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Who Did Safety Nets Catch During the Great Recession and How? A Comparison of Eleven OECD Countries

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Abstract

This paper compares the amount of income protection eleven OECD countries provided over the Great Recession. Using household-level data, I calculate the recession's impact on earned income across the income distribution among the non-elderly populations, and investigate the degree to which additional government transfers compensated for these income losses. While the recession's impact on earned income varied significantly both across and within countries, in most countries additional government transfers offset steep income declines, and reversed increases in income inequality. Overall I fail to find that the size or distributional features of nations' responses were correlated with welfare regime type nor prior amount spent on social policies. Taking the recession's impact into account, both large and small welfare regimes had different mixes of policies; however I find similarity in the extent to which they cushioned citizens from declines in market income. A failure to find evidence that responses were shaped by welfare regime type, but rather by the recession's impact, lends support to arguments that the conditions of an economic crisis constrain the usual conduct of politics.

Key Words:
Great Recession, Income Redistribution, Inequality, Economic Crisis, Luxembourg Income Study

Introduction

One legacy of the devastation wrought by last century's Great Depression is that countries now devote sizable resources to protecting citizens from various personal risks, chief among them income shocks. The recent Great Recession of 2008, the worst since the Great Depression, challenged this commitment. To what extent did governments succeed in protecting their citizens from declines in income over the recession? If they differed in their responses, what explains this variation? While evidence suggests that at least in the earliest phases, countries generally cushioned households from much of the collapse in labor markets that occurred (Jenkins *et al*., 2013; OECD, 2011d), we still know little about the detail of different countries responses, and how these compared. To date, research is largely qualitative (OECD, 2012; Vis *et al*., 2011; Yerkes and van der Veen, 2011), country-specific (Dukelow and Mairead, 2014), or examines a particular policy arena (Chung and Thewissen, 2011; Marchal, Marx and Van Mechelen, 2014). Yet given wide differences in both countries' social policies and their discretionary responses over the Great Recession, we should expect countries to vary in both the magnitude and effectiveness of their responses.

This paper adds to a growing literature seeking to understand both how welfare states respond to economic crises, and how and why they responded differently. One important contribution of this paper is to investigate these questions using quantitative data. Using Luxembourg Income Study (LIS) data, I analyze household-level information on income and government transfers from eleven OECD countries to quantify and compare the degree of income protection governments provided citizens over the recession. My purpose is to first

investigate the recession's effect on earned income, and then to compare the magnitude of governments' tax and social policies on disposable income.

The eleven OECD countries in this study represent the range of welfare-regimes types, and they experienced varying levels of economic distress over the recession. The paper thus investigates policy responses across countries with a wide variety of country-specific contexts. Despite this, my analyses suggest that nations responded in fairly similar ways, with much of the differences corresponding with variation in the recession's magnitude and distributive impact. A failure to find evidence that responses were shaped by welfare regime type, and the political institutions and expectations associated with them, lends support to arguments that the conditions of an economic crisis constrain the usual conduct of politics.

Responses to Economic Crises

It is now well-established that at least through the early stages, rich nations generally responded to the Great Recession by significantly increasing expenditures on income support policies (Jenkins *et al*., 2013; OECD, 2011d). A good deal of this additional effort reflected the "automatic stabilizers" built into existing policies, such as when those losing jobs collect unemployment checks and owe less in taxes. But most OECD countries also enacted discretionary policy measures, for instance by increasing unemployment benefits, providing more generous public assistance and family benefits, and reducing taxes (Bonnet, Sage and Weber, 2012; OECD, 2014; OECD, 2011c; OECD, 2011d). These measures ensured that large decreases in income at the national level did not translate into similar losses in households' disposable income. These two factors—automatic stabilizers and discretionary policy—explain

why social spending over the recession grew by an average of almost two percentage points in OECD nations (OECD, 2011d).

The comparative social policy literature is still underdeveloped on the topic of how different welfare states compare in their responses to economic shocks, although the recent crisis has led to a renewed interest in this area. Regarding the recent recession, we know little about how protection levels differed across countries, who within countries these policies targeted, or how the poor fared. The latter is of particular concern as there has been a two-decade long erosion in minimum income protection polices (Marchal, Marx and Van Mechelen, 2014), and economic downturns tend to disproportionately target them.

Growing interest in understanding how welfare states respond to economic shocks has led scholars to posit certain theories for how and why their responses may differ. A common conjecture is that welfare states will respond in predictable fashions, using their accustomed toolkit and replicating prior tendencies. Incremental, familiar responses occur because nations have particular sets of institutions and policies that already reflect their different politics, interest groups, and citizens' ideological beliefs; these also help to set citizens' expectations of how their government *should* respond (Chung and Thewissen, 2011). To use Francis Castles' evocative phrase, welfare regimes are like "elephants on the move," slow, predictable and steadfast (2010: 91).

This perspective might lead us to anticipate that welfare states' responses will vary both in their size and in their distributional effect. Not only do states differ in the personal risks they cover and the generosity of that coverage, they also vary in the extent to which they redistribute income (Dolls *et al*., 2011; OECD, 2011a; OECD, 2011d; Wang *et al*., 2012). We would additionally expect variation to result from wide differences in the policy measures each enacted

in response to the recession (Chung and Thewissen, 2011; ILO and World Bank, 2012; OECD, 2011d).

