Cooperative Institutions and Inequality in the OECD: Bringing the Firm Back In*

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Objective. To examine the relationship between firm-level cooperation, inequality, and redistribution in 18 advanced industrialized democracies. *Methods.* The relationships are investigated using multiple regression analyses of institutional, political, and economic variables. *Results.* Multilevel models reveal that contrary to neocorporatism, firm-level cooperative ties have significant inegalitarian effects, particularly in the distribution of pretax, pretransfer market income. The effects, however, are also felt in the distribution of posttax, posttransfer income. *Conclusion.* By paying attention to the effect of firm-level cooperation, the study sheds new light on inequality in the OECD as a result of both market-based and non-market coordination.

Scholars of advanced industrialized democracies have devoted increased attention to the causes of inequality (Iversen, Pontusson, and Soskice, 2000; Hall and Soskice, 2001; Roe, 2003; Gourevitch and Shinn, 2005; Rueda, 2008). Although this literature acknowledges the central position of the firm in the political economy of OECD countries, scholars have not rigorously examined the effects of firm organization on wage and other inequalities. Previous research has shown that neocorporatism—or regularized bargaining among state, business, and labor representatives over the determination of wage and nonwage benefits—is a major source of (re-)distributive policies and outcomes. Scholars have also shown that cooperative ties within and among firms delineate a separate dimension of cooperation in the political economy of advanced capitalism (Hicks and Kenworthy, 1998). We still do not know, however, whether these ties reinforce, neutralize, or negate the effects of neocorporatism on wage and other inequalities.

This study revisits the relationship between cooperative institutions and inequality in the OECD. The analysis reveals that while neocorporatism has profound egalitarian effects, company-level ties increase levels of inequality. The study, however, goes beyond previous work by integrating economic, institutional, and partisan theories of inequality and redistribution. The findings point to the need for a more explicit consideration of the multiple

ways in which market coordination affects inequality. Although its effects on
market inequality are mostly the result of the higher wages and profits it
generates for some firms, firm-level cooperative ties are not significantly
associated with greater economic growth or employment. In addition, they
also lower levels of redistribution in some countries, contributing to overall
inequality.

The article proceeds as follows. In the first section, I discuss company-
level cooperative institutions in light of the literature on the egalitarian
effects of neocorporatist bargaining. Although studies of neocorporatism
abound, this body of work does not rigorously incorporate the firm in its
analysis of the factors that affect inequality. In the next section, I argue for
the need to evaluate the effect of cooperative institutions on both inequality
and redistribution. This is followed by a section that undertakes substantive
empirical tests of the determinants of inequality and redistribution in the
OECD. The article concludes with some suggestions for further research.

Neocorporatism and the Neglected Firm Dimension

Capitalist economic relations produce high levels of inequality in the dis-
tribution of market income. These inegalitarian tendencies are molded, to
varying degrees in different countries, by an array of cooperative institutions in
both the market and the political arena. In recent years, the study of these
institutions has taken center stage in the varieties-of-capitalism (VoC) approach.

The essence of the VoC approach is that economic performance is better
in countries that are institutionally congruent, that is, where institutions
reinforce each other synergistically (Hall and Soskice, 2001:8; Hall and
Gingerich, 2009). Liberal market economies (LMEs), for example, are pri-
marily characterized by market coordination. In coordinated market econ-
omies (CMEs), on the other hand, firms depend more heavily on nonmarket
relations to coordinate with other actors.[1] Regardless of the prevalent form
of cooperation, both LMEs and CMEs, being institutionally coherent,
should perform well economically.

In the VoC approach, coordination takes place across nine spheres of
society, including firms, the state, interest groups, investors, suppliers,
workers, and functional departments within firms (Esping-Andersen, 1990;
Garrett, 1998; Iversen, 1998; Iversen and Wren, 1998; Rueda and Pontus-
son, 2000; Hall and Soskice, 2001; Hicks and Kenworthy, 2003; Gourev-
itch and Shinn, 2005; Pontusson, 2005; Kenworthy, 2006; Soskice, 1998).
Scholars have devoted most of their attention to one particular form of

[1]LMEs refer to Australia, Canada, Ireland, New Zealand, the United Kingdom, and the
United States. Coordinated market economies (CMEs) include Austria, Belgium, Denmark,
Finland, Germany, Japan, the Netherlands, Norway, Sweden, and Switzerland. In Hall and
Soskice (2001:21), France and Italy are ''in more ambiguous positions'' and are hence
categorized as mixed economies (or MIX).

cooperation, neocorporatism. The latter is typically associated with a more compressed pretax earnings distribution and more posttax income redistribution (Wallerstein, 1999; Rueda and Pontusson, 2000; Bradley et al., 2003; Blackett and Sheppard, 2004).

