaining become more popular in the future as union organization structures change from company-level to industrial union models.

Also, the probability to request mediation seems to increase as firm size increases although it is not statistically signifiant. Also, affiliation with the KCTU increases the probability while the cooperative relationship decreases the probability. Strike experience in the previous year also affect the probability. A firm's economic performance does not affect the probability in Model 2.

〈Table 5〉 Probit Estimation for Mediation Request in Bargaining[1)]

(Dependent variable = 1 if mediation requested
0 if bargaining is completed without mediation request)

Independent Variable		Model 1 Coeff.	Model 1 S E	Model 1 z	Model 2 Coeff.	Model 2 S E	Model 2 z
bargaining structure (reference: single-company bargaining)	occupation-coalition	0.042	0.236	0.178	0.142	0.327	0.433
	region-coalition	0.679	0.305	2.222**	-0.184	0.556	-0.331
	diagonal	0.578	0.228	2.535***	0.718	0.393	1.826**
	industry-wide	0.472	0.312	1.513	0.388	0.418	0.929
union shop		-0.124	0.144	-0.864	-0.003	0.194	-0.013
firm size (reference size: 100<fs<299)	fs<99	-0.172	0.257	-0.668	-0.019	0.409	-0.047
	300<fs<499	-0.163	0.206	-0.788	-0.139	0.297	-0.466
	500<fs<999	0.286	0.181	1.577*	0.405	0.247	1.639*
	fs>1,000	0.072	0.216	0.333	0.096	0.320	0.298
KCTU		0.639	0.162	3.943***	0.737	0.237	3.108***
job security		-0.041	0.239	-0.172	-0.393	0.399	-0.985
year since unionization		-0.001	0.008	-0.164	0.005	0.011	0.498
cooperative relationship		-0.409	0.144	-2.835***	-0.448	0.207	-2.160**
strike experience in previous yr		0.417	0.166	2.504***	0.422	0.205	2.057***
financial information	log(sale)				0.031	0.123	0.250
	log(profit)				-0.109	0.103	-1.061
constant		0.966	0.211	4.578***	-0.043	1.211	-0.035
Sample size		579			366		
Log-likelihood		-226.1			-120.2		
LR χ^2		86.48			68.33		
Probability > χ^2		0.000			0.000		

Notes : 1) Analysis is based on the data provided by union representatives.
2) Industry dummies for manufacturing, transportation, public and others are controlled but not reported here.
3) * <0.1; ** <0.05; *** <0.01

However, the request for mediation can be used as a tactic in bargaining to show the union's commitment to strike regardless of whether it really intends to strike or not. Many bargaining parties that requested mediation completed bargaining by

adopting the mediation plan. Others reached an agreement without a strike, although they rejected the mediation plan. Among 1,096 mediation requests at regional Labor Relations Commissions in 2001, 385 bargaining parties, or 35.1%, completed negotiations by adopting the mediation plans (http://www.nlrc.go.kr).

While 133 cases (12.1%) ended with the administrative guidances of the commissions, and 507 (46.3%) rejected the mediation plans, there were only 235 strikes in Korea in 2001.[5)]

In Guidelines for Wage Negotiations and Collective Bargaining in 2002 by the FKTU (2002), the number one basic principle for strategy in 2002 is to "stage joint struggles by all related organizations." It is expected that unions will behave as a coalition in bargaining and use mediation requests as a tactic in bargaining to enhance bargaining power. The effect of using mediation requests as a bargaining tactic is an issue remaining for further study.

4. Probit Analysis on Strike Occurrence after Mediation Request

The next analysis examined strike occurrence given that either or both bargaining parties requested mediation. We categorize the bargaining pairs that requested mediation from Labor Relations Commissions with two groups based on strike occurrence. One group of bargaining parties reached agreements by adopting the mediation plan, or else they reached agreements without striking although they rejected mediation plans. The other group of bargaining parties rejected mediation plans and reached agreements after strikes. A mediation request in resolving a bargaining impasse is required by labor law in Korea in order to strike or to move towards arbitration or another next step in the bargaining process.