The same political and institutional forces that explain this variation might also be expected to shape countries' responses to the recession. If so, then more robust and more redistributive regimes might spend more and redistribute more. That stronger welfare states tend to have more generous automatic policy responses to income losses would suggest this as well (Dolls et al., 2011). With their more extensive reliance on social assistance policies and weaker stabilizers, liberal regimes might be expected to provide less income support than do the more generous Corporatist and Social Democratic regimes. The OECD in fact voiced this concern when it worried that countries with low levels of unemployment insurance and meager social assistance policies--such as in the US and Greece—may not be able to effectively respond to the recession (OECD 2011d: Figure 1.20).

Some research investigating evidence for such "path dependent" responses to the recession among difference welfare regimes have found some evidence for it. Examining new policy measures enacted in the UK, Germany and Sweden, Chung and Thewissen (2011) conclude that the distinct political and institutional legacies in each country help explain which additional measures each enacted, finding that the "degree of policy innovation" in countries "was limited" (367). Their analysis, however, only examined the type of discretionary social and unemployment policy measures, and did not compare countries on the magnitude or distributional impact of these measures. Jenkins *et al*. (2013) did examine the distributional effect of both the recession and governments' response to it a wide range of OECD countries; they tentatively conjecture that (2013: 23): "the degree of distributional stabilization [that countries provided over the recession] may be associated with already having a relatively strong

welfare state in general and social safety net in particular." In other words, they anticipated that nations with larger pre-existing levels of government transfers provided their citizens with higher levels of income stabilization over the recession.

A contrasting argument from this "path dependency" one can be characterized as "convergence theory" (Chung and Thewissen, 2011). Growing evidence points to wealthy democracies converging in their welfare policies. For instance, many countries have been increasing their reliance on labor activation policies; lowering replacement rate benefits; strengthening policies targeting families; and encouraging mothers to work (Daly, 2010; Immervoll and Pearson, 2009; Marchal, Marx and Van Mechelen, 2011; Marx *et al*., 2013). By some measures, the amount each country spends on social policies has also been converging (Chung and Thewissen, 2011). If the political and economic forces shaping countries' social policies are resulting in greater similarity among them, then we could expect the same to hold true over an economic crisis, especially since the recent recession presented countries with similar challenges and common constraints.

As evidence, Sacchi *et al*. (2011) find that short-time work policies in three European countries became more similar over the recession. Vis *et al*. (2011) compared six developed countries' reaction to the recession, and found that the responses of each followed a similar pattern. Dolls *et al*. (2012) examined countries' fiscal stimulus measures over the recession, and calculate that countries with less generous social policies tended to engage in higher levels of discretionary spending, suggesting that stronger discretionary responses substituted for less generous automatic stabilizers.

That weaker states might respond more strongly to a crisis is consistent with Castle's (2010) conjecture that minimalist welfare states will be most challenged by an economic crisis,

and may as a result respond more strongly. He speculated that "Here, I think, are the origins of …add-on schemes" (99), by which he means that crises reveal the shortcomings of weak welfare states. Essentially, this is a form of the "all hands on deck" theory that nations respond to an economic crisis in a similar fashion, doing what needs to be done under urgent conditions. According to Lipsmeyer (2011), this makes sense: policy during an economic crisis will be less ideologically driven because the political rewards are in taking action rather than in advancing partisan preferences and agendas, claiming that "during an economic bust, all government spend more on welfare regardless of ideology" (960).

Stark, Kaasch and Van Hooren (2014) advance a different argument about how partisan politics plays out during an economic crisis, presenting a novel caveat to the convergence perspective. They argue that more generous welfare states already have strong automatic stabilizers built into them; as such, policy discussions over how to respond are more constrained since there is less to debate. As a result, they contend partisan politics play a smaller role in these countries. Less generous welfare regimes, on the other hand, have smaller income stabilizers and consequently more to debate since one cannot rely on government policy automatically to do its job. Consequently, policy responses in minimalist welfare regimes will be subject to greater partisan politics than will similar responses in more generous regimes. Using qualitative measures of four countries' responses to four different economic crisis, they find some evidence for this.

In sum, several emerging theories propose how we might expect countries to differ in their responses to the 2008-2010 recession. More generous welfare states might have had stronger responses because of stronger stabilizers as well as a greater predisposition and expectation among the population for providing greater levels of income protection. It is in these

countries, then, where we are more likely to witness a "all hands on deck" response to a crisis. On the other hand, less generous welfare states may spend more to compensate for weak income stabilizers and (particularly for the poor) more exposure to labor markets. In this case, we might expect differences in *how* the hands got on the deck, but similarity in how many there are. Finally, according to Stark, Kaasch and Van Hooren's argument, we might expect generous welfare states to have more uniform responses, and smaller state responses to be more variable—or at least more contingent on political leadership and power.

After describing the data, I use the sample of eleven countries to investigate the amount of income protection each provided over the Great Recession and its distribution, and to examine how these responses differed among them. This comparison entails evaluating both aggregate responses to income losses, and the distribution of that response, with special attention placed on countries' responses to income losses among the poor.