Despite being careful to distinguish between formal bargaining institutions and the actors involved in bargaining (Rueda and Pontusson, 2000; Bradley et al., 2003), these studies do not explicitly capture variation in the institutionalization of company-level cooperative relations. In an analysis of 10 indicators of cooperation in 18 OECD democracies (1960–1989), Hicks and Kenworthy (1998) identified two clusters of cooperative institutions: "neocorporatism" and "firm-level cooperation."[2] Neocorporatism represents a vertical or nonmarket form of cooperation, as opposed to the more horizontal dimension captured by company-level ties.

The neocorporatist dimension is symbolized by government/interest group interrelations.[3] A large literature has repeatedly shown in this regard that tripartite bargaining in the polity and society politicizes the distribution of wages and public benefits. Accordingly, this cooperative dimension tends to be associated with wage compression and income redistribution. The firm dimension is marked by cooperation between purchasers and suppliers, cooperation among workers within a firm and along the production chain, and, to a lesser degree, alliances among competing firms. Hicks and Kenworthy expected labor-management cooperation to load substantially on this dimension as well. They found, instead, that labor-management cooperation is strongly associated with neocorporatism.

When it comes to wage and other inequalities, firm effects should then differ between CMEs and LMEs because market coordination produces much more inegalitarian outcomes than its nonmarket counterpart. Hicks and Kenworthy examined the effects of neocorporatism and firm-level cooperation on economic growth and government transfers, but they did not consider aggregate measures of inequality or model how the two scales interact, most likely due to the lack of high-quality inequality data for enough nations and time periods. Since neocorporatism and firm-level cooperation are empirically correlated ($r = 0.50$), and since they can interact in complex ways depending on the context, I assess their effects on inequality and redistribution both separately and interactively.

Hicks and Kenworthy (1998:1655) expected company-level ties to boost productivity. This should cause employment to increase within the private sector, thereby helping reduce overall inequality. The authors (1998:1653) found, however, that company-level ties did not increase aggregate employ-

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[2] For a more detailed discussion of these two institutional clusters and specific country examples, see Hicks and Kenworthy (1998).

[3] The presence of long-term employment security at the firm level has also been associated with this cooperative dimension because stable employment makes it easier for firms to invest in firm-specific and industry-specific skills without having to fear losing the investment, a central concern for firms in CMEs (Estevez-Abe, Iversen, and Soskice, 2001).

ment. I therefore investigate the hypothesis that company-level ties may make some firms more productive, resulting in higher profits for these firms and higher wages for their workers, but not necessarily higher levels of employment. The result would then be greater market inequality.

They also expected firm-level cooperation to have little or no effect on redistribution since its operation is largely confined to the market arena and to goals of economic efficiency. After properly adjusting for the association between neocorporatism and firm-level cooperation, the authors found that firm-level cooperation has regressive effects on government transfers, a finding they attributed to the fact that nations with more firm-level cooperation tend to be oriented against the use of state transfer payments to ameliorate material insecurities (Hicks and Kenworthy, 1998:1653).

This study uses the original indicators of neocorporatism and firm-level cooperation created by Hicks and Kenworthy to test their effect on both inequality and redistribution. The indicators cover three of the five spheres of cooperation that bind workers, employers, and governments highlighted by Hall and Soskice (2001): industrial relations, interfirm relations, and relations between management and employees.[4] Since they represent the totality of market and nonmarket ties binding workers, employers, and the state, these indicators are preferred over alternative measures.

In the following section, I discuss existing measures of inequality and redistribution, highlighting in particular the benefits of using the household Gini indices produced by the Standardized World Income Inequality Database (SWIID). These indices, derived originally from the U.N. WIDER inequality database, have been carefully harmonized and rendered definitionally consistent across time as well as between countries (Solt, 2009).

Measures of Inequality and Redistribution

Inequality takes many forms and one of the strengths of this study is that it examines its various manifestations. Gini indices for gross (or pregovernment) income inequality and net (or postgovernment) income inequality are used as dependent variables.[5] In addition, I follow Jesuit and Mahler (2008) in calculating a measure of absolute fiscal redistribution from these measures by subtracting the Gini coefficient for postgovernment income from the Gini coefficient for pregovernment earnings. While a measure of relative redistribution can also be calculated, Kenworthy and Pontusson (2005:463) recommend using the absolute rather than the relative measure of redistribution, since the latter is vulnerable to short-term trends in market income inequality.[6]

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[4]The other two are vocational training and education; and corporate governance.
[5]The latter reflects the effects of taxes and transfers on gross income.
[6]Relative redistribution = absolute redistribution/$Gini_{gross}$.

