ECONOMIC GLOBALIZATION AND INCREASING EARNINGS INEQUALITY IN AFFLUENT DEMOCRACIES

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ABSTRACT

Purpose – *Since the 1960s, the affluent democracies have experienced substantial changes in earnings inequality at the same time as heightening economic globalization. This paper investigates the relationship between these two processes.*

Methodology/Approach – *I use fixed-effects models, and comprehensive measures of globalization and earnings inequality to scrutinize the relationship between the two in 18 affluent democracies. Although past studies concentrate on worker displacement, I examine how globalization affected earnings inequality before and after controlling for manufacturing employment and unemployment as indicators of displacement.*

Findings – *Initial evidence suggests net migration and investment openness have moderate positive effects, but trade openness has larger, more significant positive effects. In full models, only trade openness remains robustly significant. For a standard deviation increase in trade*

*openness, earnings inequality should increase by between 1/5th and 2/5th
of a standard deviation.*

Originality/Value of paper – *Beyond displacement, this study encourages
investigation of power relations (e.g., class capacities of employers vs.
workers) and institutional change (e.g., practices of firms) as mechan-
isms by which globalization contributes to inequality.*

Recent decades have witnessed a striking increase in earnings inequality
across many affluent democracies. Since the early 1970s, the United States
experienced a 27% increase in the 90/10 ratio of earnings inequality, and
countries as diverse as Australia, Scandinavian Denmark, Mediterranean
Italy, and Continental Switzerland and the Netherlands all experienced at
least a 10% rise. Paradoxically, Finland, France, Ireland, Japan, and the
United Kingdom saw declining earnings inequality during this same period.
Many have studied cross-national differences in earnings inequality (e.g.,
U.S. vs. Europe, Blau & Kahn, 2002). Yet, the tremendous historical
variation in earnings inequality and how this historical variation differs
across countries has not received sufficient scrutiny.

Unfortunately, sociologists have been relatively quiet in the debate over
rising earnings inequality (Myles, 2003; Neckerman & Torche, 2007). In an
influential essay, Morris and Western (1999, pp. 649, 624) write:
"[S]ociology ignored these trends" and "If you had been reading only the
flagship journals in sociology, you probably would not know about these
trends. Sociologists have been strangely and remarkably silent on this
issue ... leaving the broader trends to the economists." To be fair, some
sociologists had studied related dimensions of inequality like wages
(Brady & Wallace, 2000; Western & Healy, 1999). As well, of course,
sociological studies of income inequality are relevant (Alderson & Nielsen,
2002). But, income and earnings inequality are quite different dependent
variables.[1] Income inequality is calculated after taxes and government
transfers, incorporates all sources of household income, adjusts for
household size, and includes children and the elderly. By contrast, earnings
inequality involves individual full-time workers before taxes and transfers.
While there are advantages to studying income inequality, earnings
inequality may provide a more direct assessment of the economic standing
of workers (Lindert & Williamson, 2003, p. 260).

This neglect by sociologists is salient partly because sociologists might be
able to offer a distinctive perspective for why earnings inequality has

exhibited such historical variation. In particular, one core concern of economic sociology involves scrutinizing the macro-structural context in which individual work is embedded. At least one theme in economic sociology emphasizes how emergent structural changes, greater than and beyond individuals, influence economic inequality. Again, although studies of income inequality provide guidance, many structural changes might appear less relevant if one exclusively examines income inequality. Taxes and transfers compensate for and alleviate how workers are affected by structural change. Therefore, to fully understand the distributional consequences of structural change for workers, it is essential to scrutinize the more proximate outcome of earnings inequality.

One structural change that may influence earnings inequality has been the increasing economic globalization of affluent democracies (DiPrete, 2005, p. 135; Morris & Western, 1999, p. 650). Since the 1960s, international trade and investment have grown substantially across the affluent democracies. Fig. 1 displays the trends since 1975 in "trade plus investment openness"
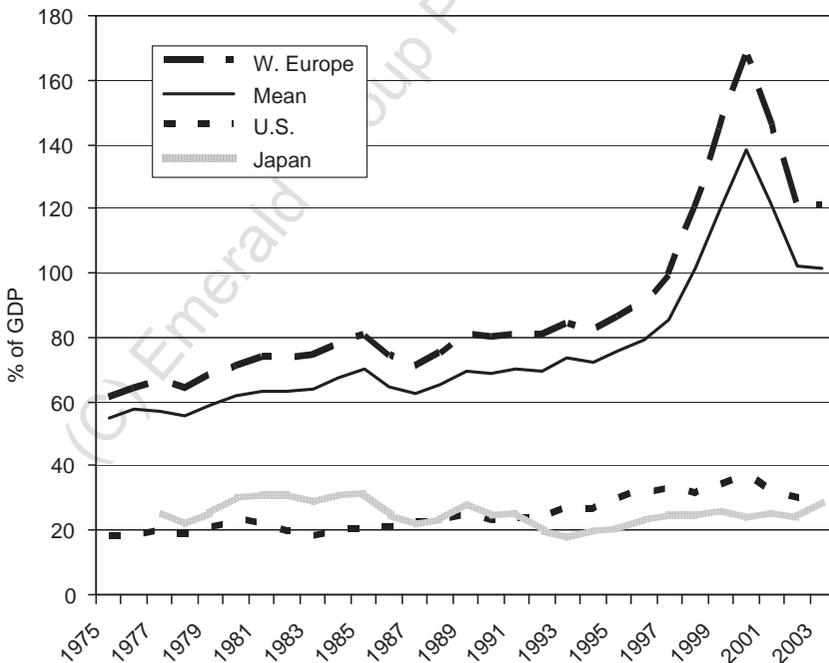

Fig. 1. Trade Plus Investment Openness in 18 Affluent Democracies, 1975–2003.

(exports + imports + portfolio and direct [outward and inward] investment as a percent of gross domestic product, GDP) for 18 affluent democracies (IMF, 2006).[2] The mean trade plus investment openness rose from 55.0% of GDP in 1975 to 101.6% in 2003. This mean was driven partly by small West European countries like Belgium, the Netherlands, and Ireland, where the average rose from 61.1 to 120.7 in 2003. Economic globalization started lower and rose more slowly outside Western Europe. Nevertheless, trade plus investment openness in the United States doubled from 18.2 in 1960 to 37.0 in 2000 and 31.9 in 2003. Japan may be the only exception as trade plus investment openness exhibited more fluctuation than a trend.

Globalization is often mentioned popularly as a cause of rising earnings inequality. Yet, scholars have been far more skeptical. Despite the increase in international trade and investment, most research doubts that globalization was a major source of earnings inequality (Bhagwati & Kosters, 1994; Gordon, 1994). In the 1990s, many tested the impact of, for example, rising trade on earnings inequality in the United States and most concluded that globalization was a trivial influence (Burtless, 1995; Collins, 1998; Richardson, 1995). For example, Smeeding (2002, p. 179) writes, "Trade policy has not been shown to have any major impact on economic inequality." Some emphasized that the level of globalization, especially for the United States, was too low to have a major effect on rising inequality. Also, globalization mainly involved exchange between affluent democracies, so the impact from developing countries like Mexico or China was actually quite limited (Gilpin, 2001). In a cross-national comparison, this skepticism appears warranted. As Fig. 1 shows, Western Europe has been far more globalized and still has maintained far lower earnings inequality. Thus, the cross-national patterns suggest that there is no relationship between globalization and earnings inequality. In short, the conventional wisdom has been quite skeptical of the effect of globalization on earnings inequality (Gottschalk & Smeeding, 1997).