Data Description

To investigate these questions, I analyze micro-level data from the Luxembourg Income Study's (LIS) most recent waves of data: the 2007 wave represents a baseline, and the 2010 wave provides information on the magnitude of the recession's impact, as well as the size and distribution of governments' initial responses to it. To measure countries' reactions to the recession, I use the simplistic assumption that the changes in income that occurred between 2007 and 2010 were solely attributable to the recession. This amounts to presuming that had the recession not occurred, income, income distributions and government policies would have been the same in 2010 within countries as they had been in 2007. This assumption allows us to easily measure the impact of the recession within countries, as well as calculate the magnitude and

distribution of governments' response to it. While not perfect, such an assumption is likely as plausible as the alternative set of assumptions needed to estimate what income levels, income distribution, and government policy *would* have been in 2010 had a financial crisis *not* occurred, and compared *actual* 2010 outcomes with that hypothetical benchmark.

Each wave and country dataset in LIS includes detailed information on household income and income sources usually taken from tens of thousands of households. Each household is assigned a weight for making national-level estimations. Among members of the Organization for Economic Cooperation and Development (OECD) that provide LIS with data, I selected all those except Estonia, Israel and Poland that contained observations on both market and disposal income in both 2007 and 2010. The eleven resulting countries can be categorized into four distinct welfare regimes. Canada, the UK, the US, and Ireland fit into the Liberal model; Germany, Luxembourg and the Netherlands are usually categorized as fitting the Corporatist (or Conservative) model; Finland and Denmark represent the Social Democratic tradition; and Spain and Greece represent the Southern European model.

To separate out the effect of public pensions from other forms of social transfers, I limit the study to the non-elderly population, defined as those below the age of sixty. Social transfers to the elderly tend to be immune to economic downturns (Jenkins *et al*., 2013), and also are especially redistributive (Wang, Caminada, and Goudswaard, 2012). While a comparative analysis of the effect of the recession on the elderly population is important, this is best done separately so as not to conflate or hide tendencies among the two sub-populations.

To arrive at individuals' market income, I assign each an identical share of their household's income by calculating an "equivalized income" for each person using LIS's recommended formula (see Appendix for detail). To distinguish income along the income

distribution, I divide individuals into income quintiles based on their (equivalized) market income; all references to quintiles in this paper are based on market income quintiles. I define market income (also referred to in this paper as "earnings") as all income from capital and labor markets, plus income from private pensions (see the Appendix for more detail). All figures are adjusted for inflation based on the OECD's consumer price index, and express amounts in constant 2010 figures. "Income" in this paper always refers to equivalized income, whether disposable or market, and all data presented here are based on the weighted observations of each county's fifty-nine and under population.

To quantify the effect of government policy on income, I define a variable called "government transfers." This variable captures the combined contribution to individuals' income of both taxes paid and social benefits received; the latter includes the value of both cash and near-cash (such as housing and food vouchers) benefits. As with income, "government transfers" is reported by its equivalized value. Typically, government transfers will be high for low income households because they receive larger social benefits while also paying less in taxes. Government transfers generally decline with income, and at some income range turn negative when an individual pays more in taxes than he or she receives in social benefits. A final key variable in this study is disposable income (or "post-government" income); this measure of income accounts for the effect of government policy on market income, and is calculated as market income plus the value of government transfers.

Changes in Market Income and Government Transfers over the Great Recession

To investigate countries' responses to the recession, I first begin by characterizing the magnitude of its impact on countries. Why wide variation in the recession's impact occurred is

beyond the scope of this paper, but its range is represented in the eleven countries in this study. Table 1 column 1 shows the average change in market income that occurred between 2007 and 2010: among the non-elderly, it remained essentially unchanged in Germany, fell by 5.9 percent in the United Kingdom, and dropped by a dramatic 15.3 percent in Ireland.

While average market income fell in eight of the eleven countries, the average value of government transfers to individuals also increased in eight of them, as shown in column 2 of table 1. For instance in the UK, the equivalized value of government transfers to individuals increased by an average of £600 (not shown) between 2007 and 2010, which equals 2.6 percent of average national income in 2007 (column 2).[1] Column 3 shows how changes in earned income coupled with changes in government transfers combined to determine changes in disposable income over the recession: in the eight countries with income losses, only the Netherlands and Ireland experienced losses in average disposable income exceeding average market income losses. In the other six, government transfers reduced disposable income losses by around 30 to 50 percent of the fall in market incomes, although in the case of the outlier of Denmark, average disposable income in the country actually grew. Overall, with the exception of Ireland and the Netherlands, government policy significantly cushioned individuals' disposable income from the recession's impact, whether that impact was large or more modest.

[table 1 here]

I turn now to considering variation in countries' responses to the recession (column 2). Did stronger welfare states respond with larger transfers? As an indicator of the size of the welfare state before the recession, the fourth column of table 1 shows expenditures on social

transfers (government transfers minus taxes) for each country in 2007, expressed as a share of the nation's market income. As all values in this paper are calculated for the non-elderly population, column 4 excludes most of each nation's payments for public pensions. Comparing this measure of the size of the welfare state in 2007 with the additional transfers to individuals over the 2007 to 2010 period (column 2), reveals virtually no correlation between the two. At least at the aggregate level, this simple correlation does not show that more robust welfare states responded to the recession with greater levels of income support. Shortly when I take the size of income losses into account, I'll discuss even stronger evidence for this.

If countries instead had similar responses, we would expect those responses to be primarily shaped by the magnitude of income losses each faced. Comparing the extent of income losses over the recession (column 1) with countries' additional expenditures (column 2) indeed reveals a correlation of -.59 between the two, a finding consistent with the OECD's (2011d, p. 47) that greater economic distress within countries tended to correspond with larger increases in government transfers. So far, the evidence is consistent with responses shaped by the number of hands needed on deck.

