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# DEMOCRATIC LIMITS TO REDISTRIBUTION

## Inclusionary versus Exclusionary Coalitions in the Knowledge Economy

By TORBEN IVERSEN and DAVID SOSKICE\*

### INTRODUCTION

THE massive technological transition from Fordism to the “knowledge economy” over the last two or three decades has led to a great increase in the education and skill levels of large parts of the workforce in all advanced economies. But it has also generated a significant margin of “outsiders” with low skills and poor employment opportunities.<sup>1</sup> Whereas the complementarities between skilled and semiskilled work in the Fordist era allowed collective bargaining to produce a relatively high degree of compensatory equality across the workforce,<sup>2</sup> in the knowledge economy industrial relations systems no longer fulfill this function.<sup>3</sup> Instead, the political system has replaced the industrial relations system as a potential guarantor of equality, with compensation for low-skilled workers relying on the active intervention of governments to redistribute resources or provide training and job opportunities.<sup>4</sup>

At the same time, it is widely believed that globalization and the power of footloose capital have fatally undercut the ability of governments to respond and caused the rise in labor market inequality of recent decades. But this cannot explain the considerable variation—which we document below—across advanced nations in the extent to

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<sup>1</sup> Rueda 2005; Rueda 2008.

<sup>2</sup> Wallerstein 1990; Huber and Stephens 2001.

<sup>3</sup> Thelen 2014.

<sup>4</sup> Martin and Thelen 2008.

which national governments have compensated those excluded from core jobs in the new knowledge economy. In addition, measures of economic openness are rarely significant in explaining redistributive policies; they play no role according to our results. One important reason for this development is that the labor markets in which outsiders are potentially employable are in low-skill service sectors, where neither trade nor outsourcing is of great importance. As in much of the power-resource literature, the central assumption of this article is that effective compensatory policies depend on domestic politics and partisan government coalitions.

The article makes two main contributions: one analytic and one empirical. Analytically, it starts with the shift from the industrial relations system to the political system as an institutional guarantor of equality, and sets out the preconditions for the formation of political coalitions that include the interests of low-income/low-skilled workers. In the changed political and electoral environment of the knowledge economy, effective compensation, we argue, depends on the formation of coalitions between and/or within parties that include the interests of lower income groups. Such inclusion is no longer possible in contemporary majoritarian systems where parties have to target skilled workers and professionals for electoral support. In contrast, under Fordism, parties targeted semiskilled workers, as they were at least partially decisive voters who also had a voice in the industrial relations system. Inequality has risen in majoritarian systems as a consequence of this shift. In systems of proportional representation (PR), the outcome depends on how the party system ties economically defined groups to parties and the process of government formation. We build on the Iversen and Soskice (IS) 2006 model,<sup>5</sup> which predicts center-left coalitions, but depart from it by showing that it is possible to sustain center, and even mildly center-right, coalitions when parties are organized on a cross-class basis and—our *prima facie* paradoxical result—*independent* right-wing parties are weak.

As in the simple IS coalition model, the choice centrist parties make between a coalition with right-wing or center-right parties and with left-wing or center-left parties is a key one. In the simple model, PR induces coalitions of leftist or center-left and centrist parties, since such coalitions can impose the costs of redistribution on the higher income earners represented by rightist parties. The model assumes that the center cannot govern on its own and, critically, that right-wing parties

<sup>5</sup> Iversen and Soskice 2006.

are so far to the economic right that center parties prefer a coalition with the left/center-left. We underscore the paradoxical importance of strong independent rightist parties for the emergence of center-left coalitions. Such right-wing parties have historically characterized the Scandinavian countries, and we argue that their existence implies a new analytic approach to understanding the Nordic welfare states. Seemingly paradoxically, a strong independent political right is a core part of the egalitarian polity in coordinated market economies (CMEs) with proportional representation. In fact, center-left coalitions are associated more strongly with the electoral strength of rightist parties than with that of center-left and leftist parties, contrary to a standard expectation of power-resource theory. In the absence of a strong independent right, the center is not forced to ally with the left and this in turn undermines policies targeted toward those outsiders who lose in the transition to a knowledge economy.

Our conjecture is related to Philip Manow's argument that strong Christian democratic parties may form governments on their own or ally with centrist parties and form centrist coalitions.<sup>6</sup> But Manow's argument does not explain why distributive outcomes have become increasingly dependent on the composition of government coalitions, or why there is so much variance over time in the countries with strong Christian democratic parties. Before the 1980s, all northern European countries were relatively egalitarian in terms of labor markets because of highly coordinated wage bargaining systems, and the Dutch and Belgian welfare states were exceptionally generous in terms of redistribution.<sup>7</sup> The reason for this egalitarianism, from the perspective of our model, is that the electoral strength of the liberal and conservative right pushed the Christian democrats to the left so that governments were frequently based on broad social democratic and Christian democratic coalitions.

This pattern is changing as a result of the reconfiguration of economic interests in the transition from Fordism to the new knowledge economy. Under Fordism the redistributive interests of semiskilled workers were relatively close to those of skilled workers and other centrist groups—a relationship boosted by solidaristic wage policies. But in the knowledge economy, semiskilled transmutes into low skilled,

<sup>6</sup> Manow 2009.

<sup>7</sup> Esping-Andersen 1990 classifies Belgium and the Netherlands as fourth and fifth after Sweden, Denmark, and Norway on his Decommodification Index for 1980, and Scruggs 2007, Table 7.8, classifies the Netherlands as fourth with Belgium as fifth, again after Sweden, Denmark, and Norway, in his 1980 Generosity of Benefits Index.

and the interest of these workers in redistribution diverges from that of the political center. This change adds to the incentives of center parties to disengage from the left and makes it harder for cross-class Christian democratic parties that include low-skilled workers to endure, effectively shifting these parties to the right. In Belgium and the Netherlands it caused a reconfiguration of rightist and Christian democratic parties, and both countries moved to a more standard continental pattern.<sup>8</sup> In Scandinavia it has also become increasingly difficult for center-left coalitions that include the low-skilled to survive, and although strong independent rightist parties continue to give center parties reasons to look to the left, this may be changing as well as we discuss below.

The second contribution of this article is empirical. Methodologically we use an econometric technique to show how external adverse shocks to economies translate into different national policies depending upon distinct national political institutions. We show that welfare state generosity in response to external shocks when compensating those marginalized by the switch from Fordism to the knowledge economy is well explained by the electoral system and whether or not proportional representation countries have a strong independent right. Our focus is squarely on dynamic change; we largely abstract from cross-country differences in the level of welfare generosity, which does not speak to the targeting of benefits.

Specifically, we show that many countries in continental Europe, despite large, entrenched welfare states, have not responded nearly as aggressively to labor market shocks as the Nordic countries have. In fact, policies in these European countries are not clearly differentiated from those in the liberal countries, and by some measures they are less responsive. Labor market stratification has risen notably as a consequence (again, with the early exception of Belgium and the Netherlands). Unlike in the liberal countries, however, the core skilled workforce continues to be highly protected, and inequality manifests itself mainly in the form of deep insider-outsider divisions. Whether this pattern will eventually be replicated in the Nordic countries depends largely on the capacity of the traditional liberal and conservative parties there to moderate enough to attract center parties that have little interest in the plight of low-skilled workers. The social democrats' only option then is to shed the support of low-skilled workers, many of whom have already migrated to new right-wing, anti-immigrant parties. Because of the transformation of the party system in Scandinavia, it

<sup>8</sup> Jones 2008; see also Green-Pedersen 2001.

is difficult to be optimistic about solidaristic policies there in the long term. Elsewhere, such policies have already largely vanished with the decline of the Fordist industrial economy.

#### RELATIONSHIP TO EXISTING WORK

The causes of the rise in compensatory inequality and the associated disparity in government responses have been the subject of a rich literature in recent years.<sup>9</sup> This article builds on that literature, but departs from it by explaining divergent responses in terms of political coalitions, and it is strongly influenced by the work of Manow.<sup>10</sup>

The work by Lane Kenworthy and Jonas Pontusson on government responses to growing inequality is very close in spirit to the argument we present.<sup>11</sup> Based on a modified Meltzer-Richard framework,<sup>12</sup> Kenworthy and Pontusson argue that rising inequality leads to voter demand for more redistribution, although the extent to which this is true depends on the capacity of the left to mobilize voters (turnout). Based on this intuitively attractive idea and a careful analysis of Luxembourg Income Study data, the two scholars reach the optimistic conclusion that “[i]n contrast to widespread rhetoric about the decline of the welfare state, redistribution tended to increase in response to the rise in household market inequality. And it did so in proportion to the degree of increase in inequality.”<sup>13</sup>

The emphasis that Kenworthy and Pontusson place on the willingness of governments everywhere (at least outside the liberal economies) to compensate for rising inequality stands in contrast to the conclusions we reach in this article. Yet the reason may be mostly methodological. Kenworthy and Pontusson define redistribution as the Gini of before taxes and transfer household income minus the Gini of after taxes and transfer income. This definition in fact implies a positive association between rising pre-fisc income inequality and redistribution even when policies are constant, as we show in the footnote.<sup>14</sup> Since we are interested in discretionary policy changes and choose our measures accordingly, there is no contradiction between our results and theirs.

<sup>9</sup> Most notably Rueda 2005, Rueda 2008, Kenworthy and Pontusson 2005, Martin and Thelen 2008, Hall and Thelen 2009, Thelen 2014, Huber and Stephens 2001, Bradley et al. 2003, and Huo 2009.

<sup>10</sup> Manow 2009.

<sup>11</sup> Pontusson 2005 and Kenworthy and Pontusson 2005.

<sup>12</sup> Meltzer and Richard 1981.

<sup>13</sup> Kenworthy and Pontusson 2005, 461.

<sup>14</sup> To see this, assume the standard Meltzer-Richard assumptions of a proportional tax,  $t$ , and a lump-sum benefit,  $b$ , received by all that are the basis for Kenworthy and Pontusson argument. Since the tax is proportional, the after-tax (but before-transfers) Gini is equal to the pre-fisc Gini:

Theoretically we depart from the Meltzer–Richard framework however, and hence from Kenworthy and Pontusson, by allowing targeted benefits, which turns the policy space multidimensional and enables coalitions that differ from the preferences of the median voter.<sup>15</sup> Specifically, we argue that center-left coalitions are much more likely to produce policies that compensate low-end workers and that such coalitions are either facilitated or inhibited by the electoral and party system.

This argument, however, runs up against another prominent view in the literature, most forcefully advanced by David Rueda, namely that leftist parties are dominated by insiders who have greater political resources than outsiders and no interest in strong government responses to economic shocks that mostly affect outsiders.<sup>16</sup> In rather stark contrast to Kenworthy and Pontusson, Rueda implies a lack of responsiveness by *both* leftist and rightist governments to rising inequality.