5) One needs to consider the fact that there are bargaining parties in essential public sector industries where strikes are prohibited. There are other cases where strikes are prohibited because of alternative dispute resolution clauses in a contract that either party may ask arbitration in case of a bargaining impasse.

〈Table 6〉 Occurrence by Bargaining Structure

		Strike		No Strike		Total
		case	%	case	%	case
Single-Company	Model 1	32	61.5	20	38.5	52
	Model 2	30	60.0	20	40.0	50
Occupation-based Coalition	Model 1	5	71.4	2	28.6	7
	Model 2	5	71.4	2	28.6	7
Region-based Coalition	Model 1	6	85.7	1	14.3	7
	Model 2	4	80.0	1	20.0	5
Diagonal	Model 1	11	68.8	5	31.2	16
	Model 2	4	44.4	5	55.5	9
Industry-wide	Model 1	2	40.0	3	60.0	5
	Model 2	2	40.0	3	60.0	5
Total	Model 1	56	64.4	31	35.6	87
	Model 2	45	59.2	31	40.8	76

Note : 1) Model 1 and Model 2 are the same as defined in <Table 7>.

<Table 6> shows the difference in the probability of strike occurrence by bargaining structure before using a probit analysis. The probability to have a strike given a mediation request is 38.5% with single-company bargaining, which is higher than the probability with coalition bargaining or diagonal bargaining. However, it must be said that the sample size is not large enough to confirm the argument. The probability of 60% with industry-wide bargaining is highest among the five bargaining structures.

The probit regression result is presented in Model 1 of <Table 7>. The effect of bargaining structure on strike occurrence after a union requested mediation can be detected. Industry-wide bargaining structure had a higher probability of strike occurrence than did single-company bargaining structure, which was used as a reference group.

Regarding the firm size, the probability of strike occurrence decreased as firm size increased, especially in Model 2. This makes sense because the cost of a strike increases as the firm size increases. Firm size showed the same negative effect on strike occurrence given a mediation request using 1989 data (Kim & Yoon, 1991). None of the following variables was significant: affiliation with the KCTU, job security issue, age of union establishment, or cooperative relationships. Strike experience in previous year, however, increased the probability of strike occurrence.

When the capital variable was included, as seen in Model 2, the probability of strike occurrence decreased as firm size increased, while it increased as capital increased.

〈Table 7〉 Probit Estimation for Strike Occurrence Given Mediation Request

(Dependent variable = 1 if a strike occurs with mediation request
0 if no strike occurs with mediation request)

Independent Variable		Model 1 Coeff.	Model 1 S E	Model 1 z	Model 2 Coeff.	Model 2 S E	Model 2 z
bargaining (reference: single-company bargaining)	occup-coalition	0.762	0.819	0.930	-1.507	1.615	-0.933
	region-coalition	-0.828	0.906	-0.914	-0.235	1.085	-0.217
	diagonal	-0.469	0.653	-0.718	0.678	0.930	0.729
	industry-wide	1.710	0.934	1.832*	3.512	1.424	2.466**
union shop		0.065	0.434	0.151	0.013	0.522	0.025
firm size (reference group: 100<fs<299)	fs<99	0.495	0.768	0.644	-0.051	1.032	-0.050
	300<fs<499	-1.173	0.708	-1.657*	-3.115	1.122	-2.776***
	500<fs<999	-0.464	0.510	-0.909	-1.004	0.607	-1.654*
	fs>1,000	-1.011	0.657	-1.539	-2.565	0.976	-2.628***
KCTU		0.547	0.471	1.162	-0.330	0.659	-0.500
job security		-0.041	1.090	-0.038	-2.311	1.552	-1.489
year since unionization		-0.016	0.027	-0.592	-0.041	0.033	-1.259
cooperative relationship		-0.478	0.508	-0.941	-0.949	0.618	-1.535
strike experience in previous yr		1.287	0.396	3.249***	2.593	1.000	2.595***
log(capital)					0.573	0.285	2.010**
constant		-0.113	0.618	-0.182	-4.460	2.404	-1.855*
Sample size			87			76	
Log-likelihood			-33.3			-25.4	
LR χ^2						72.18	
Probability > χ^2						0.000	

Notes : 1) Analysis is based on the data provided by union representatives.