Stark, Kaasch and Van Hooren (2014) argued that smaller welfare states are more influenced by partisan politics than are larger welfare states; if true we would expect to find greater variability in responses among the smaller welfare states (controlling for the size of the crisis) and less variability among the larger ones. As a simple test of this, I divide the eleven countries into two categories based on the size of their social transfers in 2007 (with 10 percent of national income serving as the dividing line between the two groups). Examining the relationship between the size of the crisis (column 1) and countries' responses (column 2), I find responses in the two groups to be nearly identical: for low spending countries, each percentage

point decrease in income corresponded with an average .27 percentage point increase in social transfers, while for high spending countries the average is .24 percent. More to the point of their argument, I also find that among smaller welfare states there is a *stronger* association between income losses and the magnitude of new transfers (.83 correlation) than I find in the high spending ones (.52). While this analysis does not establish causality (or lack thereof), the results once again suggest a surprising degree of similarity in responses, consistent with Lipsmeyer's (2011) contention that economic distress suppresses politicians' ideological preferences. We'll return to this below when I take up an analysis that compares countries based on their responses to those at different points of the income distribution.

So far I have investigated countries' responses at the national-level; but a separate, equally important question is the distribution of that response. Did countries distribute the additional transfers along the lines they had in the past, so that more redistributive regimes targeted the bottom of the distribution more so than did less redistributive regimes? Or were additional transfers targeted to where income losses had occurred, regardless of where they had gone in the past?

I investigate these questions first by examining changes in Gini coefficients over the 2007 to 2010 period. The Gini is a single and very common measure of income inequality, and changes to it are frequently used to designate trends in income inequality. Moreover, comparing Gini coefficients calculated before government transfers (based on market income) with their value after (based on disposable income) signals the degree to which government policy reduces market-based income inequality. Gini coefficients of one indicate complete income inequality (one person has all the income), whereas a value of zero represents complete income equality (everyone has identical income). In practice Gini coefficients fall between these two extremes,

with higher numbers signifying greater inequality. Table 2 compares the market-income Gini coefficients in 2007 (column 1) with those in 2010 (column 2), with the difference between them (column 3) showing the recession's distributional impact. With the exception of the Netherlands and Germany, market income inequality grew in each country.

Table 2 also displays countries' redistributive effort over the recession, defined as the reduction in the Gini coefficient due to government transfers—the difference between the *market* income Gini and the *disposable* income Gini. Countries' 2010 redistributive effort (column 5) generally was larger than it was in 2007 (column 4); only Germany and Finland reduced it over the recession (column 6). Government transfers indeed nearly reversed growth in market income inequality, as inequality in disposable income changed little between 2007 and 2010 (table 2 column 7). In fact, disposable income inequality was *lower* in 2010 than it was in 2007 in four nations, and among those countries where it grew, only in Denmark (.014) and Spain (.032) did it do so by more than .01 points.

[table 2 here]

What factors might explain why certain countries engaged in greater redistributive efforts over the recession variation? Did more redistributive states strengthen their redistributive efforts more so than less redistributive regimes? Simple correlation coefficients do not support this conjecture. For one, there is no correlation between countries' redistributive effort in 2007, and their additional redistributive effort over the recession (columns 4 and 6 in table 2). There is not even much correlation between countries' additional redistributive effort and the measure of the size of each's welfare state (table 1 column 5). On the other hand, there is a very strong

correlation (.86) between increases in market earnings inequality (column 3) and the additional redistributive effort countries undertook over the period 2007 to 2010 (column 6). Figure 1 visually displays this relationship, with countries categorized into one of the four "welfare regime" types. As shown, variation in countries' additional redistributive effort over the recession (the vertical axis) closely corresponds with the extent to which market inequality increased in them (horizontal access). In short, then, while nearly all countries experienced a rise in earnings inequality, the extent to which their responses over the recession redistributed resources can be explained by the extent to which inequality grew. Once accounting for the recession's macroeconomic effect, the combination of automatic stabilizer policies and discretionary policy measures produced similar results both in terms of the magnitude and the distribution of income support across the eleven countries.

That similar redistributive effects were achieved through different policy measures can be illustrated by the interesting instance of Ireland. Given its large decreases in market income, it is perhaps no surprise that increases in market income inequality there grew sharply. Yet earlier I singled this country out as one of two that did not increase its expenditures on government transfers (table 1). However as table 2 shows, Ireland still significantly increased its redistributive effort. As made more evident below when we turn to differences within countries, Ireland accomplished this through a combination of increased taxes to the top 40 percent, which paid for greater social transfers to the bottom 60 percent. This approach reversed the growth in income inequality without an increase in government transfers.

[figure 1 here]

As the above example demonstrates, national averages often obscure important variation within countries. We know the recession differentially reduced income, and in most of my sample countries, increased inequality. Government responses also differed in their distributional features. We now turn to comparing governments' policy responses based on their effect at similar points of the income distribution. As I show below, such a comparison at the quintile level provides greater illumination into how countries' income protection policies compare, than does a national-level comparison.

[table 3 here]

Table 3 shows changes in earned income along the income distribution for each country. Column 1 shows national averages, and columns 2-6 displays average income losses by quintile. In Spain, for instance, average market income fell by 14.6 percent, but average income among the bottom 20 percent of individuals dropped a steep 63 percent (column 2).[2] As is apparent, average income losses almost all shrink as one climbs the income ladder and without exception the poor suffered the largest percentage losses in market income. Table 3 makes more concrete just how disequalizing was the recession.