Rueda is correct to highlight the growing importance of conflicts between insider and outsider interests. But from the coalitional perspective adopted in this article, whether the interests of actual and potential outsiders are represented by social democratic parties, and more generally by governing coalitions, depends on the incentives politicians have to forge coalitions that are more or less inclusive of outsider interests. These incentives are shaped by the structure of political institutions, which are not part of Rueda’s framework. In an incisive analysis, Jingjing Huo makes a related point, namely that more encompassing organizations on the left can bring would-be outsiders into the social democratic coalition.<sup>17</sup> We agree with Huo, but see such solidarity

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$G_{AT} = G_{Pre}$ . This is roughly consistent with the Luxembourg Income Study data because the Gini changes little from before taxes to after taxes in most countries. Since all people receive the same income transfers from the state,  $b$ , the Gini for *that* portion of total income is 0:  $G_b = 0$ . The after-tax and transfer (post-fisc) Gini is now simply a weighted sum of the pre-fisc Gini and the transfer income Gini where the weight is determined by the tax rate:

$$G_{Post} = (1-t)G_{Pre} + tG_b = (1-t)G_{Pre}.$$

Using Kenworthy and Pontusson’s definition of redistribution we then have

$$R = G_{Pre} - G_{Post} = tG_{Pre}.$$

Thus, with  $R$  defined in this way, it is positively correlated with  $G_{Pre}$  even if  $t$  is constant. The important implication of this result is that *any percentage increase in pre-fisc inequality will result in a percentage increase in redistribution, of  $t$  times that amount*. This relationship holds *even if there are no changes in policy* (in the Meltzer–Richard model the relevant policy is the rate of taxation). The solution is to measure redistribution as a *percentage* reduction in the Gini from before taxes and transfers to after taxes and transfers; that is,

$$R \equiv \frac{G_{Pre} - G_{Post}}{G_{Pre}} = \frac{G_{Pre} - (1-t)G_{Pre}}{G_{Pre}} = t. \text{ Now redistribution will only change if policies change.}$$

<sup>15</sup> Iversen and Soskice 2006.

<sup>16</sup> Rueda 2005; Rueda 2008.

<sup>17</sup> Huo 2009, chap. 2.

as severely weakened in post-Fordist industrial relations systems and focus instead on the role of political institutions in facilitating inter-party coalitions. The political coalition argument thus implies a more institutionally contingent view of the emergence of insider-outsider divisions.

A different approach than Rueda's is developed in a rich vein of recent work by Cathie Jo Martin, Kathleen Thelen, and Peter Hall<sup>18</sup> that seeks like us to explain differences across advanced countries in institutional outcomes as a result of the collapse of Fordism. It concentrates analytically on the relations between business, skilled-worker unions, and governments, and on the complexity of negotiations and discussions between them at different levels. This literature pays close attention to coalitions, but in a very different way than we do. While governments are involved in coalitions in this literature, business typically plays the central role in structuring the coalition. As Martin and Thelen state, "We see this form of institutional change as a process built on coalitional politics, in which business actors are usually pivotal."<sup>19</sup> This is politics with a small p. In their work there is little discussion of party politics and the formation of governments from coalitions of parties, let alone of electoral systems, which, by contrast, is the focus of our analysis.

In our view the work by Thelen and the related literature responds—correctly and with great insight—to a different and equally fundamental question: How are we to understand the varied ways in which governments and business communities, as well as skilled-worker unions, have built coalitions to respond to the need to restructure the core sectors of advanced economies, building on and refashioning existing comparative institutional advantages? Whatever role these key actors play in the advanced sectors of modern economies, we suggest that they have limited influence on government policies toward low-skilled sectors and on redistribution to and retraining of workers who are difficult to employ in the advanced sectors. In so far as they have influence, it is via their policy-making role in political parties. Our argument is that what matters fundamentally for policies toward redistribution and retraining is the capacity of a combined electoral and party system to generate center-left coalitions.

In contrasting the Danish case—and by implication Scandinavia more generally—to the German system of industry-based industrial

<sup>18</sup> Martin and Thelen 2008; Hall and Thelen 2009; Thelen 2014.

<sup>19</sup> Hall and Thelen 2009, 20.



relations and contribution-based social insurance, Martin and Thelen emphasize how a tradition of macrocorporatist coordination, universal social benefits, and, above all, a large public sector, have facilitated relatively inclusive coalitions, which in turn explains policies of activation and compensation that have helped avert dualism and stark inequalities in the labor market. As these scholars underscore, the public sector in Scandinavia is compelled by government policies to play a pivotal role in the activation and direct employment of outsiders. The public sector has thus become saddled with the responsibility of implementing policies that necessitate public-private partnership. In a similar vein, Huo argues that corporatist institutions have enabled third-way policies.<sup>20</sup> Our intention is not to reject this macrocorporatist interpretation of coalition building, but to suggest that it must be understood in the context of the party system and partisan coalition politics.<sup>21</sup> These policies have their origins in compromises between political parties, which are shaped by electoral and party systems.

This proposition is also true in the sense that the large Scandinavian public service sectors are themselves the outgrowth of past political decisions by governments to expand employment, equality, and opportunities for women to balance work and family.<sup>22</sup> It is striking, for example, that Denmark almost doubled the number of public employees, a majority of them women, as a share of the working-age population from 11.3 percent in 1970 to 22.1 percent in 1999, while the share in Germany hardly changed at all, from 6.5 to 7.5 percent, in the same period. It is thus difficult to treat the public sector as an exogenous variable, independent of past political coalitions. The preferences of the public sector are inseparable from the preferences of the government.

We seek to go beyond the lagged effects of past political coalitions—important though they are. With the relevant coalitions in place, and absent constitutional vetoes, governments are capable of imposing a wide range of policies on low-skilled workers and the labor markets in which they operate. In the Netherlands, for example, the relatively high share of public-sector employment experienced in the 1970s was substantially reduced in the 1980s.

<sup>20</sup> Huo 2009.

<sup>21</sup> We here follow the lead of Katzenstein 1985, who emphasizes the importance of the political systems, especially PR, for understanding the operation of corporatism.

<sup>22</sup> Huber and Stephens 2000; Iversen and Rosenbluth 2006.

## THE RISE AND FALL OF SOLIDARISM IN THE LABOR MARKET

When Philippe Schmitter answered his own question—“still the century of corporatism?”—affirmatively in 1979, virtually all advanced countries had influential unions, a relatively compressed wage structure, and, at least, attempts to coordinate wages at the national level.<sup>23</sup> Schmitter attributed this “trend toward corporatist intermediation” to the economic imperatives of mature capitalism, but he was not very specific about what those imperatives were. Iversen argued that there were two key preconditions for strong unions and centralized bargaining: complementarities of skilled and semiskilled workers in production and accommodating, Keynesian, full-employment policies.<sup>24</sup> Both of these preconditions disappeared with the decline of Fordism, the rise of services, and the turn toward monetarism in the 1980s.

The importance of complementarities in production for wage setting is brilliantly explained in a little-cited article by Michael Wallerstein.<sup>25</sup> He argues that if skilled and unskilled workers are strong complements in production and both groups of workers are represented by separate unions, these two unions have bargaining leverage over each other. In the absence of coordinated bargaining, both unions have an incentive to go first to bargain for higher wages for their own members in anticipation of the other union being forced to forgo higher wages for *their* members to prevent the overall wage bill, and hence unemployment, from rising too much. Since neither union can guarantee itself to be the wage leader, the arrangement is inefficient, and Wallerstein argues that the solution has been for unions to bargain jointly in a centralized and solidaristic manner. Although he does not discuss it, Wallerstein’s model has implications for the rate of unionization, especially among semiskilled workers, because the power to hold up production provides a strong impetus for unionization.

Wallerstein’s logic helps us understand the decline in both centralization and unionization that we associate with the decline of Fordism and the deindustrialization that began in the 1970s. We see these changes as specific forms of skill-biased technological change.<sup>26</sup> Because Fordist mass production relied on both skilled and semiskilled workers in a continuous production process where interruptions are costly (as exemplified by the assembly line), different skill groups make

<sup>23</sup> Schmitter 1979.

<sup>24</sup> Iversen 1999.

<sup>25</sup> Wallerstein 1990.

<sup>26</sup> See Card and DiNardo 2002; Autor, Levy, and Murnane 2003.

up complementary factors in the production function. We do not mean to imply that Fordism was a uniform technology used identically everywhere. It took on more or less skill-intensive forms and economies of scale were important to different degrees. *But in one crucial respect Fordism had the same effect everywhere; it empowered semiskilled unions, or semiskilled workers within industry unions, to bargain for higher wages relative to skilled workers.* By the same token, the sharp rise in wage inequality in the 1980s and 1990s was at least in part a result of the complementarities between skilled and unskilled workers being undone by the widespread application of information and communications technology, which substitutes for semiskilled routine tasks, as well as by the segmentation of occupational structure caused by the shift from manufacturing to services.

The breakdown of Fordism caused a disintegration of semiskilled and skilled work symbolized by the shift away from the assembly line and the emergence of more skill-intensive and discontinuous production processes.<sup>27</sup> Deindustrialization, including outsourcing of services that were previously provided in-house by industrial firms, has similarly severed the production ties between low- and high-skilled workers by creating a segregated tier of low-skilled service sector jobs. In both fragmented and industry-based systems, this has meant a severe loss in the power of semiskilled workers' unions and in the bargaining power and presence of semiskilled workers within industry unions.

It is important to note that in all CMES where skilled workers and employers have large investments in cospecific assets, firm- and industry-specific skills in particular, wage coordination has been reestablished at the industry or sectoral level, but with a more marginal role for semiskilled workers. The continued importance of unions in these European countries is explained in part by the fact that skilled workers are still coowners of major production assets that are irreplaceable for employers. This is much less true in countries such as Britain and the US, which have seen a more widespread collapse of union membership and attendant rise in inequality. Tali Kristal and Yinon Cohen estimate that almost half the rise in wage inequality in the US since the 1980s is due to the decline of unions and the inflation-adjusted minimum wage.<sup>28</sup>

The role of skills and complementarities in production is also important in explaining employment-based social protection. The most obvious example here is job protection, but it also applies to social

<sup>27</sup> Streeck 1991; Piore and Sabel 1984.