2) Industry dummies for manufacturing, transportation, public and others are controlled but not reported here.

3) * <0.1; ** <0.05; *** <0.01

As mentioned earlier, however, the small sample size in each group makes it impossible to statistically confirm the results in the estimation. One needs to exercise caution in interpreting the results because of the small sample size. A larger sample size is impractical unless a survey of all bargaining parties that requested mediation services is implemented.

IV. Implications

This paper looked at whether the change in Korean unions' bargaining structure from traditional single-company bargaining structures to other bargaining structures affects the probability of labor disputes, including strikes, in the bargaining impasse resolution process.

The analysis, using a dataset on 2001 collective bargaining, showed that the merger of bargaining units increases the probability of mediation requests, as well as strike occurrence after the mediation requests.

Based on the empirical analysis, it can be concluded that more mergers of bargaining units, as have occurred in recent years and as are expected to continue in the near future, will lead to more mediation requests and strikes in bargaining impasse resolution process.

It was also found that cooperative labor-management relations significantly reduced mediation requests and strike occurrence in bargaining process. The experience of strike in the previous year increased the probability of strike occurrence in a subsequent year. This was an added effect of strikes on bargaining.

Also, collective bargaining in Korea is assumed to still be more strongly influenced by its institutions and characteristics than by a firm's economic performance. More effort should be made to enhance cooperative industrial relations in order to respond to ongoing changes in bargaining structures. Otherwise, the industrial disputes will increase as we see more and more diverse bargaining structures of merged bargaining units on the union side.

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〈Appendix Table 1〉 Comparison of Information from Management and Union Representatives

Variable		Description	Obs.	Mgmt Info. Mean	Mgmt Info. Std. Dev.	Labor Info. Mean	Labor Info. Std. Dev.
bargaining structure	struc1	single-company barg	299	0.75	0.43	0.71	0.46
	struc2	occupation-based coalition barg	299	0.11	0.31	0.11	0.31
	struc3	industry-based coalition barg	299	0.03	0.17	0.05	0.21
	struc4	diagonal barg	299	0.07	0.26	0.08	0.28
	struc5	industry-wide barg	299	0.04	0.19	0.05	0.23
shop	opshop	open shop	299	0.54	0.50	0.53	0.50
	unshop	union shop	299	0.43	0.50	0.45	0.50
	clshop	closed shop	299	0.03	0.16	0.01	0.12
affiliation	FKTU	Hankook Nochong	299	0.51	0.50	0.53	0.50
	KCTU	Minju Nochong	299	0.40	0.49	0.39	0.49
	Other	No affiliation	299	0.10	0.30	0.08	0.28
jobseq	job security > wage increase		299	0.15	0.35	0.10	0.31
union	years since unionization		289	17.48	10.01	17.54	10.17
lmrels	cooperative relationship		299	0.67	0.47	0.55	0.50
striexp	strike experience in the previous year		299	0.09	0.36	0.10	0.36

국문초록

단체교섭 구조의 변화가 분쟁해결 과정에 미치는 영향에 대한 연구

이영면 · 나인강

지난 1997년 외환위기 이후 노동조합은 산별노조로의 전환을 통해 정치적 영향력의 증대, 비정규직의 조직화, 기업규모에 따른 임금 수준과 복리후생제도 차이의 극복 등이 가능할 것으로 보고 있다. 본 논문은 단체교섭 구조의 변화가 조정과 중재의 발생률을 높이는가를 살펴보고 있다. 한국노동연구원에서 조사한 패널자료에 따르면 2001년을 기준으로 대각선 교섭의 경우 기업별 교섭보다 조정신청률이 높았으며 산별교섭의 경우는 조정 신청 후 파업 발생률이 높았다. 하지만 표본 수가 많지 않았다는 점과 외국과는 달리 우리나라는 산별노조로의 진행 과정 중에 있다는 점을 한계점을 제시하고자 한다. 마지막으로 정책적 함의를 제시하였다.

핵심 용어 : 산별노조, 교섭구조, 쟁의조정 과정, 조정, 파업