What emerges is a measure of fiscal redistribution similar to others commonly employed in the literature. Bradley et al. (2003), Mahler (2004), Kenworthy and Pontusson (2005), and Mahler and Jesuit (2006) use data from the Luxembourg Income Study (LIS) to examine pregovernment earnings, postgovernment disposable income, and fiscal redistribution. More recently, Jesuit and Mahler (2008) have provided measures of fiscal redistribution for 13 countries (1979 to 2002).[7] The number of observations in these studies, however, is very low.[8]

Another problem with studies of the neocorporatism-inequality relationship is that most of them have used only measures of wage inequality.[9] These measures ignore alternative sources of income and leave out the redistributive effects of taxation and income pooling within households (Pontusson, Rueda, and Way, 2002:284). With the SWIID, the advantage is a much denser pool of observations based on household income surveys. Although the source of this income may be wages/salaries, other forms of market income, and/or transfer payments, the data have been conveniently harmonized with respect to income type and unit.

The SWIID indices can then be used to study cross-national differences in inequality as well as changes over time within particular countries. The indices indicate that OECD countries engage in significant amounts of redistribution. Indeed, while Gini$_{gross}$ has a mean of 43.17, its net counterpart has a mean of 28.44. This indicates a substantial reduction in inequality across the OECD (mean = 14.67 Gini points), ranging from a low of 2.46 (France in 1981) to a high of 29.33 (Denmark in 1981). Looking at trends over time, a visual inspection of the data reveals that market income inequality rose in the 1980s and 1990s after declining in the 1960s and 1970s (Kenworthy and Pontusson, 2005). Redistribution to some extent kept pace with these increases in pregovernment Ginis, but not enough to neutralize them.

Data are available for all 18 countries typically featured in research on the political economy of advanced nations: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, and the United States.[10] In the following section, I review my expectations regarding the effect of 13 variables on the distribution of incomes and earnings.

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[7]See ⟨http://www.lisproject.org/publications/fiscalredistdata/fiscred.htm⟩.

[8]The number of observations ranges from 36 (Birchfield and Crepaz, 1998) to 68 (Jesuit and Mahler, 2008).

[9]Commonly used measures include the ratio of the gap between the 90th percentile of the earnings distribution and the 10th percentile to the earnings level for the 10th percentile (Wallerstein, 1999), the gap between the 90th and the 10th percentile (Rueda and Pontusson, 2000; Pontusson, Rueda, and Way, 2002), and the gap between the 50th and the 10th percentile (Pontusson, Rueda, and Way, 2002).

[10]The German series refers to the Federal Republic of Germany until 1989 and unified Germany after 1990.

Independent Variables

The analysis features an unbalanced panel design from 1961 to 1994 ($N = 391$), the years for which the indexes of neocorporatism and firm-level cooperation are available.[11] Since the independent variables are measured in different units, they have been standardized, facilitating a direct comparison of their coefficients. The latter symbolize then the effect of a one standard deviation increase in the independent variable on whatever unit the dependent variable is measured. Note, however, that the variables ELDERLY POPULATION, PRESIDENTIALISM, and FEDERALISM are not included in the model of pregovernment income inequality since they are expected to affect only redistribution and postgovernment income inequality. Note also that the model for absolute redistribution includes a control for Gini$_{\text{gross}}$, since median voter theories of redistributive policy making expect the demand for redistribution to increase with increases in pregovernment income inequality (Boix, 2003; Kenworthy and Pontusson, 2005).

Neocorporatism and Firm-Level Cooperation

Both variables take values of 0, 0.5, or 1—representing weak, moderate, and strong cooperation, respectively. In the case of NEOCORPORATISM, a 0 represents complete fragmentation among business and labor associations and lack of coordination with the government, and 1 the opposite. When employers and trade union confederations are organized in peak associations, they typically engage in national-level discussions with state agencies. When interest associations are fragmented, on the other hand, they typically do not engage in concerted bargaining with the government (Siaroff, 1999).

In the case of FIRM-LEVEL COOPERATION, a 0 represents arm's-length ties among employers, their employees, and their competitors, and 1 the opposite. To properly model any interaction between neocorporatism and firm-level cooperation, an interaction term between the two has also been included.

Both variables were obtained from the Comparative Welfare States data set (CWS) assembled by Evelyn Huber and her collaborators (Huber et al., 2004).

Cabinet Partisanship

A basic tenet of partisan theories of political economy is that left governments reduce inequality directly through higher minimum wages and indirectly through greater social spending, more progressive taxation, and more equitable services and transfers (Bradley et al., 2003:197–98; Hicks and Kenworthy, 2003). Conservative governments, on the other hand, are

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[11]Another independent variable, CABINET PARTISANSHIP, is not available after 1998.

expected to be more favorable to the interests of upper-income groups. Crepaz (2002:182), Crepaz and Moser (2004:276), Mahler (2004:1043), and Mahler and Jesuit (2006:505–06), however, find that cabinet partisanship has insignificant effects on pregovernment income inequality, fiscal redistribution, and postgovernment income inequality. Rueda (2008:379) also claims that left governments are not a significant determinant of welfare generosity in countries with low levels of neocorporatism. In countries with high levels of neocorporatism, leftist governments are actually associated with less generous welfare spending.