Rather than entering the globalization debate, an entirely different consensus has emerged around institutional explanations. Recent research convincingly demonstrates that most of the cross-national variation in earnings inequality is due to differences in labor market institutions (Western & Healy, 1999). There is debate over whether it is unionization and parties (Rueda & Pontusson, 2000), bargaining centralization (Wallerstein, 1999), or other institutions that matter most (Blau & Kahn, 2002). Nevertheless, the consensus focuses on cross-national variation in earnings inequality and concludes that institutions account for these differences (Morris & Western, 1999). As DiPrete (2005, p. 123) remarks: "No one seriously denies that institutional forces are the proximate cause of these cross-national differences."

   This paper takes these two literatures as a point of departure. First, building on evidence from sociology and elsewhere, I offer a theoretical account for why globalization may contribute to greater earnings inequality. Second, this study brings more comprehensive data on globalization and earnings inequality to revisit the skeptical globalization studies above. Third, instead of reassessing the clearly significant influence of institutions on cross-national variation, the analyses control for cross-national differences and scrutinize the historical variation. Using fixed-effects (FE) models, this study concentrates on the historical, within-country variation in earnings inequality. Specifically, I assess if increasing immigration, trade and international investment triggered greater earnings inequality over recent decades. Moreover, I examine if these effects are solely due to displacement as manifested in manufacturing employment and unemployment; or how much these effects result from power relations and institutional change.

THEORETICAL BACKGROUND

Conceptualizing and Operationalizing Economic Globalization

This study does not capture all dimensions of the vast globalization literature. Beyond my scope are cultural, political, and legal globalization; what Sklair (2002) calls "generic globalization"; the longer history of international integration since the rise of modern capitalism; and the early 20th century wave of globalization. Instead, I follow recent sociological studies (Alderson & Nielsen, 2002; Brady, Beckfield, & Seeleib-Kaiser, 2005; Brady, Beckfield, & Zhao, 2007; Lee, 2005), and focus on globalization in recent decades in affluent democracies. Moreover, I concentrate on *economic* globalization as this is the most theoretically plausible component for earnings inequality. Henceforth, I use the term "globalization" for brevity. I conceptualize globalization as international economic exchange and the flow of goods, services, labor, and capital. Following recent sociology, I operationalize it as international trade and investment and immigration.

Displacement Effects

In the 1980s, Harrison and Bluestone (1988) were among the first to call attention to the "Great U-Turn" of increasing inequality. They stressed that

the long-term decline of inequality had halted and that deindustrialization, politics, and a ''globalization gambit'' were ''zapping labor'' and triggering a surge in inequality. Most subsequent studies, including skeptical ones cited above, concentrated on estimating what can be called displacement effects. The argument was that rising immigration, trade, and foreign investment displace workers in affluent countries. Much of this displacement manifests through deindustrialization and unemployment as manufacturing and low-skill well-paid jobs decline in affluent democracies. Globalization reportedly reduces manufacturing employment and increases unemployment, and thus indirectly leads to earnings inequality.

Purportedly, more expensive domestic workers are displaced by cheaper foreign labor. Rising immigration enlarges the supply of low-paid workers, which swells the bottom of the distribution and undermines those in the middle (Borjas, 2001; Reed, 2001). If a foreign company purchases a controlling interest in a domestic firm, lower wages result as jobs are eliminated to reduce redundancies within the multinational corporation. Budros (1997) finds that foreign consolidations, unlike domestic ones, significantly increase the adoption of downsizing programs – which are often used to dismiss well-paid workers (Ahmadjian & Robbins, 2005). As well, when foreign imports are substituted for domestic production, well-paid jobs are eroded and workers tend to be pushed downwards into lower-paying and less stable employment (Wood, 1994; Sachs & Shatz, 1998). When cheaper foreign production competes with and is substituted for domestic workers, earnings inequality should increase (Harrison, McMillan, & Null, 2007; Wood, 1995). For example, Bonacich and Appelbaum (2000) show that sweatshops reemerged in the U.S. apparel industry partly because of the rise in offshore production and the related increase in cheap imports.

As mentioned above, much research has been skeptical of such displacement effects. Most of this research used data that ended in the late 1980s and early 1990s (Gottschalk & Smeeding, 1997). Importantly, however, the heightened globalization in the later 1990s suggests the need to reconsider the matter.[3] As Fig. 1 displayed, globalization increased substantially over the 1990s and only stabilized after 2000. Indeed, some recent research – often incorporating up-to-date data – has been more supportive of claims that globalization may have contributed to earnings inequality (Alderson & Nielsen, 2002; Bardhan & Howe, 2001; Feenstra, 2000). For example, Dasgupta and Osang (2002) and Brady and Wallace (2000) show that international trade and investment have undermined worker earnings. As discussed above, cross-national analyses still

demonstrate that globalization probably cannot explain differences *between* affluent democracies (Mahler, 2004). Yet, globalization may have contributed to increases in inequality *within* affluent democracies, especially after controlling for the stable differences between countries. Thus, the post-1990 rise in globalization suggests a need to revisit earlier skeptical studies.

In addition to reconsidering displacement effects, it would be worthwhile to explore if globalization has effects on earnings inequality because of processes beyond displacement. Several sociologists claim globalization has spillover effects that extend beyond the confined band of workers who are affected directly when production is shifted overseas or when a domestic firm becomes foreign-affiliated (Brady & Wallace, 2000; Perrucci, 1994). While economists often focus on decomposing factor prices and accounting for how many domestic workers actually compete with workers in other countries (e.g., Collins, 1998), it is equally important to consider the more sociological question of how increasing globalization has broader effects on the entire workforce (Piore, 1998).

Beyond Displacement

There are at least two further reasons why globalization may be associated with greater earnings inequality. First, globalization alters the power relations between employers and employees, shifting power to managers and capital and undermining the class capacity of workers (Sklair, 2002). Because power relations influence earnings inequality, increased globalization may result in greater earnings inequality. As Choi (2006, p. 78) remarks, "Firms' enhanced locational mobility as a result of the globalization process is effective in pressuring workers who fear losing their jobs to concede at the bargaining table and accept a lower share of the rent." Globalization undermines the position of labor, and magnifies the power of employers by searching for or threatening to search for cheaper and more pliable labor elsewhere (Brady & Wallace, 2000; Grant & Wallace, 1994). As Freeman (1995, p. 21) summarizes, "If the West can import children's toys produced by low-paid Chinese workers at bargain basement prices, surely low-skilled westerners, who produce those toys at wages 10 times those of the Chinese, will face a difficult time in the job market. It isn't even necessary that the West import the toys. The threat to import them or to move plants to less-developed countries to produce the toys may suffice to force low-skilled westerners to take a cut in pay to maintain employment." Globalization

empowers the managerial bureaucracies of multinational corporations to strengthen their control over labor while decentralizing production, a phenomenon Harrison (1994) refers to as "concentration without centralization."

Much research, linked to the deindustrialization literature, has debated whether globalization undermines labor's power. On balance, globalization cannot account for cross-national differences in labor institutions (Ebbinghaus, 2002) and is not entirely responsible for the decline of U.S. unions. But, there is considerable evidence that the over-time rise of trade and international investment weakens organized labor (Baldwin, 2003; Lee, 2005; Nissen, 2002; Slaughter, 2007). Employers often globalize production to avoid high labor costs, less flexible work arrangements and explicitly to counter unionization. Western (1997) shows that trade openness triggered union declines in affluent democracies in the 1980s. More recently, Baldwin (2003) documents how trade has weakened U.S. unions. Brady and Wallace (2000) demonstrate that increased foreign direct investment has undermined U.S. union organizing and union density. Equally important, managers and employers use the threat of globalization to extract concessions, ensure acquiescence and compliance, undermine labor's power, and prevent the organizing and mobilization of workers (Brady & Wallace, 2000). Moreover, these threats have greater credibility and weight in an environment of heightened globalization (Choi, 2006).

