

Index of centralization

This is an index of centralization of wage bargaining which combines a measure of union concentration with a measure of the prevalent level of bargaining. The index covers 15 OECD countries from 1973 to 1995, and can be downloaded as an Excel file by clicking [here](#). The calculation of the index is described below, or can be downloaded as a WP document by clicking [here](#). If you use the index in a paper, article, or book, please use the following reference:

Iversen, Torben, "Wage Bargaining, Central Bank Independence and the Real Effects of Money". *International Organization*, 52, summer 1998.

The operational definition of centralization -- C -- is $\sum (w_j \cdot p_{ij}^2)^{1/2}$ where w_j is the weight accorded to each bargaining level j ($\sum w_j = 1$), and p_{ij} is the share of workers covered by union (or federation) i at level j . Information about the concentration of union membership at each level of bargaining (p_{ij}) was obtained from Visser (1989) and (for the most part) national statistical sources (various years): ÖGB, *Tatigkeitsbericht* (Austria), Danmarks Statistik, *Statistisk Årbog*, *Statistisches Jahrbuch* (Germany), Statistisk Sentralbyrå, *Statistisk Årbok* (Norway), Statistiska Centralbyrån, *Statistisk Årsbok* (Sweden), *Suomen Tilastollinen Vuosikirja* (Finland), *Japan Labor Bulletin*, *Sociale Maandstatistiek* (continued in *Sociaal-economische Maandstatistiek*) (Netherlands), Bundesamt für Statistik, *Statistisches Jahrbuch* (Switzerland).⁽¹⁾ The weights (w_j) -- listed in Table A1 -- depend on (i) the predominant level(s) at which bargaining take place, and (ii) the enforceability of bargaining agreements. The weights were assigned to every bargaining round in each country over the 23 year period from 1973 to 1995. Only three levels of bargaining were used in the classification, reflecting the empirical prevalence of peak-level bargaining, sector-/industry-level bargaining, and firm-/plant-level bargaining.

The degree of enforceability depends on the capacity of bargaining agents to implement their agreements. Enforceable agreements presuppose that bargaining agents control most strike and lockout funds, and can impose fines for non-compliance (particularly important on the employer side). Non-enforceable agreements means that the bargaining agents lack credible threats of sanctions (included here are several instances of "incomes policies" -- see Flanagan, Soskice and Ulman 1983). In a some borderline cases, noted in the table, bargaining agents exercised partial control over enforcement.

In carrying out the coding, the monthly monitoring of bargaining in the *European Industrial Relations Review* was an invaluable source for information about particular bargaining rounds. I have also greatly benefitted from the data collected for the collaborative NSF project on centralization by Golden, Wallerstein and Lange (see Golden and Wallerstein 1995); This information has been supplemented with descriptions of particular national bargaining systems in Markovits 1986; Due et. al. 1994; Crouch 1993; Golden and Wallerstein 1995; and chapters in Flanagan, Soskice, and Ulman 1983; Windmuller 1987, Baglioni and Crouch 1991, and in Ferner and Hyman 1992. In the case of Japan (which is not covered by the EIRR), the classification is based on Soskice (1990), Shirai (1987); and news reports in the *Japan Labor Bulletin*.

If some bargaining took place at the local level, $1/N$ is assumed not to be significantly different from 0. With two decimals for the centralization index, and assuming equally sized local unions, this assumption holds whenever $n > 200$ at the lowest bargaining level (since $1/(n > 200)$ is less than .005). As a practical matter this means that the assumption is always satisfied.

Countries where the predominant level of bargaining is at the plant- and firm-level, but where elements of industry-level bargaining occur (Britain, Canada, France, Italy and the United States) present a particular problem since data on the number of industry- or sector-level agreements and the number of workers involved is spotty (Golden and Wallerstein 1995, 33). Instead, I have simply assigned centralization (C) scores to these countries -- *except* for years where some centralized bargaining does occur -- as follows: .005 (the US and Canada), .01 (France), .015 (Britain), .02 (Italy). This recognizes that these systems are not completely decentralized, yet codes them as less centralized than any of the systems in which industry (or peak-level) bargaining predominates (the minimum centralization score for the latter is about .05). The empirical results are very robust to changes in this procedure *as long as* the

centralization scores for the fragmented bargaining systems are below those in which industry- and/or peak-level bargaining predominates.