<sup>28</sup> Kristal and Cohen 2013.

protection systems that guarantee benefits for particular occupations through employer contributions. Employment-related protection of this sort is part of the social insurance system and it reduces the risks of workers investing in skills that are specific to a particular firm or occupation.<sup>29</sup> Such protection invariably benefits skilled workers more, but, as in the case of wage setting, whether semiskilled workers share in those benefits depends on the extent of complementarities between them and skilled workers. When and where these are strong, using Wallerstein's logic, semiskilled workers are more likely to be covered by employment-related protection, just as they are more likely to have leverage in collective wage bargaining.<sup>30</sup> By the same logic, effective protection for semiskilled workers has declined with the ebb of Fordism and with deindustrialization, exacerbating the inegalitarian effects of greater wage dispersion.

#### POLITICAL COALITIONS AND REDISTRIBUTION IN THE KNOWLEDGE ECONOMY

As the scope of integration and solidarism via the industrial relations system diminishes, the importance of public policies in providing compensation to low-skilled workers through redistributive transfers and opportunities through education, retraining, and public employment increases. But the feasibility of such policies depends on the political system and the extent to which inclusive coalitions of skilled and low-skilled workers can be forged. In this section we build a model of political coalition formation—based on changing a key assumption in the IS model—and apply it to employment protection and redistribution under Fordism and in the new knowledge economy. Since group interests are shaped by the organization of the economy, and since varieties of capitalism and electoral systems have coevolved historically,<sup>31</sup> it is useful to distinguish between CMES with PR electoral systems and liberal market economies (LMEs) with majoritarian systems. As will become clear, however, this distinction is not sufficient to understand cross-national patterns of policy divergence and convergence in the new knowledge economy. Growing segmentation of the labor market by skills has generated cross-system convergence in preferences for employment protection for low-skilled workers, though not for full-time skilled workers, and in CMES with PR systems there is divergence in

<sup>29</sup> Estévez-Abe, Iversen, and Soskice 2001.

<sup>30</sup> Indeed, employment protection is often subject to collective bargaining.

<sup>31</sup> Cusack, Iversen, and Soskice 2007.

redistributive policies that can only be understood, we argue, with reference to differences in the party system.

## CMEs WITH PR SYSTEMS

### PREFERENCES OF ECONOMIC GROUPS

Based on the discussion above, the pattern of preferences over employment protection and redistribution in CMEs before and after the collapse of Fordism can be summarized as shown in Figure 1(a–c).

In both (a) and (b), the x-axis shows the preferred level of protection through redistributive transfers and active labor market policies (ALMPs), while the y-axis shows the preferred level of protection through labor market regulations, especially employment protection that has been legislated. The triangles show possible political coalitions and their distributional outcomes, which are discussed in detail below.

Under Fordism we distinguish four economic classes: (1) semiskilled low-income workers with specific skills, (2) skilled middle-income workers with specific skills, (3) middle-income technical and semi-professional workers, and (4) high-income professionals and managers (“upscale groups” in Rueda’s terminology). As we argue in earlier work,<sup>32</sup> these groups are essentially distinguished by the level and specificity of their skills, where the former determines income and preferences for redistribution and the latter determines exposure to risk and preferences for social insurance.<sup>33</sup> Assuming that skilled workers benefit from employment protection and that skilled and semiskilled workers are strong complements, semiskilled workers also benefit from employment protection.

This relationship holds as well in regard to redistribution. As explained above, strong complementarities between skilled and semiskilled workers in production underpin centralized and solidaristic wage bargaining, and wage compression in the labor market reduces the conflict over redistribution through the welfare state. Moderately high social spending in such situations serves as protection against the loss of investment in specific skills while it simultaneously addresses the redistributive interests of lower-paid workers, although there is clearly a conflict over the balance between insurance and redistribution.

<sup>32</sup> Iversen and Soskice 2001.

<sup>33</sup> We do not directly test these assumptions about preferences in this article, but they are fully consistent, we believe, with existing work on labor market and social policy reform, such as Martin and Thelen 2008 and Palier and Thelen 2010, as well as work on social policy preferences, such as Rehm 2011 and Cusack, Iversen, and Rehm 2006.

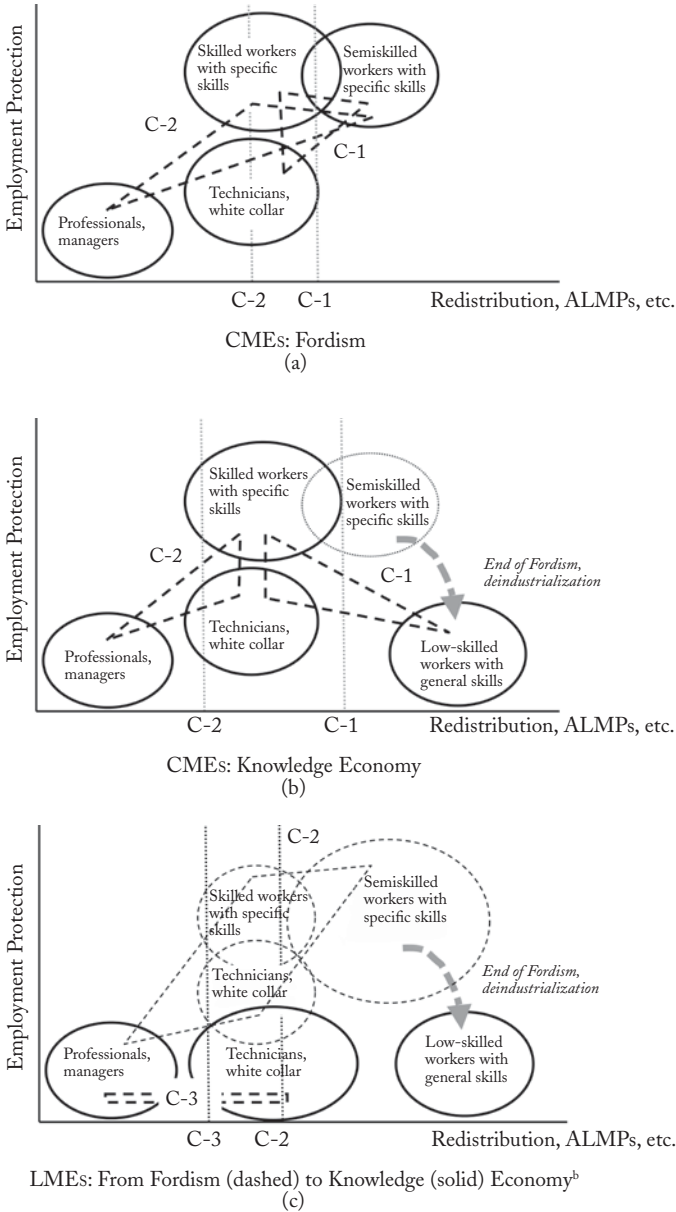


FIGURE 1  
PREFERENCES AND COALITIONS<sup>a</sup>

<sup>a</sup>The x-axes show the preferred level of protection through redistributive transfers and active labor market policies (ALMPs), while the y-axes show the preferred level of protection through labor market regulations, especially legislated employment protection. The triangles (and quadrilateral in C-2) show possible political coalitions and their distributional outcomes.

<sup>b</sup>Fordism is represented by dashed lines and the knowledge economy by solid lines.

The overlap of interests between specific-skilled and semiskilled workers (the top center of Figure 1[a]) characterizes the Fordist industrial economies during its golden age from the Second World War until around 1980. Wage compression through the industrial relations system went hand in hand with relatively high social protection through the welfare state.<sup>34</sup>

With deindustrialization and the retreat of Fordism, the bargaining power of semiskilled workers declined at the same time as the employment costs of labor market regulations for these workers rose. This change is indicated in Figure 1(b) by the thick dashed downward-pointing arrow. We indicate the change by reclassifying the group of semiskilled workers with specific skills under Fordism as low-skilled workers with general skills in the knowledge economy. With the breakup of bargaining complementarities, this group becomes a low-income, high unemployment-risk cohort with strong preferences for redistribution and ALMPs.<sup>35</sup> We also assume that it no longer benefits from employment protection and might be hurt by such protection because low-end service jobs require flexibility in hiring and firing. This is consistent with Rueda's evidence that labor market outsiders are less supportive of job protection than insiders.<sup>36</sup>

Yet, because industrial production in many coordinated market economies depends on the supply of employees with deep, firm-specific skills, it makes little sense to reduce protections for these workers. We know that coordinated economies have a strong comparative advantage in high value-added manufacturing exports, and job protection for core workers is complementary to this comparative advantage.<sup>37</sup> In CMES, governments pursuing comparative advantage would thus underwrite employment protection for skilled workers with specific skills. Precisely because of the segmentation of labor markets for skilled and semiskilled workers, it is possible to deregulate protection for the latter selectively without undermining the comparative institutional

<sup>34</sup> Huber and Stephens 2001.

<sup>35</sup> The OECD has for many years documented the close link between education and unemployment, and the data show that those with less than a secondary degree (basically who we refer to as semiskilled workers) are at much higher risk. The latest issue of the OECD's *Education at a Glance* shows unemployment for this group in 2011 to be about 13 percent, whereas for those with postsecondary, but not tertiary, degrees, the figure was only about 7.5 percent. For the university educated it is about 5 percent. As a result of massive educational upgrading from the 1960s on, the size of this group is much smaller than the cohort of semiskilled workers in the immediate postwar decades.

<sup>36</sup> See Rueda 2005 and Rueda 2008. Yet, the differences are not large. On a ten-point scale, Rueda 2005 reports that insiders score a little higher than 6.4 and outsiders a little lower than 5.9.

<sup>37</sup> Estévez-Abe, Iversen, and Soskice 2001.

advantage of the former.<sup>38</sup> This is where our economic interest analysis departs most clearly from Rueda's.

While differences between the skilled and semiskilled workers' preferences over job protection may thus not cause conflict, there is an obvious division between the two groups over redistribution, training, and ALMPs. In the knowledge economy, the new group of low-skilled workers with general skills no longer benefits from employment protection and conjoint collective bargaining with skilled workers. With the loss of such protection and growing wage inequality, these workers look to the state for compensating transfers and opportunities for retraining. This is shown by the shift of the low-skilled group from the top center to the bottom right of Figure 1(b). We see it as one of the most important changes in the transition from the old to the new economy.

To complete the analysis of interests we note that professionals with high general skills who are well positioned in the external labor market have no reason to support redistribution (they are net contributors) or regulations that raise the price of low-skilled services. Highly educated professionals are thus at the bottom left-hand corner in the three graphs that comprise Figure 1, although some cross-national differences in the extent to which professions feature specific skills can be expected.<sup>39</sup>

#### POLITICAL COALITIONS BETWEEN GROUPS

Assume that each worker group is represented by a political party. If there is one party for each group, representation is direct; if different groups are represented by the same party, we assume differences in group preferences will be bargained out within the party. When parties represent their constituencies in this manner, we refer to them as representative parties;<sup>40</sup> this presupposes a PR political system where parties need not cater to a particular group (the median voter) to win influence, unlike parties in majoritarian political systems. All CMEs have PR electoral systems.