Table 4 now presents the same information, only for changes in *disposable* income. In six of the eleven countries, average disposable income (the value of market income plus government transfers) fell by less than did average market income for *all* income groups. And in every country, the bottom quintile witnessed the largest relative increase in disposable income compared with market income. As an extreme example, average earned income in Ireland's

bottom quintile declined by an enormous 93 percent (table 3), while average disposal income within this income group fell by only 15 percent (table 4). While the poor suffered the most from declines in market income, they also received considerable protection from government transfers. Looking across the income spectrum reveals that government transfers succeeded in leaving individuals with relatively similar losses in disposable income--with the important exception of Spain and the US, where the bottom 40 percent of citizens endured significantly higher disposable income losses than did the top 60 percent.

[table 4 here]

How much income protection did countries provide for those at different points of the income distribution and how do these compare? I previously established that there was no obvious association at the national level between levels of social transfers in 2007 and new transfers over the recession. However, this finding did not take the recession's macroeconomic impact into account. Moreover, it is possible that a lack of an association at the national level obscures associations between the two within countries. For instance, countries that provided their poor with more government transfers might have provided them with greater levels of protection, as I earlier showed that Jenkins *et al*. (2013) predicted. After all, Dolls *et al*.'s (2011) estimates of the size of countries' automatic stabilizers find that these tend to be larger in more generous welfare states.

An indicator of the generosity of income protection that takes the magnitude of income losses into account can be calculated by expressing average increases in transfers to each quintile over the 2007 to 2010 period relative to the average income losses each experienced. This ratio--

average additional income from government transfers relative to average income losses—can intuitively be thought of as the "insurance" provided by government transfers in response to losses in earned income. In figure 2, I compare levels of prior transfers to each quintile in 2007 (horizontal axis) with the average amount of insurance provided to each income quintile (vertical axis). The observations on the far left side of the figure are for the top quintiles in each country, while those on the far right side are for the bottom quintiles. By comparing differences in the size of 2007 transfers to identical quintiles across the eleven countries, we see that the receipt of larger transfer levels corresponds with *less* income protection over the recession. This relationship holds up across all five quintiles, although with correlations between -.5 and -.85, the pattern is especially robust for the middle three quintiles.[3] This modifies my earlier finding of no association at the national level between transfer levels and responses over the recession: by disaggregating to the quintile level, and normalizing new average transfers to quintiles by the income losses each experienced, I find that countries' responses to income losses over the recession were inversely related to the prior size of government transfers. This provides stronger and more compelling support for the claim that smaller welfare states responded with more robust income support measures than did the larger welfare states.

[figure 2 here]

As a final point of comparison, I examine governments' responses to the poor. Table 5 column 1 shows the average value of government transfers in 2007 to this quintile as a share of national income (the X axis in figure 2). Providing the poor with transfers equal to 37 percent of average national income, Ireland tops the list, while the US (10 percent of national income) is at

the bottom. The second column lists countries' rank on this score. The fourth column shows the level of insurance governments provided the poor over the recession (figure 2's Y axis). Column 5 ranks countries based on the amount of insurance each provided the poor. As just shown in figure 2, countries with high ranks on one measure of income support tend to have lower ranks on the other. For instance, Ireland furnished its low income citizens with the largest government transfers in 2007 (37 percent of national income), but also provided the least income insurance over the 2007-2010 period (7 percent). Greece, on the other hand, provided the poor with transfers in 2007 equal to a low 15 percent of national income, while it replaced 49 percent of the poor's income losses over the recession. Despite very different policy combinations, then, the poor in both Ireland and Greece saw their disposable income fall by nearly identical amounts (15 and 13 percent, see table 4). In fact, 81 percent of variation in average disposable income losses among the bottom quintile can be explained by declines in market income, once again indicating the primacy of the recession's depth in explaining variation in countries' responses to it.

[table 5 here]

The finding that transfers in 2007 and levels of income protection over the recession are inversely related suggests that weaker welfare states responded more strongly than did more generous ones. Correlation does not establish causality of course, but the results suggest that while countries had different mixes of policies to support the poor over the recession, variation in their impact on the poor's income can be traced to the magnitude of the recession. In some countries, like Ireland, pre-existing levels of support buffered the poor's exposure to collapses in

earned income. In others, such as the Netherlands, high levels of income insurance substituted for low levels of pre-existing transfers.

I wish to make one final observation about governments' responses to the poor over the recession. A long-standing argument in the comparative welfare literature in that an extensive reliance on social assistance policies results in weak support for the welfare state compared with the more generous and widely-distributed benefits provided by Corporatist and Social Democratic regimes. While increasingly contested (see Marx *et al*., 2013), Korpi and Palme (1998) famously coined the term "The Paradox of Redistribution" for this: regimes relying on social assistance policies to target the poor accomplish less for them than do regimes that target a broader income spectrum through social insurance and universal benefits.

To investigate whether there was any association between policy type and generosity, I divided all government transfers to the poor into four categories: social assistance, social insurance, universal benefits, and taxes. Table 5 column 3 identifies the policy category that contributed the most to government transfers to the poor in 2007. I then identified the policy that most contributed to new resources over the recession. My interest was in examining first, if a pattern existed where reliance on a particular policy type tended to result in larger transfers.