CABINET PARTISANSHIP is tested using a measure of cabinet partisan composition based on the average of three expert classifications of government parties' placement on a left-right scale, weighted by their decimal share of cabinet portfolios. The index goes from left to right and is standardized to vary between 0 and 1. This variable has been used by Iversen and Soskice (2006).[12]

Government Employment

Employment in the public sector should be linked to inequality for two reasons. First, it is more heavily unionized than the private sector in most OECD countries. Second, public-sector unions do not have to worry as much as their private-sector counterparts about competition in product markets (Rueda and Pontusson, 2000:361). As a result, students of political economy expect government employment to be associated with a more compressed earnings distribution.

Iversen and Cusack (2000), Iversen (2001), and Crepaz and Moser (2004:270) also claim that left parties use government employment as a redistributive tool, ensuring that public-sector workers have access to publicly provided services such as healthcare and education. Right governments, on the other hand, prefer the use of transfer payments because they do not involve direct state participation in public service provision. Consequently, as a form of government consumption, government employment is also expected to reduce postgovernment income inequality.

The analysis employs a measure of civilian government employment as a percentage of the working-age population. The data are derived from the CWS data set (Huber et al., 2004).

Union Density

Unions tend to reduce both downward wage adjustments and wage differentials across workers in the same firm, industry, or country (Boeri and

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[12]See ⟨http://www.people.fas.harvard.edu/∼iversen/data/ElectoralInstitutions.htm⟩.

van Ours, 2008:284). Unions also push for generous pensions and other welfare benefits (Bradley et al., 2003). Typically, the lower the level of union membership, the smaller the proportion of the population affected by these policies and the higher the level of pre- and postgovernment income inequality (Bradley et al., 2003:225).

I use a measure of net union membership defined as the proportion of employed minus retired and unemployed union members. The source of this measure is Jelle Visser's (2009) database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts.[13]

Trade Openness

Political economists have long observed a positive relationship between economic openness and the size of the public sector (Cameron, 1978; Garrett, 1998; Katzenstein, 1985; Rodrik, 1998). Openness to trade creates economic volatility that is translated into political support for more universalistic public transfers (Mares, 2005). What scholars have not isolated are the effects of trade on pregovernment market income. Following the Stolper-Samuelson theorem, the effects of trade openness on gross inequality can be negative, positive, or neutral, depending on whose returns increase as a result of increased trade. Wood (1994) argues, for example, that increased trade between developing and developed countries leads to lower demand for unskilled workers in import competing industries in developed countries, resulting in increased inequality in developed countries.

TRADE OPENNESS is calculated as imports plus exports as a percentage of GDP, in current prices, and is also derived from the CWS data set (Huber et al., 2004).

Capital Liberalization

If employers are allowed to invest elsewhere, they may use the threat of exit to demand tax and social policy concessions from governments and wage concessions from organized labor (Bradley et al., 2003:202). Since capital mobility tends to be accompanied by labor immobility, the liberalization of capital account transactions—rather than the size of actual flows—more appropriately captures the inegalitarian effect of labor's decreasing bargaining power.

Capital market openness is derived from the Quinn measure of capital controls (Quinn, 1997). The measure ranges from 0 to 4, where the maximum score indicates no capital controls.

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[13]See ⟨http://www.uva-aias.net/208⟩.

Lagged Unemployment

To the extent some workers exit the labor market and lose their source of income, unemployment should increase pre- and postgovernment income inequality and increase redistribution (Bradley et al., 2003:201; Mahler and Jesuit, 2006:488). Others have claimed, however, that the higher the level of wage inequality, the less willing upper-income groups are to pay the taxes that fund the benefits accruing to voters in more vulnerable labor market positions. Holding the distribution of labor market risks constant, this can have the effect of reducing support for redistributive transfers (Moene and Wallerstein, 2001:861, 2003).

To test these arguments, I use the unemployment rate – unemployment as a percentage of the civilian labor force (Armingeon et al., 2009). The measure has been lagged by a year to reflect the reality that the effects of unemployment can linger for some time.

De-Industrialization

Much emphasis has been placed on the welfare impact of the decline of manufacturing and the shift to services in many OECD countries. The attendant increases in unemployment since the 1960s have placed systematic pressures on policymakers to assist those in transition from traditional industrial jobs (Iversen and Cusack, 2000; Iversen, 2001). Thus, at the national level, one should expect spending on unemployment replacement rates and active labor market programs (ALMP) to increase with increases in de-industrialization.