In the basic IS model there are three parties: left, center, and right. Whether under Fordism or in the knowledge economy, center parties not in a majority themselves can be thought of as choosing coalition partners on the right or left. Under Fordism, leftist or center-left

<sup>38</sup> See Iversen 2005, chap. 6. As we discuss later, this selective deregulation occurred in all the CMEs.

<sup>39</sup> In the same location we will also find employers of mostly service-based low-skilled workers, but our focus in this article is on mass politics.

<sup>40</sup> Iversen and Soskice 2006.



parties represented the broadly congruent preferences of skilled and semiskilled workers with specific skills (or some balance of them). This scenario offered centrist parties attractive partners on the left, since a coalition of the center and the left could impose high net taxes on high income earners. By contrast, in a coalition with the center, a powerful independent right-wing party could not be relied on to continue to support high taxes on its own constituents. This is shown as the C-1 center-left coalition in Figure 1(a) and broadly corresponds to the pattern found in the Nordic countries.

A possible alternative coalition partner for centrist parties may be available however, if there is a big enough cross-class party that links rightist, centrist, and, perhaps, leftist, voters together and has enough intraparty discipline to uphold the position internally negotiated between the different groups. If the party's internally negotiated position is centrist, then it makes an attractive coalition partner for "pure" center parties. Such a coalition is shown in the C-2 triangle in Figure 1(a). Manow argues<sup>41</sup> that such a role has been fulfilled by Christian democratic parties, which would explain the more limited redistribution in continental welfare states such as Germany.<sup>42</sup> This alternative partnership is not possible, however, if there is a major independent rightist party, as in the Nordic countries, or where the Christian democratic party is not large enough to build a majority coalition with the centrist party, as in the Netherlands and Belgium before the 1980s. Strong centrist cross-class parties and weak independent rightist parties are thus empirically synonymous. Either condition has similar effects on the coalition formation game, but by emphasizing the strength of the independent right we underscore that these effects do not presuppose the presence of religious parties or particular ideologies.

While the coalition argument still broadly holds in the knowledge economy, the distributive consequences are different. As under Fordism, a cross-class party that ties together rightist and centrist voters is attractive to "pure" centrist parties and tends to lead to the C-2 coalition shown in Figure 1(b). With the divergence of distributive preferences, it is increasingly difficult to retain low-skilled workers in such a coalition, and most of them exit to the far left or to new right-wing anti-immigrant parties. Here again, if the cross-class party is Christian democratic, we have a Manow coalition.

<sup>41</sup> Manow 2009.

<sup>42</sup> Manow 2009 and Manow and van Kersbergen 2009 aptly refer to these parties as "negotiating communities." Because they need to accommodate different interests, they tend to set aside divisive issues of redistribution and instead focus on their common interest in social insurance.

In the absence of a Christian democratic party, or if such a party is not big enough to create a majority with centrist parties, centrist parties will again need a leftist or center-left coalition partner. Therefore, the existence of one or several electorally strong independent rightist parties tends to predict the C-1 center-left coalition shown in Figure 1(b). This configuration produces a very different distributive outcome because governments will be responding to much more divergent distributive preferences, including those of low-skilled workers. This is particularly true in the knowledge economy because low-skilled workers are no longer protected under the industrial relations system and have distinct distributive preferences.

The paradoxical relationship between government partisanship and the strength of independent rightist parties is illustrated in Figure 2. There are two measures of partisanship. One is the average share of cabinet seats held by centrist parties that uses Klaus Armingeon and associates' classification of center parties and their seat data.<sup>43</sup> The other is a weighted average of the left-right position of governments on an economic policy dimension constructed by Thomas Cusack and Susanne Fuchs and based on the Comparative Manifesto Project by Hans-Dieter Klingemann and associates.<sup>44</sup> The data for rightist strength are the combined vote share of liberal and conservative parties, again drawn from Armingeon and colleagues. The combined data cover the period from 1980 to 2005 (the latest observation in Cusack and Fuchs' data set).

PR countries fall into two clusters: one consisting of the Nordic states with strong electoral support for secular rightist parties, measured by vote shares, and relatively left-leaning governments with weak centrist parties; and the other consisting of the continental and southern European states with weak electoral support for liberal and conservative parties and relatively right-leaning governments with strong centrist parties. In other words, the stronger the right is electorally the more left-leaning the governments are. We do not believe this pattern is implied by any existing theory, and it is not discussed in the literature referenced above. We see it is a result of the coalitional logic we have outlined in this section.

Does a similarly powerful relationship emerge if, instead of the electoral strength of the right, we use strength of the left as a predictor? It

<sup>43</sup> See Armingeon et al. 2012. The Danish Radical Party (Radikale Venstre) is misclassified as a right party in the Armingeon data set. It is in fact a quintessential center party, and we treat it as such in this analysis.

<sup>44</sup> Cusack and Fuchs 2002; Cusack and Fuchs 2007; Klingemann et al. 2006.

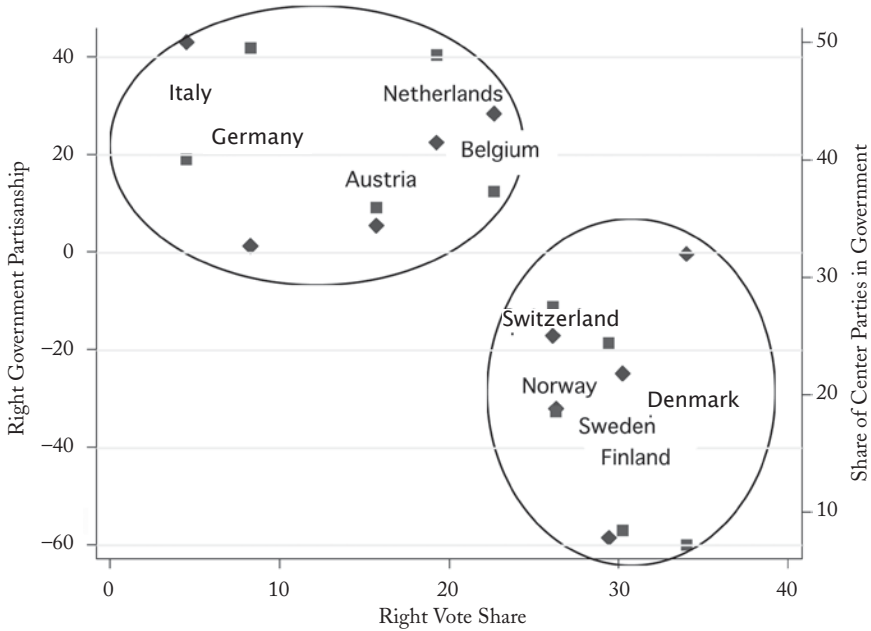


FIGURE 2  
RIGHT VOTE SHARE AND GOVERNMENT PARTISANSHIP, 1980–2005<sup>a</sup>

<sup>a</sup>Right vote share is the percentage share of total votes for traditional (nonradical) right parties classified as liberal or conservative by Armingeon et al. 2012. The country names are shown between right government partisanship (diamonds) and share of center parties in government (squares). The former is a weighted average of the left-right position of governments on an economic policy dimension (with a total range from -100 to +100) constructed by Cusack and Fuchs 2007 based on the Comparative Manifesto Project by Klingemann et al. 2006. Share of center parties in government is the average percentage share of cabinet seats held by centrist parties using Armingeon and colleagues' classification and data. In the case of Italy, the period is restricted to pre-1994, since the country switched to a majoritarian system in 1994. The negative relationships between right vote share and both dependent variables are significant at a .01 significance level.

would certainly be implied by a power-resource model. Yet, the correlation between leftist electoral strength (using Armingeon and his collaborators' classification of left parties) and the left-right composition of government is weak (-.31), compared to the correlation between right strength and partisanship (-.58). Like Manow and Kees van Kersbergen,<sup>45</sup> we argue that the origins of the latter correlation go back a long time, to even before the left was a major political force.<sup>46</sup>

<sup>45</sup> Manow 2009 and Manow and van Kersbergen 2009.

<sup>46</sup> See also Iversen and Soskice 2009.

But while Manow and van Kersbergen focus on religious cleavages, we see the distinct development of the right and the center as an outgrowth of the historical coevolution of economic interests and political parties—in particular whether agricultural interests were early on integrated with a Christian democratic party that also included industrialists and professionals (and some skilled workers), or whether these groups organized in separate parties.

## LMEs AND MAJORITARIAN SYSTEMS

### PREFERENCES OF ECONOMIC GROUPS

In LMEs under Fordism, a strongly unionized industrial sector had complementarities across the large group of semiskilled workers, the smaller group of skilled workers, and technicians, see Figure 1(c). These groups had preferences for employment protection that they were partially able to impose via collective bargaining; indeed, bargained employment protection across these groups further enhanced their collective bargaining strength. Because these preferences for protection could be fulfilled to some degree through collective bargaining, they mattered less in the political arena. Semiskilled workers had a greater preference for redistribution than did skilled workers and technicians, since they benefitted more fully from it. But again, their distributional preferences were largely met through collective bargaining.

The breakup of Fordism had more dramatic effects on worker preferences in LMEs than in CMES. In LMEs, the major group of semiskilled workers switched to less-skilled employment in low-income services, shown with the thick dashed arrow from top center to bottom right of the figure. Because LMEs do not have vocational training and other institutions that support extensive investments in specific skills, the demand for employment protection in a nonspecific skills' world is much lower; this is true for skilled workers and the increasingly larger group of more educated employees, including technicians and the large middle-class segment of semiprofessional workers in higher value-added service sectors. These groups (skilled workers and semiprofessionals) are opposed to redistribution to the less-skilled group, and, to reiterate, professionals with high general skills who are well positioned in the external labor market oppose both redistribution and regulation. Thus the space of preferences across economic groups in LMEs in the knowledge economy essentially collapses to a single dimension, redistribution, with the groups ranged along the horizontal axis.