As shown, universal benefits account for a relatively small amount of transfers to the bottom 20 percent; only in Denmark is this the largest source of social transfers. In 2007 the poor gained most from social insurance or social assistance policies, and the magnitude of government transfers is not obviously associated with a particular policy type. A second purpose of interest this exercise was to investigate if over the recession countries tended to deliver additional transfers using their accustomed policy measures. By comparing columns 3 and 6, we see that indeed they did. There is also a strong correlation between the contribution each of the

four policy measures made to the bottom quintile's income in 2007 and the extent to which each was used to direct additional resources to the poor over the 2007-2010 period. These finding support Chung and Thewissen's (2011) that countries' response to the recession were shaped by their past practices. But other than the policy mechanisms countries relied on for the poor, my findings do not offer much else to support that the institutions and political features that shape welfare state policies also shaped their responses. The specific route by which the hands arrived on deck did not seem to influence how many showed up.

Discussion and Conclusions

Some amount of time will need to pass before we fully understand how countries responded to the financial crisis, how their responses compare, and how the crisis is shaping the future direction of welfare regimes. This paper has examined countries' initial responses to it, and compared them in order to evaluate the effectiveness and distinct features of the amount of income support countries provided. How each country responded may or may not tell us anything about their future trajectory; but this snapshot of who received what degree of protection and how nations compared does tell us something about how effectively welfare states did what they were designed to do during urgent times: protect citizens from income shocks.

I first examined the magnitude of countries' response to the recession, as measured by increases in transfers to households. These increases were from a combination of the automatic stabilizing policies that all countries have and the additional emergency measures they enacted. Despite the fact that strong welfare states tend to have larger automatic stabilizers, I found that the magnitude of countries' responses to the recession was not associated with the welfare

regime type nor its size; rather, there is a close correlation between the size of countries' responses and the recession's macroeconomic impact.

The recession clearly had a disequalizing impact on income throughout my sample of countries. I find, however, that government policy was mostly successful in reversing the increases in income inequality that accompanied the recession. In countries where income inequality grew most—which mostly occurred in countries experiencing sharper income losses-–countries were apt to spend in ways that targeted income losses. At the country level, variation in countries' responses, then, were closely associated with both the magnitude of income losses, and also the distribution of these losses.

A disaggregated analysis of the effect of markets and government policy on disposable income uncovered a striking pattern across the eleven countries: the amount of income protection countries provided over the recession was inversely related to the size of transfers provided in 2007. In other words, strong welfare states had weaker responses than did smaller welfare regimes. This result is different from what many predicted had or would occur, but is consistent with various scholars' argument that during economic busts, it is not "business as usual" when it comes to the politics of redistribution, but rather "hands on deck". Moreover, there may be evidence here for Castle's (2010) conjecture that economic crises lay bare the shortcomings of small welfare regimes requiring immediate, additional responses. Despite generally having lower levels of automatic stabilizers, weaker welfare states tended to provide higher levels of income protection over the recession.

It is important to bear in mind that most of the results derived here stem from simple correlations, and these results should be interpreted as associations and not causality. I hope, however, that they help to stimulate more detailed analyses on some of the provocative

associations I uncover, or case studies on the countries revealed here as outliers. One finding uncovered in this paper especially deserves further investigation. Despite the poor having suffered the largest income losses in each of the eleven countries, the insurance countries provided against their income losses was not significantly higher than it was for other income groups (see figure 2). This raises the concern Marchal, Marx and Van Mechelen (2014) and others voice about the need for countries to strengthen their minimum income policies, and learn how to effectively adjust them during times of economic distress.

Overall at least in terms of responses to the recent economic crisis. The eleven countries in this study responded to the recession in line with the economic distress they experienced and the combination of discretionary and automatic transfers tended to target those who lost income; and the additional insurance provided was positively related to their citizens' exposure to labor markets. Taking the recession's impact into account, overall they provided citizens with very similar levels of income protection. I do find that the precise policy mechanism by which countries dispersed additional resources to the poor over the recession – whether through additional need-based dollars, tax cuts, increased universal benefits, or payments from social insurance programs—corresponded with past practices. In this sense, I can detect a welfare regime legacy. However, this legacy does not extend to either the size of countries' responses nor to its distributional features. Whether or not welfare states are converging remains to be seen, but my results do suggest that at least in terms of assessing the magnitude and distribution of their responses to the crisis, the sample of countries had more in common than distinguished them.

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Appendix: Definitions of Variables and Sources

Note: All data, except the CPI deflator, come from LIS, and are available at http://www.lisdatacenter.org. All figures presented in this paper are based on their weighted values and use the population in each data set below the age of sixty.

Market income: Income earned from labor and capital markets, plus private pensions **(**factor + hitsilo). All negative income values were bottom coded to zero.

Social Transfers: The value of government transfers (cash and near cash) minus taxes (hitsi-hitsilo+hitsu+hitsa-hxit). Near-cash in-kind transfers include such things as food stamps and housing subsidies, the value of which are easy to capture. It does not capture the value of health care benefits, however.

Disposable Income: Market Income + Social Transfers. All negative values of disposable income were bottom coded to zero.

Equivalized Income: LIS provides household level data. To assign income values to individuals, I calculate equivalized values for individuals; all income in this paper are expressed in equivalized values. As recommended by LIS, I calculate equivalized income for an individual as the dollar amount for the household divided by the square root of the number of people in the household.