Second, globalization may produce institutional change that results in greater earnings inequality. "Institutional change" is a broad term for a diverse set of organizational practices, managerial strategies, and firm behaviors, and the altered social contracts between workers, managers, and employers (e.g., Ono, 2007). Whereas power relations involve the explicit and implicit negotiation and struggles between workers and managers and employers, institutional change focuses more on the often uncontested drift of procedure and practice. Globalization contextually changes the nature of work and the organizational practices of firms (Guler, Guillén, & Macpherson, 2002; Sklair, 2001), contributing to what Harrison (1994) calls the "dark side of flexible production." Globalization-triggered institutional changes create greater volatility, uncertainty and insecurity for workers, undermine the stability of management–labor relations, and ultimately may result in greater earnings inequality (Ahmadjian & Robbins, 2005; Anderson, Schulman, & Wood, 2001; Piore, 1998). These claims are supported by recent research on how globalization shapes workers' experiences, especially within multinational firms (Gille & O Riain, 2002).

For example, Scheve and Slaughter (2004) find that foreign direct investment increased employee perceptions of insecurity in Britain in the 1990s. Kurdelbusch (2002) demonstrates that large companies in Germany increasingly implement variable pay schemes as a result of the growing internationalization of product and capital markets. Graham (1995) documents the hegemonic, exploitative, and antiunion managerial practices that exist under the rhetorically "team"-based flexible work arrangements of a Japanese automotive plant in the United States.[4]

These globalization-triggered institutional changes toward greater uncertainty, instability, and insecurity may cultivate wage polarization, often in the name of global competitiveness (Sklair, 2001). Sassen (1991) argues that globalization polarizes the earnings and occupational distribution: increasing contingent workers in clerical, service, and goods-producing firms; eroding job security, compensation and social wages; and simultaneously enhancing the position of elites. With heightened globalization, firms often loosen commitments to and social contracts with less skilled and increasingly disposable employees (Ahmadjian & Robbins, 2005; Graham, 1995). At the same time, global corporations often endorse escalating compensation for highly skilled workers in the larger competitive field of the global economy. In contrast to domestic firms in Japan, Ono (2007) shows that foreign firms are likely to undermine earnings at the bottom (less trust between employers and workers, less job security, short-term contracts, greater quit rates, lower returns to firm-specific human capital, less effort-driven compensation) and enhance earnings at the top (greater returns to general human capital, higher average earnings, poaching mid-career employees from other firms, selection of high mobility/ability employees, more performance-driven compensation, and individualistic cultures). Ultimately, such globalized institutional changes are less conducive to demands for rising median wages and equalization of compensation (Harrison, 1994).

The present analyses assess: (a) if increasing globalization triggers earnings inequality and (b) if globalization's effects are at least partly due to processes beyond displacement. If globalization's effects are solely due to displacement, the effects would initially be significant when manufacturing employment and unemployment are omitted from the model. However, globalization's effects would become insignificant after adding those controls. If globalization contributes to earnings inequality because of processes of power relations and institutional change, globalization would remain significant even when those two variables are added.[5]

METHODS

Sample and Technique

The analysis includes 18 affluent democracies (see Table 2). The unit of analysis is the country-year, and the OECD earnings inequality database has 333 country-years. While each country has data on earnings inequality for several years, the exact years varies by country (see Table 2). For example, France has data from 1961 to 2002 and the United States has data from 1973 to 2003. There are also gaps in some series. Because of missing data for some of the globalization variables, several models include less than the maximum number of cases. Thus, I note the number of cases for each model. Nevertheless, the conclusions are robust if the models are confined to a consistent number of cases.

Because of unmeasured time-invariant heteroskedasticity across countries and serial correlation between years (Hsiao, 2003), I estimate FE models with a first-order autocorrelation correction (FE-AR1). FE-AR1 models controls for unobserved unit effects with country-dummies and by differencing every country-year from the country mean. The FE model can be represented as:

$$Y_{it} = \alpha_i C_i + \beta X_{it} + \varepsilon_{it}$$

which is then estimated by:

$$(Y_{it} - \bar{Y}_i) = \alpha_i(C_{it} - \bar{C}_i) + \beta(X_{it} - \bar{X}_i) + (\varepsilon_{it} - \bar{\varepsilon}_i)$$

The subscript i represents a country and t represents a year. Y represents earnings inequality, C is a vector of country-dummies (which drop out in the second model), and X represents a vector of independent variables. Since the FE model differences each observation from its country-mean (i.e., $\bar{X}_i$), all cross-national differences are removed. As well, the error is corrected for temporal autocorrelation (AR1). Because FE-AR1 models incorporate the error term from the first time-point in the autocorrelation correction, the maximum number of observations drops from 333 to 315.[6] The FE-AR1 technique can effectively accommodate gaps in the time series and unevenly balanced panels (Baltagi & Wu, 1999). Advantageously, FE models may be a more stringent test of causality (Winship & Morgan, 1999). In addition to country FE, the models include dummy variables for each decade (reference = 2000s).[7]

Because my question regards within-country historical variation, FE-AR1 models are more appropriate than random effects (RE) models. Also, available tests prefer FE models over RE models.[8] Another alternative would be difference models. However, difference models would change the question to short-term change rather than long-term change (as FE-AR1 models difference each country-year from country-means not the preceding country-year). Difference models also are inappropriate because the sample is unbalanced with uneven spacing. Several countries have less than 10 years and others have more than 30, and some series have gaps while others are continuous. Notably, *every variable in every model* would be insignificant if I utilize difference models. Rather than differencing to detrend the data, I correct for temporal autocorrelation and include dummies for each decade. Still, it should be noted that the results are not robust in RE or difference models.

Table 1 displays the descriptive statistics, number of cases, and sources for the independent variables. Since the time period and number of cases varies

Table 1. Descriptive Statistics and Sources for Independent Variables.

	Mean	SD	*N*	Source(s)
Controls				
Productivity	46743.210	8758.372	333	OECD *Health Data CD-Rom*; OECD *Labor Force Statistics*
Agricultural employment	5.469	3.352	333	See above
Female employment	57.318	10.494	333	See above
Public employment	11.725	5.151	333	Huber, Ragin, Stephens, Brady, and Beckfield (2004)
Wage coordination	3.027	1.424	333	Kenworthy (2001)
Cumulative right party power	19.091	12.804	333	Huber et al. (2004)
Manufacturing employment	27.809	5.735	333	See above
Unemployment	6.284	3.165	333	See above
Globalization variables				
Net migration	.616	1.185	276	OECD *Health Data CD-Rom*; OECD *Labor Force Statistics*
Trade openness	3.858	.542	333	IMF, *International Financial Statistics Database*
Investment openness	1.777	1.066	311	See above

Notes: All control variables are lagged one year. All globalization variables are lagged one year and converted to natural logarithm. The number of cases reflects maximum observations in common with dependent variables.

across models, I present the descriptive statistics for all possible cases. The proximate source for many of the variables was Huber et al. (2004).