## POLITICAL COALITIONS

Since government formation in majoritarian systems is typically decided directly by elections (as opposed to coalition bargaining), it is essential for parties to appeal credibly to middle-income groups. Doing so requires parties with constituencies who are either to the center-left or center-right to vest power in a moderate (centrist) leader—we call these leadership parties.<sup>47</sup> In such cases, the problem for the median voter is that if the leader cannot control the party, the party may move to the left or to the right. A center-left party, then, presents a particular threat since the left may cut benefits and raise taxes on the middle class, whereas the right will be inclined to cut benefits and taxes simultaneously (assuming that regressive taxation is not possible). This dynamic was true under Fordism and it is true in the knowledge economy, but under Fordism, the median voters for whom the parties competed included the large, semiskilled-worker group, so that both parties competed for the dashed quadrilateral C-2 in Figure 1(c) (though the center-right party would be more successful in winning votes for the reasons mentioned). In this case, despite a center-right party government, the redistribution outcome—the vertical dashed C-2 line—is more redistributive than center-right party members would like (though less redistributive than center-left party members would desire). This result occurs because the center-right party leader needed to commit to it under the Fordist configuration of interests (and had the power to do so). In the knowledge economy, the median-voter bloc does not include low-skilled workers who disappear from the middle class, which produces a center-right bias with an effective coalition of middle and upper-middle classes (denoted C-3 in Figure 1[c]). This is the perspective from which we should understand the lack of appetite for redistribution in LMES with majoritarian institutions, even among nominally left-of-center parties (consistent with Rueda's analysis).

## INSTITUTIONAL EQUILIBRIA

Ours is an institutional argument, not simply an argument about the importance of partisanship. We agree with Huo's critique of the new politics of the welfare state literature<sup>48</sup> and his argument that partisanship continues to matter in an age of austerity.<sup>49</sup> It is a clear implication of our argument. Yet we model patterns of partisan dominance

<sup>47</sup> Iversen and Soskice 2006, 168.

<sup>48</sup> Pierson 1996.

<sup>49</sup> Huo 2009.

as a function of electoral and party systems, and then show how such dominance conditions government responses to shocks. This approach has consequences for how we understand the effects of deviations from a dominant pattern of government partisanship, say, when right parties govern in a country with a dominant pattern of center-left governments. Such dominance is likely to affect the preferences of middle-class voters who, in turn, constrain governments of all stripes. Specifically, if center-left governments pursue policies that deliberately seek to reduce labor market segmentation, as we hypothesize, then labor market risks will become more evenly distributed and raise middle-class support for policies that compensate losers.<sup>50</sup> Support for such insurance limits occasional center-right governments from cutting benefits. Conversely, in a center-right dominant system, governments pursue policies that allow segmentation to rise, with middle-class voters becoming less interested in policies that compensate and reintegrate losers. So our argument implies the emergence of distinct equilibria, with the party system determining which one prevails. Within each institution's equilibrium, temporary changes in government coalitions may not have major consequences for policies but permanent shifts will. Our aim is to show that institutional equilibria matter for how governments respond to exogenous shocks that disproportionately affect workers with low education.

### TESTING THE ARGUMENT

In this section we use quantitative data to show that the political institutions we have discussed—and the associated partisan coalitions—produce distinct public policies and outcomes, especially those that most directly affect outsiders. We begin with employment protection where the evidence is very clear and has a simple interpretation, and then turn to the more complicated issue of compensating losers for adverse shocks.

#### EMPLOYMENT PROTECTION

Using data from the Organization of Economic Cooperation and Development's [OECD] employment protection legislation index, Figure 3 shows the pattern of changes in the level of legal employment protection for eighteen OECD countries from the mid-1980s to the mid-2000s. For this index, the OECD uses the strictness of procedures for and the costs of dismissing individual workers as well as the procedures

<sup>50</sup> See Rehm 2011.

involved in hiring workers on fixed-term or temporary work agency contracts.<sup>51</sup> While the measure for regular work is essentially an indicator of the legal difficulty and costs of firing full-time workers, the measure for temporary workers is an indicator of how difficult it is for employers to employ workers on flexible, fixed-term contracts. They are therefore not directly comparable, but we can compare the extent of changes over time, as shown in Figure 3.

The figure shows that there is very little movement in terms of protection of regular employment. Countries cluster closely around the 45 degree status quo line, although there were slight reductions in Austria (2003) and Finland (following the sharp drop in trade with the collapse of the former Soviet Union), and some tightening in Australia (1996) and Germany (2004). But the overall cross-national pattern does not change: the liberal countries—Australia, Canada, Ireland, New Zealand, the UK, and the US—are at the bottom, while most of the corporatist or coordinated market economies are at the top. Switzerland is an exception, but this is largely because the index does not include measures of protection against collective dismissals, which are only available for mid-2000s. On this indicator, Switzerland has the third highest score.

With few exceptions, countries with high protection for regular workers also had high barriers against the use of temporary contracts in the mid-1980s. The obvious outlier is Japan, which has always had a dualistic labor market with extensive protections for core, skilled workers, and almost none for temporary and part-time unskilled workers.<sup>52</sup> But while the Japanese situation was an exception in the 1980s, it now seems to have become the norm. There has been a pervasive deregulation of temporary employment, which often extends to part-time workers and, *de facto*, also often to low-skilled workers more generally because they are much less likely to be protected against collective dismissals. The Netherlands was one of the first countries to deregulate temporary and part-time employment (beginning with the Wassenaar accord in 1982), but it is notable that every other coordinated market economy has followed suit while the liberal market economies have remained deregulated. The exception is New Zealand, but it is evident from the data that the new regulations are not so extensive as to change its position as a highly deregulated economy.

<sup>51</sup> The measure for regular employment is the most elaborate and includes indicators for just cause for dismissals, required length of advance notice, mandated severance pay, compensation for unfair dismissals, the rights of employee representatives to be informed about dismissals, and the rights of workers to challenge dismissals in the courts.

<sup>52</sup> Song 2014.

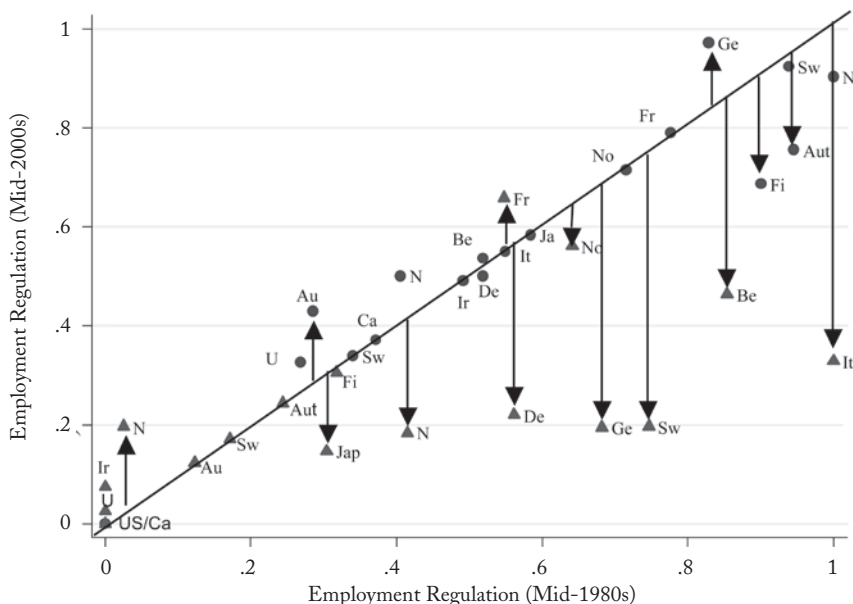


FIGURE 3  
 CHANGES IN THE REGULATION OF REGULAR AND TEMPORARY EMPLOYMENT,  
 MID-1980S TO MID-2000S<sup>a</sup>

<sup>a</sup>Changes in the regulation of regular employment is shown in circles; changes in temporary employment is shown in triangles. Forty-five degree line indicates no change. Upward-pointing arrows indicate increase in regulations; downward-pointing arrows indicate a decrease in regulation. The data are from the OECD indicators of employment protection annual time series data 1985–2008.

There is thus a clear pattern of convergence toward the liberal countries with less regulation of temporary and part-time employment. From the perspective of our argument, with the breakdown of complementarities between skilled and semiskilled workers, there are no longer strong advocates for job protection of less-skilled workers in the industrial relations system, and, whatever the coalition in the political system, it always results in deregulation of part-time and temporary employment. For core, full-time (and mostly skilled) workers, however, there has been very little change.

COMPENSATION

DATA AND EMPIRICAL MODEL

The key question in this section is the extent to which governments have stepped in to compensate and assist workers who have been adversely affected by the decline of labor market protections and the rise



in unemployment risks and wage inequality. No longer able to depend on the industrial relations system to protect them, low-skilled workers are increasingly reliant on state assistance. Such assistance comes in a range of different forms, from guaranteed health care, early retirement, and unemployment compensation, to active labor market policies, re-training, and employment opportunities.

We rely on the OECD's Social Expenditure data set to explore this question.<sup>53</sup> We focus on spending areas that are largely targeted to weak groups in the labor market—unemployment benefits and active labor market programs. In combination, such outlays can be thought of as spending on low-skilled would-be outsiders. We use changes in this measure (as a percentage of gross domestic product [GDP]) as our main dependent variable.<sup>54</sup> The data run from 1981 to the most recent observation in 2009, which is roughly the time frame for the dynamics that interest us.<sup>55</sup> As we have described, in this period labor market inequality and insecurity rose for many at the lower end of the skills distribution spectrum as a result of technological change and deindustrialization. But it is difficult to measure the magnitude of these shocks, mainly because they are likely to be affected by policies that are intended to counter them. Active labor market programs, for example, are specifically designed to improve the employment opportunities of those at the greatest risk of unemployment, rendering open unemployment a poor measure of exogenous shocks. We instead use decline in industrial employment as a proxy, which is less sensitive to reverse causality and is a direct measure of a key causal mechanism in our theoretical story—deindustrialization.

This measure has two limitations. First, it only captures one aspect of a broad story that also concerns changes in skill requirements, new technology, and rising inequality, among other things. Second, we cannot fully rule out that deindustrialization is affected by the policies we seek to explain. For example, ALMPs and upskilling may prevent loss of industrial jobs. Conversely, generous unemployment benefits could cause layoffs by making unions less willing to accept lower wages. The former would produce a downward bias on estimates; the latter an up-

<sup>53</sup> OECD *Social Expenditure Statistics*. Online database edition. Available at <http://www.oecd.org/social/expenditure.htm>, accessed January 15, 2015.

<sup>54</sup> One could argue that all social spending disproportionately benefits those with low incomes and high risk exposure; using overall spending as a dependent variable yields similar results. These results are not reported here due to space constraints but are available from the authors.

<sup>55</sup> This is the case for unemployment benefits. In the case of active labor market policies, except for a handful of countries, the data series only begins in 1986. For this variable, and the combined proxy for outsider spending, 1986 is our first observation.

ward one. Neither, however, should impair the ability to test whether government responses vary across political systems.