I follow Iversen and Cusack and measure DE-INDUSTRIALIZATION as 100 minus industrial and agricultural employment as a percentage of the working-age population. All component indicators of this variable were derived from the OECD.Stat data set.[14]

Elderly Population

Studies of inequality and redistribution typically exclude households headed by pensioners from their analyses (Bradley et al., 2003; Kenworthy and Pontusson, 2005). With the SWIID, it is not possible to limit the analysis to working-age households. Pensioners, however, are a pivotal voting group in most OECD countries (Crepaz and Moser, 2004:275). For this reason, I control for the size of the elderly in the population. Including the elderly population as a determinant of pregovernment income inequality, however, can bias the results since the generous public pensions provided in

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[14]See ⟨http://stats.oecd.org/Index.aspx⟩.

certain European countries reduce incentives to save for retirement (Kenworthy and Pontusson, 2005:463). To address this concern, I exclude this variable from my analysis of gross inequality.

The variable used refers to the share of the overall population over the age of 65, and is derived from Armingeon et al. (2009).

Presidentialism and Federalism

The literature in political economy has made much of the difference between collective and competitive veto points (Birchfield and Crepaz, 1998; Crepaz, 2002; Crepaz and Moser, 2004). Collective veto points such as proportional electoral systems promote compromise and negotiation, resulting in lower inequality and greater redistribution. Conversely, competitive veto points tend to be associated with smaller governments, lower redistribution, and higher inequality.

I exclude veto points from a model of gross inequality since the theory of veto points applies only to arguments about net inequality and redistribution. The most important collective veto point—proportional representation—cannot be included in the analysis because it is too collinear with neocorporatism ($r = 0.75$), but the two most important competitive veto points—PRESIDENTIALISM and FEDERALISM—are included.[15]

Testing the Argument

I estimate two-way random effects models with varying country and year intercepts that more appropriately capture the complex relationships highlighted by the VoC approach (Western, 1998; Beck, 2001; Beck and Katz, 2007). The models present several unique advantages. First, group effects capture unit heterogeneity, that is, country-specific, time-invariant unobserved factors. Second, year effects capture differences over time that are common to all groups. The random structure of the model comes from employing varying intercept parameters for countries and years. This makes it unnecessary to use one of the indicator dummies as a base category.[16]

By employing varying intercepts for units, countries are neither assumed to be unique nor are their differences ignored (Beck, 2001:124–25).[17] Instead, country effects are assumed to vary and this variance is estimated conditional on the data and parameters of the model. This partial pooling is

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[15]See Huber et al. (2004) for details on the coding of both variables.

[16]Multiple intercepts are usually interpreted as offsets from a dropped group intercept. A more efficient method, however, is to model these intercepts directly by placing a common distribution around them.

[17]Indeed, all three models indicate a great deal of variability in the random effect parameters for countries.

particularly desirable for unbalanced panels since it allows more accurate estimates of country effects. Partial pooling also alleviates the problem of slow-moving or completely time-invariant predictors (Shor et al., 2007:168).

In addition, contemporaneous correlation can be removed by directly modeling varying time intercepts. In the context of advanced industrialized democracies, for example, this would happen if a recession or other external shock caused simultaneous retrenchment in welfare spending across countries. Indeed, for two of the three dependent variables—redistribution and overall inequality—a Pesaran CD test strongly suggests the presence of cross-sectional dependence in panels.[18]

A more complicated random intercept, random slope model—also known as a random coefficient model (RCM)—can also be estimated (Western, 1998; Beck, 2001; Beck and Katz, 2007). In addition to the intercepts, RCMs allow the effect of covariates to vary by country, proving themselves useful in situations in which clusters of variables behave differently depending on the context. Neocorporatism and firm-level cooperation, for example, could be said to have effects on inequality that are different depending on the country, since high levels of neocorporatism are said to be associated with left governments, proportional representation electoral systems, highly unionized labor movements, and trade-dependent economies.

In these models, all other independent variables affect the dependent variable through the variables with the random slopes. These variables are usually time-invariant institutional covariates that interact with the remaining time-varying covariates. However, the assumption that the main variables of interest—neocorporatism and firm-level cooperation—vary in their effects by country is a strong one. Even if these variables vary little over time, they cannot be said to be completely time invariant.[19] Rather than attempt to estimate a RCM then, I let differences in context enter the model through the country and year intercepts, making the simple two-way fixed effects model a random effects multilevel model.[20] Model coefficients can then be interpreted as reflecting the effect of a unit change in each of the independent variables while controlling for the effect of other independent variables. The models estimated are of the form:

$$y_{it} = \alpha_i + \gamma_t + \beta x_{it} + \varepsilon_{it},$$

where y represents inequality or redistribution in country i and year t, the terms α_i and γ_t are varying-intercept parameters for units and time,

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[18]Leaving out the random intercept for years from the model of gross inequality does not appreciably change the results.