Dependent Variables

The estimates of earnings inequality are from the "OECD Earnings Inequality Database" (see Rueda & Pontusson, 2000). These estimates are based on full-time employed workers. Three measures of earnings inequality are analyzed: *the 90/10 ratio*, *the 90/50 ratio*, *and the 50/10 ratio*. All three are valuable, complementary, alternative measures.[9]

Globalization Variables

Four concerns guide the operationalization of globalization (cf. Brady et al., 2005). First, I concentrate on the actual flows of finance, goods, and services across national boundaries. Hence, I only examine actual economic exchange and am not testing the political/legal possibility of exchange. Second, I focus on the largest dimensions of international economic exchange and do not limit the analysis to exchange with developing countries.[10] Third, the globalization variables are not normally distributed, exhibit significant skew, and have several outliers. As a remedy, I transform the globalization measures into the natural logarithm (but not the dependent and control variables as they do not suffer from these problems), which rectifies the problem. Fourth, I aim to provide a comprehensive analysis of the multiple facets of globalization while presenting only a parsimonious set of summary measures. In the appendix, I test each component of these summary measures as well as several alternatives. The results are robust, although some components were not as significant as the summary measures.

Concretely, I present measures of immigration, and international investment and trade. Each measure is lagged one year. First, *Net migration* is the rate of change between the domestic population in the previous and current year that remains after accounting for births and deaths.[11] Second, *Trade openness* is the sum of exports and imports (including goods and services) as a percent of GDP. Third, *Investment openness* is the sum of inward and outward portfolio and foreign direct investment flows as a percent of GDP.[12] Again, as shown in the appendix,

each component of these summary measures and several alternatives were also tested and the results and conclusions were consistent.[13]

Control Variables

The models control for several variables identified as key predictors of earnings inequality (Morris & Western, 1999; Neckerman & Torche, 2007; Rueda & Pontusson, 2000; Wallerstein, 1999). Each control is lagged one year. In order to assess globalization's effects before controlling for displacement, I first include a set of controls in all models. *Productivity* is the ratio of real GDP per employee, divided by 1,000 for ease of presentation.[14] *Agricultural employment* is measured as a percent of the labor force. *Female employment* is as a percent of females aged 15–64.[15] *Public employment* is measured as a percent of civilian employment. *Wage coordination*, a measure of corporatism, is an index of bargaining coordination scored 1–5 with 5 being the most coordinated. Finally, *Cumulative right party power* is measured as a "Cabinet" variable (Huber et al., 2004). This variable gauges the long-term control of government by tabulating right seats as a proportion of seats held by all government parties in each year and then summing these proportions for all years since 1946.[16] Next, I add two controls as indicators of displacement in a second set of models. *Manufacturing employment* and *Unemployment* are measured as a percent of the labor force.

Of course, the FE-AR1 strategy has limitations for assessing these controls. All cross-national variation "drops out," so the variables can only explain historical variation. Since several controls mostly vary across countries and are relatively stable over time, the FE-AR1 models provide a lower-bound estimate of their effects. But, given my objectives, this should be a lesser concern. In addition to these controls, I considered controls for education and unionization. Unfortunately, because of data availability and measurement limitations, I ultimately cannot include these two. Never-theless, I analyzed models with these controls to be sure the results were robust and, indeed, this was the case for the globalization effects.

To test the effect of globalization on earnings inequality, I first display models of the three dependent variables including only the controls. Second, I display the effects of each globalization measure while omitting manufacturing employment and unemployment. Third, I add these two indicators of displacement. Fourth, I repeat steps 2 and 3 with all three globalization measures in one model. Finally, I decompose the analyses by

period and region. Throughout, I use two-tailed tests of significance. In addition to coefficient size and significance, I compare models with the Bayesian information criterion (BIC).

RESULTS

Table 2 displays the 90/10, 90/50, and 50/10 earnings inequality ratios across the 18 affluent democracies. The 90/10 ratio increased in 13 of 18 countries. The 90/50 ratio increased in 16 of 18 countries, while the 50/10 ratio actually declined in 10 of 18 countries. The United States experienced the largest increase in the 90/10 ratio (27.6%) and 90/50 ratio (19.2%), while Switzerland experienced the largest increase in the 50/10 ratio (12.9%). As mentioned above, several countries experienced a greater than 10% increase in at least one ratio, while a few experienced declines. Interestingly, eight countries experienced rising earnings inequality with one measure and a decline with another.

Table 3 presents the baseline models with no globalization variables. Productivity, agricultural employment, and female employment have significant positive effects on all three dependent variables. As the human capital and skill composition of the workforce rises, and as technology facilitates greater productivity, earnings inequality increases. With a larger percent of the workforce in the more traditional agricultural sector, and with women's greater entrance into paid employment, the bottom segment of the earnings distribution swells and inequality increases. Manufacturing employment is surprisingly positive, but only significantly affects the 90/50 ratio. Unemployment has a significant positive effect on the 90/50 ratio and the 50/10 ratio. This is somewhat surprising as unemployment is purported to siphon off the bottom of the distribution of employees, and because many attribute Europe's lower inequality to rigid labor market institutions that cause higher unemployment (cf. Blau & Kahn, 2002; DiPrete, 2005). By contrast, in FE models focused on over-time variation, unemployment appears to drive up inequality.

The three remaining variables approximate the influence of national-level political and labor market institutions. Again, one should cautiously interpret these coefficients because FE models remove all cross-national variation. Surprisingly, public employment does not significantly influence the 90/10 and 50/10 ratio and actually is positively associated with the 90/50 ratio. Also, wage coordination does not significantly affect any of the three dependent variables. So, these two do not appear to reduce temporal

Table 2. Patterns in Earnings Inequality in 18 Affluent Democracies, 1961–2004.

	N	90/10 Ratio		90/50 Ratio		50/10 Ratio	
		Mean (SD)	First–last % Δ	Mean (SD)	First–last % Δ	Mean (SD)	First–last % Δ
Australia, 1975–2003	28	2.856 (.138)	19.538	1.732 (.074)	13.141	1.648 (.039)	5.653
Austria, 1980–1994	9	3.533 (.061)	6.015	1.797 (.015)	2.291	1.966 (.029)	3.640
Belgium, 1999–2003	5	1.971 (.043)	3.401	1.500 (.025)	1.348	1.315 (.033)	2.026
Canada, 1997–2003	7	3.651 (.036)	2.075	1.830 (.024)	3.115	1.995 (.009)	−1.009
Denmark, 1980–2003	19	2.321 (.183)	23.264	1.632 (.097)	16.844	1.421 (.031)	5.495
Finland, 1977–2002	20	2.433 (.089)	−7.550	1.688 (.026)	1.332	1.442 (.047)	−8.765
France, 1961–2002	42	3.402 (.334)	−16.891	1.982 (.044)	−1.026	1.714 (.134)	−16.029
Germany, 1984–2002	19	2.887 (.119)	5.432	1.767 (.058)	6.455	1.634 (.049)	−.962
Ireland, 1994–2000	3	3.752 (.425)	−19.488	1.970 (.047)	−2.188	1.903 (.187)	−17.688
Italy, 1986–1996	11	2.334 (.055)	7.767	1.649 (.063)	14.415	1.416 (.029)	−5.811
Japan, 1975–2003	29	3.045 (.075)	−5.189	1.820 (.038)	3.556	1.674 (.045)	−8.445
Netherlands, 1977–1999	22	2.599 (.133)	13.679	1.648 (.046)	7.917	1.576 (.041)	5.340
New Zealand, 1997–2004	8	2.680 (.125)	3.162	1.726 (.069)	3.836	1.553 (.058)	−.649
Norway, 1997–2002	6	2.012 (.065)	8.104	1.440 (.019)	3.181	1.397 (.027)	4.771
Sweden, 1975–2004	27	2.148 (.114)	3.268	1.591 (.051)	4.061	1.349 (.032)	−.763
Switzerland, 1991–2003	13	2.841 (.396)	18.796	1.706 (.040)	5.251	1.663 (.204)	12.870
U.K., 1970–2003	34	3.292 (.203)	−1.565	1.809 (.091)	12.320	1.820 (.074)	−12.362
U.S.A., 1973–2003	31	4.203 (.361)	27.597	2.085 (.117)	19.219	2.013 (.068)	7.027
Total	333	2.975 (.632)		1.782 (.170)		1.654 (.214)	

Table 3. Fixed-Effects Models of Earnings Inequality on Control
Variables in 18 Affluent Democracies, 1961–2004.