CPI Adjustment: Based on OECD CPI index for all items, with 2005 as the reference year. Available from OECD.stat (http://stats.oecd.org)

TABLE 1. Changes in Average Income and Government Transfers, 2007 to 2010, and Social Transfers in 2007

	Market Income	Government Transfers	Disposable Income	Social Transfers 2007
Liberal				
US	-7.8%	3.2%	-5.5%	5.6%
UK	-5.9%	2.6%	-3.8%	8.8%
Canada	2.7%	1.1%	4.5%	7.7%
Ireland	-15.5%	-0.7%	-16.6%	17.8%
Corporatist				
Germany	0.2%	0.4%	0.7%	11.4%
Luxembourg	-5.9%	3.2%	-3.0%	14.0%
Netherlands	-3.0%	-0.4%	-4.7%	5.6%
Social Democracy				
Denmark	-2.2%	4.0%	2.5%	38.4%
Finland	2.0%	-0.2%	2.1%	13.5%
S. European				
Spain	-14.6%	5.0%	-10.4%	9.5%
Greece	-18.3%	9.6%	-10.7%	10.6%

Source: Author calculation based on the non-elderly population and equivalized values. All percentages expressed as a share of their 2007 value, except changes in government transfers is expressed as a share of average 2007 market income.

TABLE 2. Change in Inequality and Countries' Redistributive Effort, 2007-10

	Market Gini Coefficient			Redistributive Effort			Change Disp Gini
	2007	2010	Change	2007	2010	Change	
Liberal							
US	0.45	0.48	0.03	0.07	0.09	0.023	0.003
UK	0.46	0.48	0.02	0.09	0.11	0.014	0.006
Canada	0.41	0.42	0.00	0.09	0.10	0.006	-0.005
Ireland	0.46	0.53	0.06	0.17	0.23	0.064	0
Corporatist							
Germany	0.27	0.26	-0.01	0.08	0.08	-0.002	-0.011
Luxembourg	0.38	0.40	0.02	0.10	0.12	0.021	-0.006
Netherlands	0.38	0.36	-0.02	0.09	0.1	0.006	-0.022
Social Democracy							
Denmark	0.35	0.38	0.03	0.12	0.13	0.014	0.014
Finland	0.38	0.39	0.00	0.14	0.14	-0.001	0.005
S. European							
Spain	0.37	0.41	0.05	0.06	0.08	0.014	0.032
Greece	0.40	0.41	0.01	0.08	0.08	0	0.005

Source: Author calculation based on the non-elderly population and equivalized values. See text for definitions. May not add due to rounding.

TABLE 3. Percent Change in Average Market Income By Quintile, 2007-2010

	All	First Quintile	Second Quintile	Third Quintile	Fourth Quintile	Fifth Quintile
Liberal						
US	-7.8%	-33.9%	-16.5%	-10.1%	-5.8%	-4.7%
UK	-5.9%	-31.2%	-14.4%	-7.9%	-6.5%	-2.6%
Canada	2.7%	-8.5%	-0.9%	1.7%	1.3%	0.0%
Ireland	-15.6%	-93.3%	-45.0%	-22.5%	-9.0%	-8.0%
Corporatist						
Germany	0.2%	-9.8%	-1.7%	0.3%	1.4%	0.4%
Luxembourg	-5.9%	-20.4%	-10.6%	-6.5%	-2.9%	-4.5%
Netherlands	-3.0%	-4.5%	-0.8%	0.1%	0.9%	-6.9%
Social Democratic						
Denmark	-2.2%	-28.3%	-7.9%	-3.2%	-0.9%	2.0%
Finland	2.0%	-9.1%	0.9%	3.5%	3.5%	1.7%
Southern European						
Spain	-14.6%	-63.0%	-26.1%	-15.6%	-10.7%	-8.1%
Greece	-18.3%	-44.3%	-19.4%	-19.0%	-17.1%	-16.0%

Source: Author calculation based on the non-elderly population and equivalized values. Percentages expressed as a share of their 2007 value.

TABLE 4. Percent Change in Average Disposal Income by Quintile, 2007-10

	First Quintile	Second Quintile	Third Quintile	Fourth Quintile	Fifth Quintile
Liberal					
US	-11.2%	-7.0%	-5.4%	-2.9%	-5.8%
UK	-3.2%	-6.3%	-5.3%	-4.6%	-2.1%
Canada	4.7%	2.7%	4.2%	3.1%	1.6%
Ireland	-15.0%	-17.7%	-15.9%	-14.9%	-17.1%
Corporatist					
Germany	-1.3%	0.1%	1.1%	2.0%	0.4%
Luxembourg	3.1%	-7.1%	-2.8%	0.5%	-5.3%
Netherlands	-0.3%	-2.4%	-2.3%	-1.6%	-9.7%
Soc Democracy					
Denmark	-2.0%	-1.4%	1.0%	2.9%	6.1%
Finland	-1.9%	0.1%	2.7%	3.5%	3.2%
S. European					
Spain	-24.1%	-16.8%	-11.6%	-8.0%	-5.9%
Greece	-12.6%	-13.3%	-10.9%	-9.8%	-9.9%