[19]Indeed, except for articles employing surveys, I have yet to come across a paper using a RCM in comparative political economy. The exception is Western (1998).

[20]To address the problem of serial correlation, analysts typically add a lagged dependent variable to the right-hand side of the model (Wilson and Butler, 2007). No test, however, exists to correctly specify the structure of the lag. Plümper, Troeger, and Manow (2005:335) note, moreover, that lagging the dependent variable implicitly assumes that the dynamics of all independent variables are identical.

respectively, β represents a matrix of coefficients that varies across time and space, and ε_{it} is the error term. The terms α_i and γ_t are parameterized as follows:

$$\alpha_i = \alpha_0 + \eta_i,$$

where $\eta_i \sim N(0, \sigma_\eta^2)$, and $\gamma_t = \gamma_0 + v_t$, where $v_t \sim N(0, \sigma_v^2)$.

This model has been studied in the Bayesian context (Shor et al., 2007).[21] When compared to other panel data estimators, the model performed as well or better than the alternatives. In particular, the multilevel estimator is substantially more efficient than either OLS or fixed effects (FE) estimators, with coefficients estimated with a narrower spread.

Results and Discussion

Table 1 displays three sets of coefficients for gross inequality, fiscal redistribution, and net inequality. Variables appear to have a larger effect on gross than on net inequality, since market income constitutes a larger share of net income in advanced industrialized democracies than taxes and transfers.[22] This is particularly the case for FIRM-LEVEL COOPERATION, which, as Hicks and Kenworthy (1998) noted, is primarily consigned in its effects to the market.

Do company-level ties contribute to faster growth rates, thereby affecting inequality through their employment enhancing effects? The results do not support this hypothesis since the bivariate correlation between FIRM-LEVEL COOPERATION and UNEMPLOYMENT is negative, but statistically insignificant, and ECONOMIC GROWTH adjusted for purchasing power parity and inflation is negative and insignificantly correlated with FIRM-LEVEL COOPERATION.[23] Nevertheless, a correlation with a summary measure of wages is positive ($r = 0.33$) and statistically significant. It can be concluded, contrary to Hicks and Kenworthy (1998), that company-level ties increase pregovernment income inequality, and that they do this not so much through their effect on economic growth and employment, but by making some firms more productive than others, resulting in higher wages for their workers and greater profits for their owners.

The table also reveals that NEOCORPORATISM significantly reduces pre- and postgovernment income inequality, while FIRM-LEVEL COOPERATION increases

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[21]Models were estimated using restricted maximum likelihood (REML). In contrast to conventional maximum likelihood estimation, REML can produce unbiased estimates of variance and covariance parameters.

[22]In advanced industrialized democracies, differences in income inequality explain 56.1 percent of the variance in net income inequality (Solt, 2009:239).

[23]I believe this is due to the fact that Hicks and Kenworthy's models of REAL PER CAPITA GDP GROWTH include at most 72 observations.

TABLE 1

Inequality in OECD Countries, 1961–1994

Variables	Gini Gross	Redistribution	Gini Net
Gini gross		2.984***	
		(0.0962)	
Neocorporatism	− 2.946***	1.151***	− 2.175***
	(1.022)	(0.333)	(0.495)
Firm-level cooperation	2.219***	0.140	0.664***
	(0.436)	(0.163)	(0.227)
Cabinet partisanship	0.790	− 0.00753	0.254
	(0.962)	(0.366)	(0.524)
Government employment	2.246***	1.525***	− 0.908***
	(0.554)	(0.213)	(0.305)
Union density	− 3.017***	1.026***	− 2.147***
	(0.792)	(0.286)	(0.412)
Trade openness	− 4.700***	− 0.0483	− 1.526***
	(0.841)	(0.286)	(0.412)
Capital liberalization	1.316***	0.0239	0.341*
	(0.330)	(0.134)	(0.190)
Unemployment$_{t-1}$	1.220***	− 0.263*	0.842***
	(0.403)	(0.153)	(0.218)
Deindustrialization	− 4.748***	0.657*	− 3.071***
	(0.744)	(0.341)	(0.467)
Elderly population		− 0.735**	1.860***
		(0.291)	(0.417)
Presidentialism		− 0.414	− 0.343
		(0.394)	(0.630)
Federalism		0.311	− 0.496
		(0.283)	(0.424)
Observations	391	389	389
Countries	18	18	18

*Significant at 10 percent; **significant at 5 percent; ***significant at 1 percent.

both. Both variables are also associated with increased redistribution, NE-OCORPORATISM significantly so. Confirming median voter theories of redistribution, moreover, pregovernment income inequality significantly increases absolute redistribution. Finally, in all three models the coefficients on NEOCORPORATISM and FIRM-LEVEL COOPERATION indicate that, comparatively speaking, their effects are among the largest. There is no evidence, however, of further interaction effects between the two scales, as their multiplicative term is not statistically significant.