	90/10 Ratio	90/50 Ratio	50/10 Ratio
Productivity	1.04 E-5**	6.55 E-6**	6.07 E-6**
	(3.15)	(6.28)	(5.17)
Agricultural employment	.115**	.038**	.045**
	(7.56)	(6.41)	(7.90)
Female employment	.012*	.010**	.007**
	(2.59)	(5.97)	(3.97)
Public employment	.006	.013*	.004
	(.38)	(2.53)	(.69)
Wage coordination	−.011	−.004	−.003
	(−.90)	(−1.46)	(−.55)
Cumulative right party power	.023**	.011**	−.001
	(2.82)	(3.25)	(−.21)
Manufacturing employment	4.267 E-4	.001+	.002
	(.13)	(1.70)	(1.12)
Unemployment	.008	.008**	.008**
	(1.14)	(3.48)	(2.91)
Constant	.674**	.286**	.639**
	(9.44)	(23.09)	(11.07)
Overall R^2	.126	.101	.034
BIC	−348.348	−1262.236	−816.303
N	315	315	315

Notes: All models include a first-order autocorrelation correction. All models include dummies
for decades (reference = 2000s). All variables are lagged one year. The numbers in parentheses
are *t*-scores.
**$p < .01$; *$p < .05$; +$p < .10$.

variation in earnings inequality after removing cross-national differences.
By contrast, cumulative right party power has a modest, positive significant
effect on the 90/10 and 90/50 ratio. For each year right parties have
controlled the government since 1946, the 90/10 ratio is expected to increase
by about .04 standard deviations and the 90/50 ratio is expected to rise by
about .07 standard deviations.

Table 4 introduces the globalization variables, beginning with the 90/10
ratio. Net migration does not have a significant effect, both before (model 1)
controlling for manufacturing employment and unemployment and after
(model 2). The next models show that trade openness has a significant
positive effect, before (model 3) and after (model 4) adding the displacement
indicators. For a standard deviation increase in trade openness, the 90/10

Table 4. Fixed-Effects Models of 90/10 Ratio of Earnings Inequality on Globalization and Control Variables in 18 Affluent Democracies, 1961–2004.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Net migration	.007	.014					.006	.008
	(.50)	(.99)					(.48)	(.58)
Trade openness			.228**	.243**			.301**	.263**
			(3.06)	(2.91)			(3.84)	(2.63)
Investment openness					.042**	.040**	.021	.022
					(2.78)	(2.66)	(1.19)	(1.23)
Productivity	.014**	.014**	.007$^+$	.007$^+$	.010**	.008*	.005	.005
	(3.99)	(3.97)	(1.92)	(1.88)	(2.93)	(2.20)	(1.21)	(1.26)
Agricultural employment	.120**	.122**	.103**	.104**	.107**	.089**	.044*	.046$^+$
	(7.74)	(7.92)	(6.67)	(6.70)	(5.49)	(3.94)	(2.08)	(1.86)
Female employment	.011**	.015**	.006	.005	.009*	.013**	.009*	.010*
	(2.74)	(3.53)	(1.24)	(.96)	(2.04)	(2.76)	(2.31)	(2.22)
Public employment	.015	.001	−.003	−.001	.022	.004	.011	.009
	(1.07)	(.06)	(−.19)	(−.07)	(1.46)	(.24)	(.81)	(.56)
Wage coordination	−.022	−.021	−.010	−.010	−.009	−.010	−.021	−.021
	(−1.27)	(−1.25)	(−.80)	(−.81)	(−.71)	(−.75)	(−1.32)	(−1.32)
Cumulative right party power	.025**	.018**	.026**	.025**	.028**	.025**	.020**	.019**
	(3.94)	(2.81)	(3.39)	(3.12)	(3.86)	(3.15)	(3.45)	(3.00)
Manufacturing employment		.001		−.002		.011		.002
		(.32)		(−.53)		(1.27)		(.18)
Unemployment		.019*		−.002		.018*		.006
		(2.53)		(−.23)		(2.21)		(.64)
Constant	.509**	.436**	.537**	.552**	.627**	.433**	.364**	.355**
	(7.65)	(6.20)	(7.49)	(7.53)	(8.18)	(4.80)	(3.97)	(3.78)
Overall R^2	.173	.172	.092	.082	.068	.108	.005	.011
BIC	−258.004	−253.947	−362.829	−351.860	−337.134	−331.303	−269.293	−258.736
N	256	256	315	315	293	293	239	239

Notes: All models include a first-order autocorrelation correction. All models include dummies for decades (reference = 2000s). All controls are lagged one year. All globalization variables are lagged one year and converted to natural logarithm. The numbers in parentheses are *t*-scores.
**$p<.01$; *$p<.05$; $^+p<.10$.

ratio should increase by about .2 standard deviations. Notably, the size and significance of trade openness does not attenuate from model 3 to model 4. Since model 4 controls for two indicators of displacement, this suggests that trade openness' effect is not simply due to displacement.

Models 5 and 6 show that investment openness significantly affects the 90/10 ratio before and after controlling for manufacturing and unemployment. For a standard deviation increase in investment openness, the 90/10 ratio should increase by about .04 standard deviations. The size and significance of this coefficient very slightly attenuates from models 5 to 6, which suggests that a small part of investment openness' effect is due to displacement. Although investment openness has a significant effect, the magnitude of its effect is much smaller than the effects of trade openness in models 3–4.

Thus, the initial models suggest that two of the globalization measures are significantly associated with greater earnings inequality. In models 7 and 8, I scrutinize the influence of these globalization measures further by modeling all three globalization measures together.[17] Plausibly, these models provide a more rigorous test of each globalization measure's impact net of the other dimensions. Both models demonstrate that trade openness continues to have a significant positive effect, while net migration continues to be and investment openness becomes insignificant. Trade openness emerges as the globalization indicator that is most consequential to the 90/10 ratio. In models 7 and 8, trade openness actually has a larger effect than in models 3–4. For a standard deviation increase in trade openness, the 90/10 ratio is expected to increase by about .25–.22 standard deviations. The size and significance of this effect is moderately weaker after controlling for manufacturing and unemployment. Thus, part of trade openness' effect on the 90/10 ratio can be explained by displacement. Nevertheless, trade openness also has a direct effect, net of displacement.[18]

Table 5 analyzes the 90/50 ratio and Table 6 analyzes the 50/10 ratio. For brevity purposes, I concisely summarize the results here. In general, the results are very similar to the 90/10 ratio results. Net migration never has a significant effect for the 90/50 ratio, but is significantly positive in the initial 50/10 ratio models. However, net migration is not significant in the final models. Consistent with the 90/10 ratio, investment openness has a significant effect in models 5–6 for both tables, but is not significant in the final models. Trade openness has a significant positive effect throughout: before and after controlling for displacement and in initial and final models. With a standard deviation increase in trade openness, the 90/50 ratio should increase by about .41–.57 standard deviations. With a standard deviation