Based on *average* centralization scores over the entire 1973-93 period, the ranking of countries according to degree of centralization is as follows (with the mean centralization score in parenthesis): 1. Norway (.538); 2. Sweden (.487); 3. Denmark (.459); 4. Austria (.431); 5. Finland (.421); 6. Netherlands (.375); 7. Germany (.337); 8. Belgium (.321); 9. Japan (.254); 10. Switzerland (.250); 11. Italy (.179); 12. Britain (.177); 13. France (.121); 14. Canada (.071); 15. United States (.071). The rank-order correlations with existing indexes of centralization are: .87 (Cameron 1984); .89 (Schmitter 1981); and .91 (Calmfors and Driffill 1988).

Table 4A1. Classification scheme for centralization of authority.

Weights		Definitions
Centralized	1, 0, 0	National associations monopolize wage bargaining and agreements are enforceable. Lower-level bargaining is banned (Norway 1988-1989).
	.8, 0, .2	National associations monopolize bargaining and agreements are enforceable. Local bargaining is permitted subject to a peace clause. (Belgium 1973-75; Denmark 1965-79, 1985; Norway 1960-73, 1976-80, 1983, 1985, 1990-1995; Netherlands 1973; Sweden 1960-82, 1983 ^a , 1985 ^a , 1986, 1989 ^a).
Intermediately Centralized	.4, .3, .3 (.4, 0, .6) ^c	National associations negotiate central agreements with some capacity for enforceability, but industry-level organizations retain the right to bargain separate agreements without adherence to a peace clause. (Denmark 1961, 1963; Finland, 1974-79, 1981, 1984, 1986 ^b , 1987, 1989-92; Netherlands 1982-84; Japan 1973-95 ^c).
	.1, .7, .2 0, .8, .2	National associations and/or the government set non-enforceable targets for lower-level bargaining, but industry-level organizations retain rights to bargain enforceable agreements. Local bargaining is permitted subject to a peace clause. (Austria 1973-1995; Belgium 1977, 1981-85, 1989-95; Denmark 1983, 1987, 1989, 1991-95; Finland 1973, 1980, 1983, 1988, 1993-95; Germany 1968-77; Netherlands 1974-81 ^{ef} , 1985-95; Norway 1974, 1982, 1984; Sweden 1984, 1988, 1991-95). Industry-level organizations monopolize bargaining and strike/lockout decisions, and agreements are enforceable. Local bargaining is permitted subject to a peace clause. (Belgium 1979, 1987; Denmark 1981; Germany 1960-67; 1978-95; Norway 1986; Switzerland 1973-95).
Decentralized	.1, 0, .9	National associations and the government set non-enforceable targets for plant-level bargaining, but local organizations retain rights to bargain and to call strikes/lockouts (Britain 1974-78; Italy 1976-78, 1993-95; France 1981-84).
	0, .1, .9	Plant- and firm-level bargaining predominates with some elements of industry-level bargaining (United States 1973-93; Canada 1973-95; Italy 1973-75, 1979-92; France 1973-80, 1985-95; Britain 1979-95)

Notes:

^a In these instances bargaining is simultaneously carried out by peak-level organizations and by industry organizations depending on the bargaining area. For simplicity all bargaining is considered to take place at the peak level, while the calculation of the centralization score takes into account the coincidence of industry- and peak-level agreements. The exceptional bargaining rounds are for 1983, 1985 and 1989 when separate agreements were concluded in the metalworking sector.

^b Early in the year, wage agreements are reached at the sectoral level, but they are superseded by a centralized agreement later in the year.

^c The Japanese system is unique because the industry/sectoral level plays no role in the bargaining process. The weight for the intermediate level is therefore *de facto* zero. Note also that in 1987 the four major confederations -- Sohyo, Shinsanbetsu, Churitsuroren and Domei -- merged to form a single confederation, Rengo. This greatly increased the centralization of the Japanese system.

^d The figures for the composite index takes into account that most bargaining in manufacturing now *de facto* takes place between a new association of employers (Dansk Industry) and a cartel unions (Industri kartellet).

^e In 1976 the two main federations, NVV and CNV (and its member unions) merged to form the Dutch Federation of Trade Unions (FNV).

^f In 1979 the white-collar union MHP is formed.

Sources

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1. Union membership figures in Belgium are not recorded in any official statistics. At the confederal level figures for some years are reported in Bain (1988, 159); figures for other years have been estimated by interpolation. Considering the relative stability of fragmentation at this level, this poses no serious problems. Figures at the industry/sector level are based on information about the number of affiliated unions, and the membership in unions with more than 100,000 members in 1985 (Hutsebaut 1987). For unions with less than 100,000 members, it has been assumed that membership is evenly distributed.