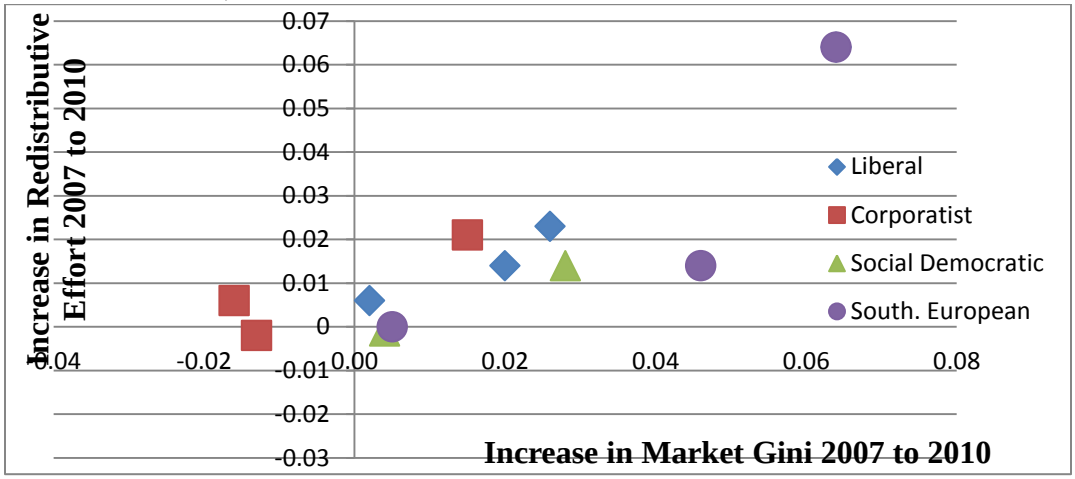
Source: Author calculation based on the non-elderly population and equivalized values.
All percentages expressed as a share of their 2007 value.

TABLE 5. Size of Safety Net to Bottom Quintile 2007 and Changes to it, 2007-2010

	2007 Safety Net Average Gov Transfer			**Changes to Safety Net 2007-2010 Protection From Income Losses**		
	Amount	Rank	Source	Amount	Rank	Source
Ireland	.38	1	SA	.07	11	SA
Finland	.27	2	SI	.47	8	U
Germany	.23	3	SA	.62	5	U/SA
Luxembourg	.22	4	SI	1.29	2	SI
UK	.21	5	SA	.51	6	SA
Denmark	.18	6	U	.86	4	U
Spain	.17	7	SI	.33	10	SI
Greece	.16	8	SI	.49	7	SI
Canada	.14	9	N/A	2.00	1	N/A
Netherlands	.13	10	SI	.89	3	Taxes (neg.)
US	.10	11	SA	.43	9	SI

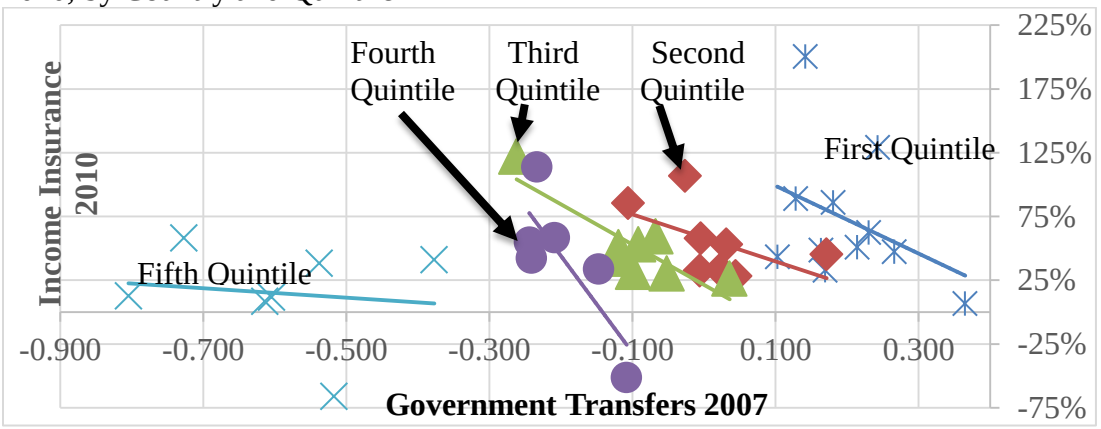
Source: Author calculation for non-elderly population based on equivalized income. Government transfers calculated as the average value to bottom quintile as a share of average national income that year. See paper for definition of "protection from income losses."
SA=Social Assistance; SI=Social Insurance; U=Universal; neg=negative; N/A=not available

FIGURE 1. Increase in Market Income Gini versus Increase in Redistributive Effort, Eleven OECD Countries, 2007 to 2010



Source: Table 2.

FIGURE 2. Average Government Transfers in 2007 and Average Income Insurance 2010, by Country and Quintile



Source: Author calculation based on non-elderly population and equivalized income, for quintiles with average income losses. See Table 5 for bottom quintile figures. Government Transfers is average amount within each quintile as a share of average national income. Income Insurance is average increase in government transfers from 2007 to 2010 divided by average income losses over that period, by quintile and country.

ENDNOTES

[1] To compare the changes in government transfers that occurred between 2007 and 2010 (column 2), we normalize the dollar value of any change by each country's average income in 2007. Since the total size of government transfers are negative in each country, it does not make sense to express increases relative to this total.

[2]Those falling in the same quintile in each of the two waves are obviously not exactly the same people. In this sense, it is awkward to refer to decreases in individuals' income. To be precise, the paper measures changes in income among a fixed percent of the population occupying identical positions in the income distribution from one wave to the next.

[3] The relationship is slightly more robust at the tails of the distribution if the value of government transfers is defined relative to quintile income rather than to average national income.