Table 5. Fixed-Effects Models of 90/50 Ratio of Earnings Inequality on Globalization and Control Variables in 18 Affluent Democracies, 1961–2004.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Net migration	−.004	−.002					−.005	−.003
	(−1.38)	(−.80)					(−1.53)	(−1.13)
Trade openness			.135**	.120**			.182**	.131**
			(6.00)	(5.08)			(6.93)	(4.35)
Investment openness					.011**	.010**	.004	.005
					(3.19)	(3.00)	(1.16)	(1.41)
Productivity	.008**	.008**	.004**	.004**	.007**	.006**	.004**	.004**
	(6.67)	(7.01)	(3.68)	(4.00)	(5.95)	(5.62)	(2.88)	(3.44)
Agricultural employment	.048**	.046**	.032**	.032**	.043**	.026**	.018**	.012
	(8.39)	(8.14)	(5.62)	(5.52)	(6.10)	(3.53)	(2.52)	(1.52)
Female employment	.007**	.010**	.005**	.006**	.006**	.009**	.005**	.008**
	(4.82)	(5.99)	(3.34)	(3.85)	(4.48)	(6.29)	(3.85)	(4.95)
Public employment	.022**	.014*	.013**	.010*	.024**	.008	.016**	.009+
	(4.58)	(2.62)	(2.77)	(2.04)	(4.49)	(1.51)	(3.43)	(1.78)
Wage coordination	−.005	−.005	−.002	−.002	−.004	−.005+	−.002	−.004
	(−1.27)	(−1.37)	(−.88)	(−.96)	(−1.49)	(−1.69)	(−.69)	(−1.14)
Cumulative right party power	.016**	.012**	.013**	.011**	.016**	.013**	.012**	.010**
	(6.95)	(4.81)	(4.42)	(3.44)	(5.48)	(4.35)	(5.97)	(4.68)
Manufacturing employment		.001+		.001		.010**		.006*
		(1.73)		(.71)		(3.74)		(2.22)
Unemployment		.008**		.004*		.013**		.008**
		(3.67)		(1.98)		(5.68)		(3.12)
Constant	.227**	.169**	.238	.212**	.272**	.090**	.078**	.045**
	(23.61)	(17.23)	(19.86)	(17.47)	(20.36)	(6.17)	(6.98)	(3.96)
Overall R^2	.121	.121	.028	.021	.097	.192	.004	.009
BIC	−1009.873	−1014.446	1290.286	1283.112	1165.390	1187.367	−979.345	−979.805
N	256	256	315	315	293	293	239	239

Notes: All models include a first-order autocorrelation correction. All models include dummies for decades (reference = 2000s). All controls are lagged one year. All globalization variables are lagged one year and converted to natural logarithm. The numbers in parentheses are *t*-scores.
**$p<.01$; *$p<.05$; +$p<.10$.

Table 6. Fixed-Effects Models of 50/10 Ratio of Earnings Inequality on Globalization and Control Variables in 18 Affluent Democracies, 1961–2004.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Net migration	.007	.012*					.008	.009
	(1.08)	(2.07)					(1.48)	(1.56)
Trade openness			.137**	.127**			.122**	.090*
			(4.94)	(3.91)			(3.18)	(2.09)
Investment openness					.022**	.022**	.012	.014+
					(3.14)	(3.19)	(1.53)	(1.77)
Productivity	.006**	.006**	.005**	.005**	.006**	.004**	.002+	.002
	(4.54)	(4.54)	(3.95)	(3.97)	(4.70)	(3.25)	(1.75)	(1.60)
Agricultural employment	.045**	.049**	.039**	.039**	.049**	.042**	.028**	.029**
	(7.10)	(7.97)	(6.85)	(6.82)	(6.50)	(5.18)	(3.28)	(2.93)
Female employment	.004*	.006**	.002	.003	.003*	.006**	.002	.003+
	(2.38)	(3.86)	(1.54)	(1.60)	(2.01)	(3.37)	(1.23)	(1.97)
Public employment	.011*	.006	.002	.002	.007	−.0002	.005	.002
	(2.02)	(1.06)	(.42)	(.32)	(1.22)	(−.04)	(.93)	(.34)
Wage coordination	−.006	−.003	−.004	−.004	−.003	−.003	−.003	−.003
	(−.78)	(−.49)	(−.67)	(−.65)	(−.47)	(−.54)	(−.44)	(−.44)
Cumulative right party power	.005*	.002	.002	.001	.001	.001	.003	.003
	(2.04)	(.083)	(.61)	(.39)	(.51)	(.35)	(1.46)	(1.33)
Manufacturing employment		.001		.0002		.008*		.004
		(.94)		(.16)		(2.33)		(1.09)
Unemployment		.012**		.002		.011**		.006
		(4.54)		(.55)		(3.43)		(1.63)
Constant	.712**	.581**	.517**	.514**	.824**	.591**	.680**	.589**
	(10.22)	(7.00)	(8.66)	(8.44)	(12.55)	(7.06)	(5.12)	(3.97)
Overall R^2	.011	.0003	.068	.073	.101	.049	.154	.068
BIC	−640.163	−655.609	−838.093	−827.224	−769.933	−771.880	−642.728	−635.291
N	256	256	315	315	293	293	239	239

Notes: All models include a first-order autocorrelation correction. All models include dummies for decades (reference = 2000s). All controls are lagged one year. All globalization variables are lagged one year and converted to natural logarithm. The numbers in parentheses are *t*-scores. **$p<.01$; *$p<.05$; +$p<.10$.

increase in trade openness, the 50/10 ratio is expected to increase by about .22–.35 standard deviations.

In sum, trade openness is the only globalization measure that has a robust significant effect on earnings inequality. Moreover, trade openness always has a much larger effect than net migration and investment openness, even when those variables are significant. The BIC statistic provides further evidence that trade openness is the component of globalization that is most salient to earnings inequality. Since the number of cases differs across models, one should be cautious with these comparisons. Nevertheless, models 3–4 featuring trade openness are the only models in Tables 4–6 that are preferred by BIC over the controls models in Table 3. BIC prefers model 4 over the control models "positively" for the 90/10 ratio and "very strongly" for the 90/50 ratio and 50/10 ratio (Raftery, 1995).

One way to interpret these results is to counterfactually simulate earnings inequality with actual and simulated levels of trade openness. I calculated the U.S. 90/10 earnings inequality ratio as if trade openness had been one standard deviation lower and as if trade openness had never increased from 1972 levels.[19] This simulation demonstrates that earnings inequality could have been moderately lower if trade openness had not increased as it did. In, 2003, the 90/10 ratio was 4.67. Had trade openness remained at 1972 levels, the 90/10 ratio would have been 4.51 instead. Had trade openness been one standard deviation lower, the 90/10 ratio would have been 4.47. In both simulations, U.S. earnings inequality would still have risen. For example, instead of actually rising 27.6%, it could have risen 23.1% if trade openness had remained at its 1972 levels. Interestingly, the United States would still have the highest 90/10 ratio, and still would have experienced the second largest increase (behind Denmark). Thus, it is important to acknowledge that other factors (see Table 3) have contributed more to the rise of earnings inequality than globalization.

In addition to the full sample, I examined the relationship between trade openness and earnings inequality in subsamples. There are two plausible reasons for decomposition. First, I argued that we should revisit skeptical studies since globalization rose significantly in the late 1990s. One way to test if my significant results are partly due to this would be to compare the results with the earlier period that was documented by skeptical studies. Second, it could be that much of what we observe as globalization is solely due to the heightened trade within the European Union (Beckfield, 2006). Although globalization and regionalization are complementary parts of a common process (Kim & Shin, 2002), it would be valuable to explore the effect of trade openness inside and outside the European Union. Table 7 displays these analyses.

Table 7. Sample Decomposition of Fixed-Effects Models of Earnings Inequality on Globalization and Control Variables in 18 Affluent Democracies, 1961–2004.