A complementary method, which we refer to as the common shocks approach, helps to overcome these limitations. Pioneered by Olivier Blanchard and Justin Wolfers<sup>56</sup> to study unemployment, applications of this approach are rare in political science, though it has been used in a couple of instances to explain government spending.<sup>57</sup> The core idea is to use year dummies to estimate the effects of unobserved common shocks on policy variables while differentiating the direction and strength of these effects by distinguishing countries on key political-institutional variables. This setup alleviates concerns about endogeneity since the time dummies are clearly independent of government policies. As with the deindustrialization variable, it permits the inclusion of country fixed effects, eliminating all unobserved country-level variation and thus focusing attention on differences in government responses. This is what Nathaniel Beck and Jonathan Katz call a dynamic model.<sup>58</sup> To deal with potential problems of autocorrelation (even after differencing) we use a Prais–Winsten transformation of the data to correct for first-order autocorrelation.<sup>59</sup>

Unlike using deindustrialization as an independent variable, the main limitation of the Blanchard and Wolfers approach is that the shocks are assumed to be common. We have argued that this is broadly correct because the shocks are driven by deindustrialization and technological changes that have occurred everywhere. Perhaps more importantly, a violation of the common shocks assumption does not invalidate the results. As long as shocks are *correlated*, the common shocks will be a noisy proxy for nationally specific shocks. And shocks clearly *are* correlated. For example, the correlation between annual changes in unemployment in Germany and Sweden for our reference period is .62. When the correlation between shocks is less than one, treating nationally specific shocks as common reduces the statistical significance of our

<sup>56</sup> Blanchard and Wolfers 2000.

<sup>57</sup> Persson and Tabellini 2005; Cusack, Iversen, Soskice 2007.

<sup>58</sup> See Beck and Katz 1996. Static models in their terminology estimate the cross-national effects of invariant institutions on spending levels while simultaneously correcting for autocorrelation in the errors. Others refer to this approach as a Prais–Winsten regression. It is appropriate to test many institutional hypotheses, but not for our purposes because we are interested in how institutions condition government responses to shocks, not in long-term differences in levels of spending. A dynamic model is needed for that.

<sup>59</sup> The STATA `NL` procedure includes a cluster robust option that corrects for autocorrelation, but it is highly inefficient. Instead we wrote a program for STATA that is explained in the appendix. The Prais–Winsten transformation essentially consists of estimating the first-order autocorrelation coefficient of the residuals from the initial `NL` regression ( $\rho$ ) and then subtracting from each variable  $\rho$  multiplied by the lagged value of the variable.

parameter estimates but it leaves them unbiased on average. It also does not bias our estimates of the differences between institutional systems unless shocks are systematically greater in some systems than in others (again, before any policy intervention).

To estimate the effects of political systems, the set of time dummies is interacted with two institutional measures. One is PR electoral institutions and the other is PR countries with and without large secular rightist parties and with and without centrist or Christian democratic parties. As explained above, both PR and the party system are hypothesized to affect the structure of coalitions and, hence, policies. The PR variable is dichotomized and it only changes in two cases: Italy, which introduced a majoritarian system in 1994 before switching back to PR in 2006, and New Zealand, which went from a single-member district majoritarian system to a PR-dominant system in 1994 (with the first election under the new system in 1996).

The party system variable is a dummy that measures the strength of the independent right, reflecting the two clusters of countries identified in Figure 2. In the case of New Zealand after the switch to PR, we classified the Nationalist Party as a liberal-conservative party. New Zealand after 1994 is therefore counted as a PR case with a strong secular right.<sup>60</sup> Note that the weak right dummy is perfectly correlated with two measures of the composition of government coalitions. For countries with weak secular rightist parties, the average left-right position of governments on an economic policy dimension is always to the *right* of governments in countries with strong secular rightist parties. Countries with weak secular rightist parties also have a higher average share of cabinet seats held by centrist parties than countries with strong secular rightist parties. This overlap is implied by our institutional argument, and we can use dummies for any of the partisan variables to get the same results.

Formally the model is:

$$\Delta S_{i,t} = [1 + \beta^{PR} \cdot PR_i + \beta^{WR} \cdot WR_i \cdot PR_i] \cdot (\sigma_t D_t) + \Sigma \gamma^k \cdot \Delta X_{i,t}^k + \alpha_i + \varepsilon_{i,t},$$

where  $\Delta S_{i,t}$  is the change in outsider spending as a percent of GDP in country  $i$  from time  $t-1$  to time  $t$ . The first term on the right-hand side of the equation,  $\sigma_t D_t$ , is the response of a majoritarian system to a shock in the current year  $t$  ( $\sigma_t D_t$  with  $D_t = 1$ ). In other words, the

<sup>60</sup> It could be argued that because the Nationalist Party had turned into a centrist catchall party after half a century of two-party contests, this persisted into the PR period. In fact, classifying it as centrist slightly improves our results. But the Nationalist Party is increasingly seen as a liberal party, and we treat it as such (doing so also preempts the objection that we have biased our results in a direction favored by our model).

change in government spending in country  $i$  in year  $t$  with a majoritarian system is  $\sigma_t D_t = \sigma_t$ . The term in square brackets then multiplies this baseline majoritarian response up (or down) in the PR cases with either weak or strong secular rightist parties. With  $PR$  ( $PR_i = 1$ ) and a weak right ( $WR_i = 1$ ), the overall response is

$$[1 + \beta^{PR} \cdot PR_i + \beta^{WR} \cdot WR_i \cdot PR_i] \cdot (\sigma_t D_t) = [1 + \beta^{PR} + \beta^{WR}] \cdot \sigma_t$$

The majoritarian response is multiplied up by  $[1 + \beta^{PR} + \beta^{WR}]$  when the system switches to  $PR$  with  $WR$ . With a strong right, where  $WR_i = 0$ , the multiplier is  $[1 + \beta^{PR}]$ , which should be greater than where  $WR_i = 1$ , since  $\beta^{WR} < 0$  if our argument is correct. So 1 plus the  $\beta$ -parameters can be thought of as *institutional multipliers* with majoritarian systems serving as the baseline with a multiplier of 1. Finally,  $\Delta X_{i,t}^k$  is a set of  $k$  control variables,  $\alpha_i$  is a set of country-specific intercepts (fixed effects), and  $\varepsilon_{i,t}$  is an error term.

The model setup for the deindustrialization variable is the same, except that a single deindustrialization variable (the annual drop in industrial employment as a percentage of the working age population) replaces the set of time dummies.<sup>61</sup>

To check that government partisanship is indeed a mediating mechanism, we also ran the deindustrialization and common shocks models using Cusack and Fuchs<sup>62</sup> cabinet center of gravity variable in place of the institutional variables. Unlike other partisan measures, the Cusack-Fuchs measure focuses on economic issues—not on moral or religious issues where Christian democratic parties are often on the right—and is based on party manifestos instead of classifications by country experts. Experts tend to gauge partisanship relative to a specific national context, so that parties that may be centrist in an international comparison—such as, say, Britain’s Labor Party—are classified as noncentrist. In line with our institutional interpretation of the role of partisanship, we use period averages for each country, although all results, while somewhat weakened, hold using annual observations of the partisan variable.<sup>63</sup> The variable has been standardized to vary between 0 and 1 for ease of interpretation.

<sup>61</sup> With a single shock variable we do not need to use a nonlinear procedure and instead estimate the model using STATA’s pooled time series regression procedure with panel-corrected standard errors (xtpcse) and correction for AR1.

<sup>62</sup> Cusack and Fuchs 2002; Cusack and Fuchs 2007.

<sup>63</sup> For the nonlinear model, the coefficient on L-R partisanship is  $-1.09$  using the average measure and  $-0.88$  using the annual measure. The Cusack and Fuchs 2007 data end in 2005, but we allowed the average to represent the whole period until 2009. It makes virtually no difference to the results ( $-1.09$  for the whole period versus  $-1.12$  for the shorter period).

All dependent spending variables are defined as first differences because we want to capture government responses to exogenous changes over time. We do not make any claims about the long-term effects of shocks on spending. Although changed structural conditions may cause a new equilibrium-level of spending or government spending may be locked in through policy feedback mechanisms, we do not have any strong expectations about it. Our goal is not to explain the long-run magnitude of the welfare state, but rather to explain government responses to changes in the post-1980 period. We can and do examine the cumulative changes in this period, but we refrain from projecting into the future.<sup>64</sup> Of course, the *responsiveness* of different systems is a relatively invariant feature, and we do capture that.

Our baseline model of total spending is simple and, in addition to country and time fixed effects, includes only two controls: changes in unionization rates and unexpected growth. Since most of the change in unionization is among low-skilled workers, it captures the decline in the organizational power of this group, which should negatively affect its capacity to influence outcomes through the industrial relations system. The data are from Jelle Visser.<sup>65</sup> Unexpected growth is defined as the difference between the rate of GDP per capita growth in a particular year minus the average rate of growth in the previous three years. The logic is that governments make budgetary decisions based on GDP projections that rely on recent growth trends. If actual growth turns out to be higher (change in) spending as a percentage of GDP, our dependent variable will be lower; conversely, if growth is lower than expected, spending will be higher.

In addition to the baseline model we also tried a specification that includes a control for what might be called automatic unemployment disbursements. When workers become unemployed they usually receive unemployment benefits based on the income replacement rates that are on the books at the time they are laid off. These replacement rates are based on past legislation and take time to change. Clearly, therefore, not all government spending on unemployment benefits is discretionary in the usual sense. By including a control for spending

<sup>64</sup> To capture long-term effects one could transform the estimating equation into an error correction model by adding a lagged dependent-level variable. In fact, this does not affect our substantive results, but it strains the credulity of our predictions since it assumes that the effects of shocks are permanent. We present no reasons to think they are. Note, however, that the substantive results remain unchanged when including a lagged dependent variable; this means that the low responsiveness of government in the continental European cases is not the result of high initial spending (which is also true if we control only for initial spending).

<sup>65</sup> Visser 2011, as recorded in Amingeeon et al. 2012.

mandated by replacement rates that were in place in the year before the shock, we focus on the discretionary elements of the budget. These include current changes to replacement rates themselves and also more indirect changes in the administration of benefits, including eligibility for and duration of benefits.<sup>66</sup> Note that since ours is an institutional argument where past patterns of coalitions are reflected in existing legislation, the results without correction for automatic disbursements are clearly also relevant.

Automatic changes in unemployment disbursements are defined as the first difference in unemployment as a percentage of the working age population times the net replacement rate in the previous year. The latter is the ratio of net unemployment insurance benefits to net income for an unmarried single person earning the average production-worker wage. The replacement data are from Olaf van Vliet and Koen Caminada's updated version of Lyle Scruggs' widely used data set.<sup>67</sup>

Apart from these controls, we also tried to include measures for trade openness (imports plus exports as a percentage of GDP), capital account openness, female labor force participation (as a percentage of the working age population), and voter turnout (from Armingeon and colleagues' 2012 data set). None of these registered a significant effect and leave our substantive results unaltered. This is particularly noteworthy for the economic openness measures since it suggests that globalization has not affected government policies. These variables have been omitted in the results reported below.