The relationship between NEOCORPORATISM and total public social expenditure as a percentage of GDP partly explains these findings, since their bivariate correlation is 0.48 ($p < 0.001$). The correlation between FIRM-LEVEL COOPERATION and social expenditures, on the other hand, is negative but not

statistically significant.[24] I also examined the relationship between cooperative institutions and total receipts of the government as a percentage of GDP. Once again, NEOCORPORATISM has a positive and statistically significant association with receipts ($r = 0.46$), while FIRM-LEVEL COOPERATION is associated with a lesser amount of revenue being collected ($r = -0.07$), but the bivariate correlation is statistically insignificant.

We should not conclude from these associations, however, that FIRM-LEVEL COOPERATION has no regressive effects on redistribution. This is likely to be the case in some countries, mostly CMEs where levels of neocorporatism are also high. As Figure 1 demonstrates, firm-level cooperation reduces overall inequality in six countries—Belgium, Demark, Finland, Norway, Sweden, and Italy, the latter the only non-CME in the group. However, there are other CMEs where FIRM-LEVEL COOPERATION has inegalitarian effects. This lends plausibility to the argument that in some countries, company-level ties operate at cross-purposes with neocorporatism when it comes to the distribution of income in society, whereas in others their relationship is more symbiotic.

Japan, for example, tops the firm-level cooperation scale. Similarly, high firm cooperation at the regional and local levels has been vital to the success of Italian firms in the northern part of the country (Hicks and Kenworthy, 1998:1639). As Figure 1 demonstrates, Japan, Italy, and Sweden are the only three countries where company-level ties reduce market inequalities.

In general, other variables conform to theoretical expectations. CAPITAL LIBERALIZATION is associated with more inequality (Mahler, 2004), most likely due to investors' demands for lower corporate taxes across the OECD (Swank and Steinmo, 2002). TRADE OPENNESS has highly egalitarian effects, both when it comes to pre- and postgovernment income, although its effects on redistribution are negative and statistically insignificant. Indeed, these egalitarian effects are some of the largest in the analysis, with the exception of those pertaining to DE-INDUSTRIALIZATION. DE-INDUSTRIALIZATION is the variable with the greatest egalitarian effect, a finding that is in agreement with postindustrial theories of redistributive spending. Paradoxically, the expansion of the low-wage service sector at the expense of the high-wage unionized industrial economy has compressed wage scales and increased redistribution across the OECD.

Turning now to partisan effects, the more to the right of center the cabinet, the greater the level of inequality—both pre- and postgovernment—and the lower the level of redistribution, although this variable is not significant by conventional standards. Bradley et al. (2003:199), however, do not expect left parties to have a direct effect on redistribution, while Iversen (2001) and Rueda (2008) note that left governments cannot be

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[24]Data on social transfers and tax receipts are derived from the Comparative Political Data Set I (Armingeon et al., 2009); data on wages, economic growth, and unemployment from the CWS data set (Huber et al., 2004).

FIGURE 1

Predicted Gross and Net Gini as a Function of Firm-Level Cooperation
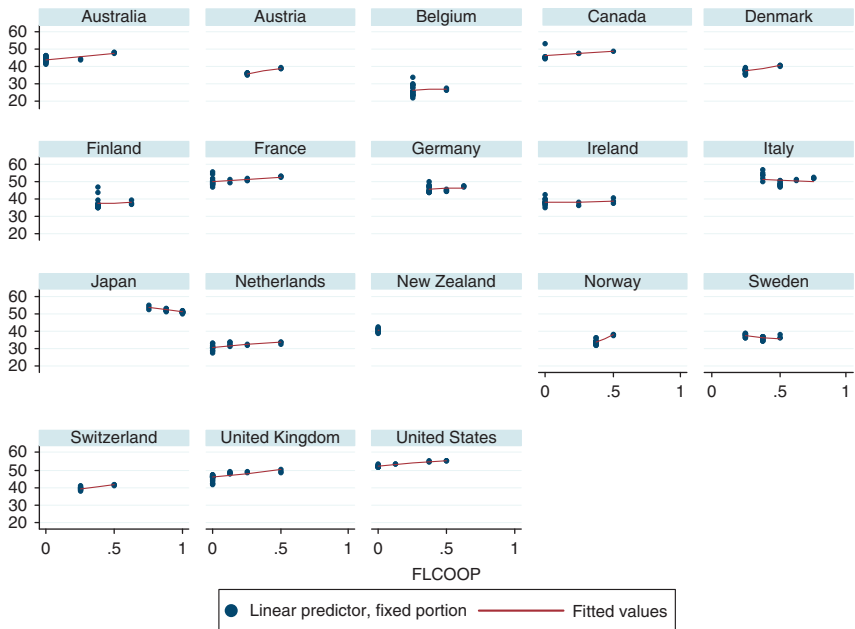
unequivocally identified with redistributive policies, public employment notwithstanding. What emerges from the analysis in this respect is that when in government, left parties rely on other policies and institutions to obtain their desired redistributive objectives.