	90/10 Ratio	90/10 Ratio	90/10 Ratio	90/50 Ratio	90/50 Ratio	90/50 Ratio	50/10 Ratio	50/10 Ratio	50/10 Ratio
Trade openness from model 4 of Tables 4–6	.243** (2.91)			.120** (5.08)			.127** (3.91)		
Trade openness in sample 1961–1989		−.063 (−.77)			.047+ (1.81)			.024 (.66)	
Trade openness in Euro countries			.295** (3.37)			.165** (6.29)			.160** (4.22)
Trade openness outside Euro countries			.157 (1.53)			.054+ (1.72)			.084* (2.07)
Overall R^2	.082	.136	.019	.021	.024	.003	.073	.025	.084
BIC	−351.860	−160.252	−349.189	1283.112	−598.177	−1288.159	−827.224	−520.316	−825.676
N	315	140	315	315	140	315	315	140	315

Notes: All models include a first-order autocorrelation correction. All models include dummies for decades (reference = 2000s). Though not shown, all models include the controls (lagged one year) from the second set of models in Tables 4–6. Trade openness is lagged one year and converted to natural logarithm. The numbers in parentheses are t-scores.
**$p < .01$; *$p < .05$; +$p < .10$.

The first column for each dependent variable displays the effect of trade openness from model 4 of Tables 4–6. The next models reestimate that same model on the 1961–1989 period. Confirming earlier skeptical studies, trade openness does not have a significant effect for two of the three dependent variables. Even its effect for the 90/50 ratio is only significant at the .10 level. Thus, one of the reasons the earlier skeptical studies concluded that globalization was inconsequential to earnings inequality is because of the use of a time period prior to globalization's expansion in the 1990s.[20]

Finally, the third models include a dummy-slope interaction of Euro and non-Euro countries. The results show that trade openness has a larger effect on earnings inequality in Euro countries than in non-Euro countries. Nevertheless, trade openness is always positively signed in the non-Euro countries and remains significantly positive for two of three dependent variables and nearly significant for the third. Although trade openness was more consequential in the Euro countries, it still remained a significant influence outside the Euro countries.

A variety of other sensitivity analyses were also considered (also see footnotes). I estimated all models with one country omitted at a time, and the conclusions were consistent. Also, I tested whether the effect of globalization varied over time by interacting the globalization variables with various measures of time. None of the interaction effects were significant. Finally, as mentioned above, I reestimated the models including union density and/or education. All of the conclusions about the globalization effects were consistent in these analyses as well.

CONCLUSION

Since the 1960s, there has been tremendous historical variation in earnings inequality within the affluent democracies. The United States and others have experienced a dramatic increase, many have witnessed moderate growth, and a few have experienced stability or declines. This study demonstrates that one significant influence on changes in earnings inequality has been increased trade. The affluent democracies have undergone a wave of heightened international trade, investment, and immigration. Although investment openness and net migration do not have robust effects, trade openness contributed to greater earnings inequality and appears to be the more consequential component of globalization. For a standard deviation increase in trade openness, the 90/10 and 50/10 ratios are expected to increase by more than one-fifth of a standard deviation and the 90/50 ratios

is expected to increase by about .4 standard deviations. A counter-factual simulation suggests that earnings inequality would have still increased in the United States if trade openness had not risen as far and fast as it did, but increased trade worsened an already polarized earnings distribution.[21]

Though others have provided evidence to suggest a link between globalization and various dimensions of inequality, the present study offers a few novel contributions. One is that the analyses incorporate up-to-date data on globalization and earnings inequality. In the mid-1990s, many used data through the late 1980s or early 1990s to conclude skeptically that globalization had very little influence. By contrast, this study includes the heightening of globalization that occurred after 1990. Another is that this study includes a comprehensive set of globalization measures to assess its multiple potential impacts. Yet another is the analysis of a valuable database and a dependent variable – earnings inequality – that have been relatively neglected by sociologists. Earnings inequality provides a more direct measure of and more proximately gauges how globalization affects workers. Hence, this study contributes a unique assessment of globalization's distributional consequences in affluent democracies.

A key concern of previous studies has been displacement effects. Because a portion of the effects of trade openness can be explained by manufacturing employment and unemployment, increasing trade may displace workers when foreign production is substituted for relatively well-paid domestic workers. However, this study is ultimately skeptical of immigration as a major influence on earnings inequality. At least in the United States, immigration has probably garnered the most attention as a displacement effect on earnings inequality (e.g., Borjas, 2001).[22] Beyond displacement, the analyses also explore how globalization has spillover effects beyond those directly impacted by globalization. Rather than constraining sociological inquiry on the consequences of globalization to displacement, this study encourages the consideration of the deeply sociological concerns of power relations and institutional change. Indeed, this study provides some evidence that the effects of trade openness are not exclusively due to displacement. The effects of trade openness remain significantly positive, even after controlling for two indicators of displacement. Thus, trade openness may contribute to additional pathways by which globalization results in increased earnings inequality. As discussed earlier, previous scholarship suggests that globalization alters the power relations between employers and employees, and contributes to institutional change in the nature of work and the organizational practices of business.

Partly to address this study's limitations, I encourage future research in several directions. Although my findings demonstrate robust significant effects solely for trade openness, one can certainly envision how investment openness could contribute to similar processes of power relations and institutional change (Brady & Wallace 2000). Given the theoretical plausibility of such a relationship, it would be worthwhile to examine the effects of foreign investment further (e.g., the significant effects of outward portfolio investment in the appendix). Subsequent studies should attempt to sort out the relative influence for the three plausible mediating processes: displacement, power relations, and institutional change. My findings confirm others' arguments, and supplement the evidentiary base, but cannot adjudicate between these two processes. Also, studies should explore the possibility that globalization's effects vary across countries with more or less prominent labor market institutions.[23]

Finally, and most importantly, research is needed to make explicit the mechanisms by which trade triggers greater inequality. By demonstrating the robustness of the general relationship between trade and inequality at the country-level, this macro-level study can serve as a complement to the vibrant ethnographic literature on how globalization influences workers at the micro-level (e.g., Graham, 1995; Gille & O Riain, 2002). Nevertheless, future research will probably need to move beyond macro-level analyses to open up the black box of causality in the relationship between trade and inequality. Future studies should combine longitudinal micro-level studies of firms and meso-level studies of industries experiencing globalization. Plausibly such studies will be able to trace the causal processes involved when firms/industries experience heightened trade (both via suppliers and competitors). To fully understand precisely how and if power relations and institutional change act as mechanisms contributing to greater earnings inequality, scholars will need to construct narratives of firm and industry change. Most likely, such integration between micro-, meso-, and macro-level studies of globalization will result in improved sociological insight into the causal processes and mechanisms generating inequalities. Therefore, ultimately, more research is needed to discern what and how precise mechanisms explain the relationship between trade openness and earnings inequality.

Since Harrison and Bluestone (1988) provoked interest in the Great U-Turn, much research has been skeptical about whether globalization truly mattered to inequality among workers. This study provides novel evidence that at least one dimension of globalization, trade openness, is consequential for rising earnings inequality in affluent democracies. Whereas previous

research has often focused on the possible displacement effects of increased globalization, this study encourages research on the spillover effects for the entire workforce in terms of power relations and institutional change. Finally, since globalization grew substantially over the 1990s, it is possible that globalization will continue to become an even more consequential structural change for workers.

NOTES

1. Earnings inequality is positively, but far from perfectly, correlated with income inequality. For example, the Luxembourg Income Study (LIS) 90/10 ratio for inequality in household posttax and transfer income has a bivariate correlation of .7 with the 90/10 ratio of earnings inequality ($N = 57$). By contrast, measures of household income inequality typically correlate above .9. The LIS cannot as effectively be used to analyze earnings inequality because of a lack of comparable data for many countries on employment and hours worked. In addition, this paper's data advantageously has more than three times as many cases as the LIS.