## FINDINGS

The estimated regression coefficients and standard errors are shown in Table 1. In this section, we focus on their substantive interpretation. Briefly, we find that, consistent with expectations, on average, PR countries respond to common shocks with more spending than majoritarian countries. Yet, the response of PR countries with weak right parties and strong center or Christian democratic parties is more similar to the response of majoritarian countries than to other PR countries, and for some model specifications they actually appear to be *less* responsive. Paradoxically, therefore, the greater the popular support for liberal and

<sup>66</sup> It should be underscored that using automatic disbursements as a control, although isolating discretionary spending, ignores that inherited replacement rates are themselves a result of past government spending decisions. These past decisions are themselves likely to be affected by our key institutional variables. Countries that respond aggressively to shocks are also likely to have large built-in stabilizers that successive governments choose to retain. Thus, the average replacement rate for the PR countries in our sample is 61 percent, while it is only 47 percent for the majoritarian countries.

<sup>67</sup> Vliet and Caminada 2012; Scruggs 2004.

TABLE 1  
REGRESSION RESULTS FOR GOVERNMENT SPENDING ON OUTSIDERS, USING INSTITUTIONAL VARIABLES<sup>a</sup>

|  | Common Shocks Model |                     | Deindustrialization Model |                     | Spending on Unemployment |                     | Spending on ALMP   |     |
|--|---------------------|---------------------|---------------------------|---------------------|--------------------------|---------------------|--------------------|-----|
|  | (a)                 | (b)                 | (a)                       | (b)                 | (a)                      | (b)                 | (a)                | (b) |
| Proportional representation <sup>b</sup> | 3.76***<br>(1.20)   | 1.14***<br>(0.30)   | 1.27***<br>(0.42)         | 4.97*<br>(2.68)     | 0.50<br>(0.40)           | 5.56*<br>(3.32)     | 4.75***<br>(1.40)  |     |
| Weak right                               | -4.07***<br>(1.08)  | -2.31***<br>(0.35)  | -2.66**<br>(0.53)         | -5.24**<br>(2.52)   | -1.07**<br>(0.49)        | -5.21*<br>(2.75)    | -7.57***<br>(1.69) |     |
| Time dummies (omitted)                   |                     |                     |                           |                     |                          |                     |                    |     |
| Deindustrialization                      |                     | 14.77***<br>(2.09)  | 10.10***<br>(2.21)        |                     | 6.66***<br>(1.59)        |                     | 1.73<br>(1.19)     |     |
| Unionization                             | 0.043***<br>(0.007) | 0.036***<br>(0.011) | 0.027**<br>(0.011)        | 0.012***<br>(0.004) | 0.020<br>(0.007)         | 0.014***<br>(0.004) | 0.012*<br>(0.007)  |     |
| Unexpected growth                        | -5.70***<br>(0.53)  | -3.91***<br>(0.66)  | -3.56***<br>(0.58)        | -2.92***<br>(0.49)  | -2.34***<br>(0.38)       | -0.77***<br>(0.28)  | -0.21<br>(0.33)    |     |
| Automatic disbursements                  |                     | 0.43***<br>(0.08)   | 0.31***<br>(0.07)         | 0.45***<br>(0.05)   | 0.33***<br>(0.04)        |                     |                    |     |
| Country fixed effects (omitted)          |                     |                     |                           |                     |                          |                     |                    |     |
| N  | 395                 | 395                 | 395                       | 481                 | 481                      | 395                 | 395                |     |
| Adj. R-squared                           | 0.59                | 0.68                | 0.64                      | 0.67                | 0.67                     | 0.23                | 0.32               |     |

\* p<.10; \*\* p<.05; \*\*\* p<.01 (two-tailed tests)

$$\Delta S_{i,t} = (1 + \beta^{PR} \cdot PR + \beta^{WR} \cdot WR) \cdot \left[ \sum_{2009}^{1980} \delta_i \cdot D_i \right] + \Sigma \gamma^k \cdot \Delta X_{i,t}^k + \alpha_i + \varepsilon_{i,t}$$

where  $S$  refers to government spending,  $i$  indexes countries,  $t$  time period, and  $k$  a set of control variables ( $X_{i,t}^k$ ). Time and country dummies are omitted from table. All parameters and standard errors are estimated using a Prais-Winsten transformation (see the appendix for the exact procedure in the case of the common shocks model).

<sup>b</sup> The effect of a majoritarian regime is 1. So in the first regression the effect of a PR regime with a strong right (PR=1; weak right =0) is 3.76 plus the effect of the majoritarian regime, i.e., 4.76. The effect of PR with a weak right (PR=1; weak right =1) is 4.76 - 4.07 = 0.69.

conservative parties in PR systems, the more the government targets its policies to those at the low end of skill and income distribution—that is, to would-be outsiders. Our explanation is that strong right parties increase the likelihood that center-left coalitions will form in the government and/or in the legislature.

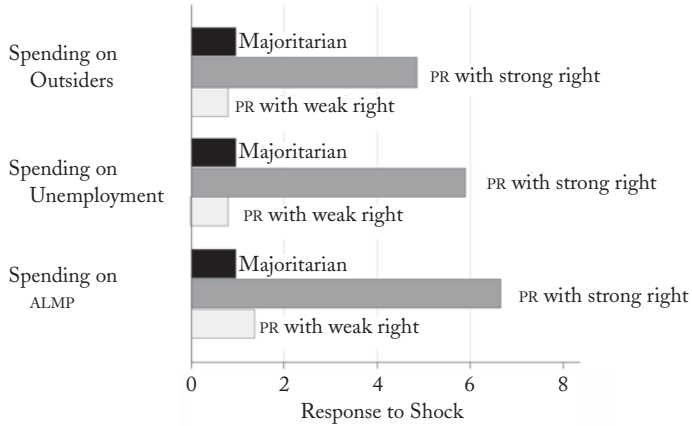
Figure 4 shows the differences in the elasticity of relative government responses to shocks. For the common shocks model, Figure 4(a), the numbers can be interpreted as the answer to the question, “If a shock occurs that causes a 1 percent increase in spending in a majoritarian system, how large would the increase be in PR systems with and without strong right parties?”

We find that PR countries with strong right parties respond much more aggressively to shocks than other countries. For total outsider spending the outlays increase more than five times the rate of majoritarian countries, whereas other PR countries are no more responsive than majoritarian countries. If we distinguish between passive unemployment benefits and active labor market policies spending, PR countries with weak right parties and strong center or Christian democratic parties may respond marginally more aggressively with ALMP measures than majoritarian countries, but the opposite is true for unemployment benefits. It should be noted, however, that unionization rates have declined faster in majoritarian countries, from 38 to 23 percent between 1985 and 2008, than in continental European countries, from 42 to 31 percent in the same period, which predicts a smaller drop in spending in response to common shocks in the latter countries according to our results for unionization. Since the Nordic countries have experienced the smallest decline in unionization (from 71 to 64 percent in the same period), it also means that these countries stand out even more in terms of responsiveness to shocks.

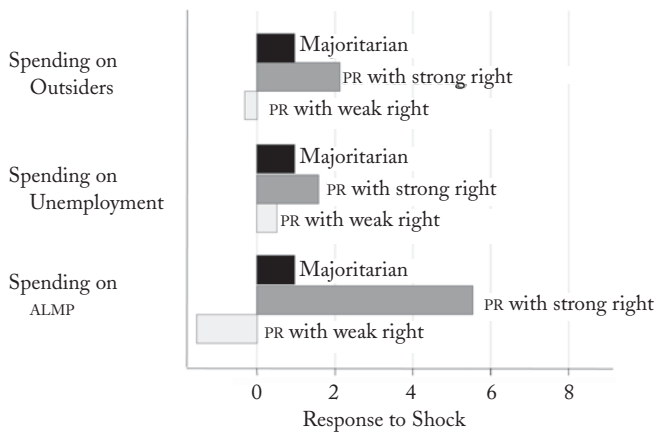
The cross-national differences are even more apparent when we use deindustrialization as the shock variable, even as the magnitudes are predictably smaller. For overall spending on outsiders, and especially for ALMP, PR countries with a weak independent right look downright regressive even compared to majoritarian countries. It should be noted, however, that if we include nondiscretionary unemployment spending on the right-hand side of the equation (by excluding automatic disbursement as a control), the difference between majoritarian and PR countries with a weak right is attenuated (see Table 1). The reason is that replacement rates are higher in the latter countries, and, as a consequence, so are automatic disbursements.



## WORLD POLITICS



Common Shocks Model  
(a)



Deindustrialization Model  
(b)

FIGURE 4  
PREDICTED GOVERNMENT RESPONSES TO SHOCKS, BY ELECTORAL AND PARTY SYSTEM<sup>a</sup>

<sup>a</sup>The bars show the elasticity of government responses to a given shock, where majoritarian systems have been assigned a baseline elasticity of 1. The estimates are based on the results reported in Table 1 (with controls for automatic disbursements).

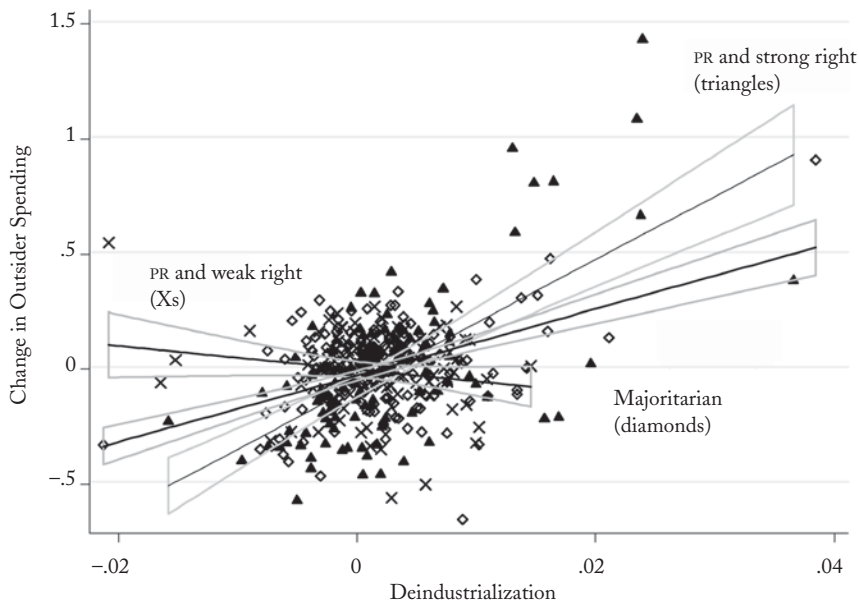


FIGURE 5

GOVERNMENT RESPONSES TO DEINDUSTRIALIZATION:  
RESIDUAL PLOT WITH SPENDING ON OUTSIDERS AS THE DEPENDENT VARIABLE<sup>a</sup>

<sup>a</sup>The observations are the residuals from the deindustrialization regression in Table 1, where the institutional and deindustrialization variables were omitted. The lines are the best linear fits to each institutional subset of residuals (with 95 percent confidence intervals).