GOVERNMENT EMPLOYMENT, for example, is strongly and significantly correlated with UNION DENSITY ($r = 0.53$), a finding noted in Pontusson, Rueda, and Way (2002). UNION DENSITY, which has strong egalitarian effects, is also significantly associated with NEOCORPORATISM ($r = 0.40$). The findings confirm, then, the correlation found, particularly for CMEs, between UNION DENSITY and NEOCORPORATISM (Bradley et al., 2003:215). Finally, NEOCORPORATISM is significantly associated with the index of cabinet partisanship ($r = -0.32$), demonstrating that as countries move to the right of the partisan spectrum, they are less likely to emphasize corporatist policy making or labor market power.[25]

Turning our attention now to the labor market, UNEMPLOYMENT in the previous year increases both gross and net inequality, but it also reduces redistribution. A fractional-polynomial prediction plot (not shown) reveals in this regard that unemployment at first increases fiscal redistribution, but

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[25]The correlation between the index of cabinet partisanship and union density is negative and statistically significant ($r = -0.028$, $p < 0.001$).

as it continues to increase it actually causes redistribution to decline. Therefore, both those who expect unemployment to increase redistribution (Bradley et al., 2003; Mahler and Jesuit, 2006) as well as those who expect it to have regressive effects (Moene and Wallerstein, 2001, 2003) are to some extent correct. Also expected is the finding that large elderly cohorts increase postgovernment income inequality although not redistribution. A fractional-polynomial prediction plot (not shown) indicates, however, that after declining minimally, redistribution increases dramatically as the ranks of the elderly continue to expand.

An unexpected finding is that GOVERNMENT EMPLOYMENT increases pregovernment income inequality, although, as expected, it also increases redistribution, resulting in reduced postgovernment income inequality. The inegalitarian effect of GOVERNMENT EMPLOYMENT on market inequality appears to be due to the fact that public-sector employment has its greatest effect in SMEs (Rueda and Pontusson, 2000:368).[26] The coefficients for PRESIDENTIALISM and FEDERALISM are also not in the expected direction, with the exception of the coefficient for PRESIDENTIALISM in the model for absolute redistribution. In neither case, though, is either variable statistically significant. Birchfield and Crepaz (1998:191) report, however, that parliamentarism does not behave as they expected in their models.

As an additional check on the robustness of the results, I estimated fixed effects, random effects, and two-way fixed effects models for all three dependent variables. The results are comparable if not worse than those obtained using the two-way random effects specification.

Concluding Remarks

Despite calls to bring the firm back into the study of political economy, studies of income (re-) distribution have neglected the role of company-level cooperative ties in OECD countries. This study has used the varieties of capitalism (VoC) approach to develop a set of expectations regarding the effects of cooperative institutions on inequality in different institutional settings. The analysis reveals that firm-level cooperation has profound inegalitarian effects even when its operation is primarily confined to the market.

As a result, it has been possible to compare the effects of cooperative institutions, formal political institutions, and economic variables on inequality and redistribution. The analysis has benefited from a database that has expanded the temporal and spatial coverage of inequality in OECD countries. Compared to other variables, the effects of firm-level cooperation emerge as sizable. As expected, company-level ties to some extent blunt the

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[26]The countries that Hall and Soskice (2001) designate as CMEs are the same countries Rueda and Pontusson (2000) designate as social market economies (SMEs), with the exception that SMEs do not include Japan and Switzerland.

egalitarian effects of neocorporatism, albeit more so in LMEs where levels of neocorporatism are low to begin with.

The results highlight the need for more caution in studying differences between liberal market economies (LMEs) and coordinated market economies (CMEs). As the results presented in this article demonstrate, institutional differences between LMEs and CMEs, and the effects those differences are expected to have, are not as sharply delineated empirically as they appear analytically. As a result, although the effects of firm-level cooperation are not uniform across countries, neither are they simply a function of differences between LMEs and CMEs.

Recent work has claimed that the processes leading to increased inequality in developed democracies are complex (e.g., Kenworthy and Pontusson, 2005). This article established significant relationships between clusters of cooperative institutions and inequality, introducing in the process a modeling strategy appropriate for the research question. Although the analysis provided more nuanced arguments concerning the politics of inequality, future studies should validate these conclusions using surveys that assess individual-level predispositions toward wage compression and redistribution.

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