2. Since portfolio and direct investment data is not available for most countries before 1975, this figure begins there. In all analyses below, I use the maximum available number of data points, including observations before 1975 for trade openness. The mean in Fig. 1 has a slightly different N at different time points because of missing investment data – this does not influence the pattern (Brady et al., 2007).

3. As Collins (1998, p. 35) acknowledges, "The many problems with existing analyses imply that the jury is still out ... Once all of the pieces to the puzzle have been assembled, the role of globalization may turn out to have been more substantial." Lindert and Williamson (2003, p. 259) note, "the debate is still too narrow to judge the full impact of globalization on inequality within the industrial OECD."

4. In a rich ethnography, Graham provides a distinctive perspective relative to the displacement literature. Critical of company rhetoric of higher pay, participation, and teamwork, Graham highlights company practices that adversely affect workers: preemployment screening to filter out pro-labor sentiments, training and orientation to elicit compliance, and poor health/safety conditions.

5. Institutional change and power relations are theoretical mechanisms and are unobserved. So, the distinction is *not* empirically consequential to the analysis. The distinction is merely a heuristic to classify the two broad types of arguments previous scholars have made for why globalization affects earnings inequality even after controlling for displacement.

6. A common rho is estimated for all panels, and the same correction is implemented regardless of the uneven gaps between time points across panels. Since the correction adjusts the present error term for rho × the previous error term, the first observation is dropped. I report Stata's default fit statistics, which are always small because all between-country variation and the country-dummies drop out in the FE models.

7. The globalization results are consistent if the decade dummies are omitted.

8. Many have demonstrated that RE models emphasize between-country variation (Alderson & Nielsen, 2002; Hsiao, 2003). Whenever estimation was possible, the Hausman χ^2 test prefers FE over RE models.

9. Unfortunately, gini or other inequality indices are simply not possible because the data is only reported as 90/10 and 50/10 ratios. The correlation between the 90/10 ratio and the 90/50 ratio is .92, and .95 between the 90/10 ratio and 50/10 ratio. Yet, the correlation between the 90/50 ratio and the 50/10 ratio is only .75.

10. In 2003, 69% of exports and 64% of imports between industrialized countries (IMF, 2005). This hardly changed from 1993: 66.4% of exports and 67.6% of imports (IMF, 2000).

11. The OECD has data on the percent of the population foreign born, but unfortunately these data are not available before the mid-1980s, and are spotty for most nations.

12. Portfolio includes bond/equity investment that amount to less than a 10% ownership share, while direct investment represents capital flows involving at least a 10% ownership share and management of a firm. Since I add these measures into one summary measure of investment openness, the distinction is only relevant in the appendix.

13. Since the variables are in natural logarithm, negative values (e.g., out-migration) are dropped as they are undefined. Values less than 1.0 become negative. This explains the difference in N between investment openness and trade plus investment openness in the appendix.

14. Although one could add productivity-squared to reflect the Kuznets curve (Alderson & Nielsen, 2002), there was inconclusive evidence that it was worth the loss of parsimony. The globalization results are robust if productivity-squared is added.

15. In other analyses, I substituted female labor force participation. The results were consistent except the female employment rate had a more robust significant effect.

16. This measure sums "right" parties, "right, Christian" parties, and "right, Catholic" parties.

17. Collinearity is not a problem in the combined models. The correlation between net migration and trade openness is merely −.01, and .11 with investment openness. Trade openness and investment openness correlate much higher, but still at a manageable .55. The variance inflation factors for net migration (1.03), trade openness (1.05), and investment openness (2.10) are far below problematic levels.

18. All conclusions for the globalization variables are robust if all controls (except or including the decade dummies) are dropped. For example, if model 7/8 is reestimated with no controls but with decade dummies, trade openness is even more significantly positive ($t > 17$). Net migration and investment openness would still not be significant (though investment openness would be significant in model 5/6 with no controls).

19. These simulations use the coefficient from model 4. This provides a more conservative counterfactual as the effects of trade openness are slightly larger in models 7 and 8 for the 90/10 ratio and all models for the 90/50 ratio.

20. As a result, of course, the effects of trade openness are much larger and more significant in the 1990–2004 period or in an analysis of the 1980–2004 period. Below, I explain that trade openness does not significantly interact with time, which suggests it is the increasing level of trade openness that matters, not an increasing effect.

21. Of course, altering globalization one standard deviation is very unlikely. These comparisons should be understood as illustrating the consequence of social change and of countries being at one end of a continuum of more or less globalization.

22. Of course, there is a possibility that a different measure of immigration – for example, the percent foreign born (see footnote 11) – might result in more significant effects. However, net migration is a measure of "flows" just like the trade and investment openness measures. Switching to measures of globalization "stock" (i.e., the percent foreign born) might result in larger effects for trade and investment as well.

23. However, this may require departing from FE models. In FE models, an interaction of corporatism and trade openness would only involve historical variation within countries and would ignore the larger cross-national variation in corporatism. Thus, such interactions are beyond the scope of this paper.

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APPENDIX. EFFECTS OF 12 ALTERNATIVE GLOBALIZATION MEASURES: FIXED-EFFECTS MODELS OF EARNINGS INEQUALITY IN 18 AFFLUENT DEMOCRACIES, 1961–2004

	90/10 Ratio	90/50 Ratio	50/10 Ratio
Outward PI	$.017^{+}$	.0002	$.011^{*}$
	(1.66)	(.10)	(2.45)
R^2	.166	.256	.006
N	272	272	272
Inward PI	−.012	−.001	−.003
	(−1.22)	(−.37)	(−.69)
R^2	.142	.231	.049
N	267	267	267
Outward FDI	−.007	−.005	.004
	(−.43)	(−1.33)	(.53)
R^2	.175	.238	.013
N	286	286	286
Inward FDI	.012	$.004^{+}$	$.009^{+}$
	(1.06)	(1.83)	(1.79)
R^2	.137	.180	.008
N	285	285	285
Net investment	.006	.004	.001
	(.89)	(1.29)	(.33)
R^2	.198	.205	.225
N	126	126	126
Exports	$.250^{**}$	$.120^{**}$	$.122^{**}$
	(2.94)	(5.10)	(3.67)
R^2	.066	.018	.080
N	315	315	315
Imports	$.183^{*}$	$.079^{**}$	$.104^{**}$
	(2.15)	(3.39)	(3.10)
R^2	.097	.045	.070
N	315	315	315
Net trade	.017	.004	.003
	(1.19)	(1.24)	(.44)
R^2	.367	.335	.047
N	197	197	197

APPENDIX. (*Continued*)

	90/10 Ratio	90/50 Ratio	50/10 Ratio
Trade plus investment	.192**	.067**	.087**
	(2.98)	(4.01)	(3.36)
R^2	.064	.123	.144
N	294	294	294
Net trade and investment	−.007	−.0004	−.002
	(−1.48)	(−.20)	(−.82)
R^2	.118	.086	.027
N	159	159	159
Imports from LDCs	.044	.020	.021
	(.96)	(1.59)	(1.24)
R^2	.121	.089	.034
N	315	315	315
% of imports from LDCs	.075	.040**	.039[+]
	(1.35)	(2.63)	(1.87)
R^2	.144	.123	.015
N	315	315	315

Notes: All models include a first-order autocorrelation correction. All models include the controls from Table 2 and dummies for decades (reference = 2000s). All control variables are lagged one year. All globalization variables are as a % of GDP (except % of imports from LDCs), lagged one year, and converted to natural logarithm. The numbers in parentheses are *t*-scores.

**$p < .01$; *$p < .05$; [+]$p < .10$.