Figure 5 illustrates the effects of deindustrialization on overall outsider spending. The data points are the residuals from a regression that excludes the deindustrialization and institutional variables, plotted against deindustrialization. The figure distinguishes between observations for different electoral/party systems, and it shows a regression line (plus 95 percent confidence intervals) for each system. Again, PR countries with strong independent right parties stand out for their responsiveness, but it is perhaps more remarkable, considering the long-standing generosity of the welfare state in PR countries with weak right parties and strong Christian democratic parties, that they are so unresponsive.<sup>68</sup> Yet our results are unambiguous and they strongly suggest that continental European countries have largely failed to respond to the needs of an increasing number of lower-level, insecure workers.

<sup>68</sup> Esping-Andersen 1990; Huber and Stephens 2001.

TABLE 2  
REGRESSION RESULTS FOR GOVERNMENT SPENDING ON OUTSIDERS, USING  
PARTISAN VARIABLES

|  | <i>Common Shocks<br/>Model<br/>(a)</i> |                     | <i>Deindustrialization<br/>Model<br/>(b)</i> |                     |
|--|--|---------------------|--|---------------------|
| Left-right center of gravity<br>of cabinet | -1.11***<br>(0.06)                     | -1.06***<br>(0.09)  | -1.10***<br>(0.20)                           | -1.19***<br>(0.25)  |
| Time dummies (omitted)                     |  |                     |  |                     |
| Deindustrialization                        |  |                     | 35.89***<br>(4.77)                           | 25.26***<br>(4.81)  |
| Change in unionization                     | 0.033***<br>(0.004)                    | 0.032***<br>(0.006) | 0.044***<br>(0.012)                          | 0.032***<br>(0.012) |
| Unexpected growth                          | -5.52***<br>(0.56)                     | -3.48***<br>(0.56)  | -3.07***<br>(0.61)                           | -2.22***<br>(0.59)  |
| Automatic disbursements                    |  | 0.29***<br>(0.03)   |  | 0.35***<br>(0.07)   |
| Country fixed effects<br>(omitted)         |  |                     |  |                     |
| N  | 395                                    | 395                 | 395  | 395                 |
| Adj R-squared                              | 0.56                                   | 0.65                | 0.62   | 0.67                |

\* p<.10; \*\* p<.05; \*\*\* p<.01 (two-tailed tests)

The reason for this, we argue, is that in the knowledge economy ruling coalitions systematically exclude the interests of outsiders.

To test the role of partisanship as a mechanism more directly, we substituted the Cusack and Fuchs cabinet left-right center of gravity variable for the institutional variables (with this exception, the setup is identical to the test described above). The detailed regression results are shown in Table 2. For the common shocks and deindustrialization models we find that government responsiveness to shocks declines as we go from left to right governments. The estimated parameter on the partisanship variable varies in a narrow band between  $-1.06$  and  $-1.19$ , depending on the exact specification. This means that the most rightist governments in our sample do not respond to adverse shocks at all in terms of increased spending on outsiders; in fact, for these governments the response is slightly procyclical.

The result is illustrated in Figure 6, which shows how the relationship between deindustrialization and government spending on outsiders varies with the partisan composition of the government (again, measured as period averages across countries). For governments that are among the 25 percent most leftist, the relationship is strongly pos-

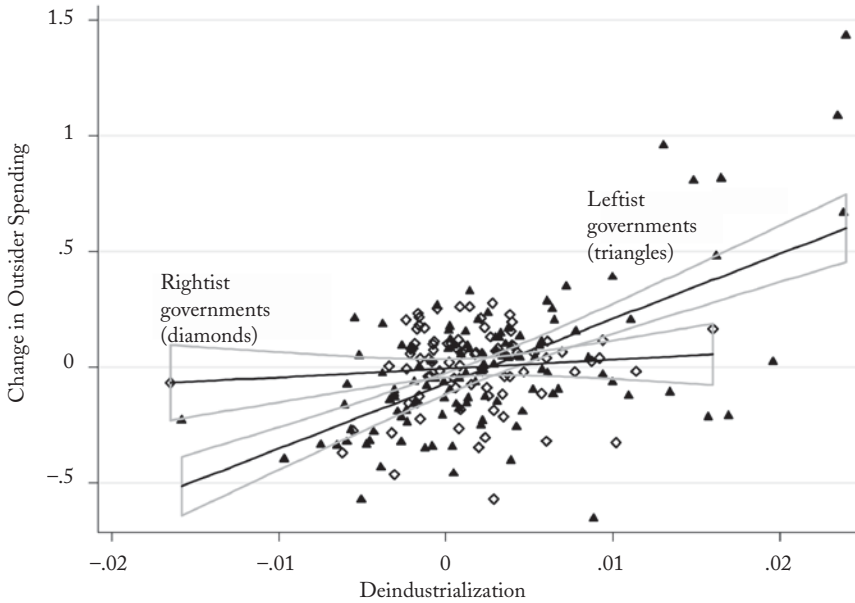


FIGURE 6

GOVERNMENT RESPONSES TO DEINDUSTRIALIZATION DEPENDING ON  
GOVERNMENT PARTISANSHIP: RESIDUAL PLOT WITH SPENDING ON OUTSIDERS  
AS DEPENDENT VARIABLE<sup>a</sup>

<sup>a</sup>The observations are the residuals from the deindustrialization regression in Table 2, where the institutional and deindustrialization variables were omitted. The lines are the best linear fits to partisan subset of residuals (with 95 percent confidence intervals). “Leftist governments” refers to the 25 percent of governments that are most left-leaning; “rightist governments” refers to the 25 percent of governments that are most right-leaning.

itive, whereas for governments that are among the 25 percent most rightist, the line is virtually flat. If we sampled from the more extreme tails of the distribution, the difference would increase and the latter relationship would turn negative. This shows the key role of government partisanship in mediating between shocks and government spending. Like Huo,<sup>69</sup> we conclude that partisanship continues to matter in the new knowledge economy. Our results do not show, however, that PR countries with governments dominated by center parties are no more responsive to outsider interests than majoritarian countries with more frequent participation of liberal and conservative parties.<sup>70</sup>

<sup>69</sup> Huo 2009.

<sup>70</sup> Among PR countries the correlation between the center of gravity measure and the share of center parties in government is .56.

## CONCLUSION

The end of Fordism and the rise in low-skill services at the low end of labor markets in the knowledge economy have undermined pre-existing solidaristic wage policies and inclusive coalitions in the industrial relations system. This development is associated with a decline in unions and coordinated wage bargaining as well as with a notable rise in wage inequality and dualism in the labor market. We suggest that policy responses to these problems reflect cross-national differences in economic and political institutions and the differences in political coalitions that they give rise to.

Thus in the knowledge economy, the alliance that used to exist between low- and high-skilled workers in the industrial relations system, which was heavily dependent on complementarities in the production system, has collapsed. Much of the difference in outcomes across countries, in terms of income inequality, insider-outsider divisions, and economic performance can now be accounted for by differences in the institutionally induced configuration of political coalitions.

In already deregulated liberal market economies, majoritarian political systems provide little incentive for political parties to redistribute to those who are hurt by rising wage dispersion and increasing risk. Rather, the political incentive in these systems is to concentrate benefits on the middle class. This focus creates high levels of inequality, both before and after taxes, but because labor markets are flexible, there are no pervasive insider-outsider divisions in the economy.

In continental European and Nordic countries, the common policy response has been to deregulate the labor markets for temporary and part-time employment. But as our results clearly show, there are notable differences in the extent to which such deregulation has been accompanied by compensatory transfers (unemployment benefits in particular) or policies to activate and retrain the un- and underemployed.

Beneath this contrast are important differences in coalitional politics. In countries with proportional representation and strong independent rightist parties, center-left coalitions that include potential outsiders are much more prevalent than they are in PR countries with weak rightist parties and strong Christian democratic or centrist parties. Without cross-class parties, the center and the left are both interested in excluding rightist parties that represent the largest taxable base. With strong cross-class parties, however, the possibility of center-right coalitions emerge as these parties in effect shift the right toward the center or the

center toward the right. This effectively excludes outsiders from political representation.

We have made a point of underscoring the political-institutional differences between the Nordic and continental European countries and the divergence in outcomes that these differences have given rise to. Yet, the experiences of Belgium and the Netherlands suggest that the differences are not immutable, and we see several future scenarios that might suggest more convergent policy changes.

One is that the coalition centered on core workers in continental European countries simply becomes too small to be electorally viable. This possibility is closely tied to the transformation of the traditional family and the possibility that women will vote against Christian democratic parties. Because it is much harder for women to commit to continuous careers than men, they are overrepresented among outsiders and many would potentially benefit from public policies that emphasize employment, general education, and retraining—as well as more accommodating family policies. Yet women face competing incentives to support policies that protect the jobs and incomes of the core skilled male labor force in so far as they are dependent on them through the household. Much therefore depends on the stability of the traditional male-breadwinner family in these countries. If women become seriously worried about their options outside the marriage due in particular to rising divorce rates and declining low-skilled wages, then the continental insider coalition may be harder to sustain.

A very different, and gloomier, prospect is the breakup of inclusive coalitions in the Nordic countries as a result of conflicts over immigration. There is an uneasy balance between a liberal immigration policy and a generous welfare system for those who are in low paying jobs, unemployed, or in otherwise precarious labor market positions. Since immigrants are disproportionately represented in this vulnerable group, they easily become targets of xenophobic political attacks from the right. Such attacks draw low-income voters away from the left and force social democratic parties toward the center and potentially into alliances with center-right parties. This suggests the possibility of a shift toward the right in the Nordic countries that may lead to less solidaristic policies in the future.

## APPENDIX

## PRAIS-WINSTEN PROCEDURE IN STATA NL PACKAGE

The NL package in STATA does not incorporate a Prais-Winsten option. We therefore used the following three-step procedure: (1) estimate our nonlinear model using STATA NL; (2) recuperate the residuals and estimate the first-order autocorrelation coefficient ( $\hat{\rho}$ ) from the residuals; and (3) use  $\hat{\rho}$  to make a Prais-Winsten transformation of the original dependent and independent variables and reestimate the transformed model using STATA NL.

We developed the following STATA code to perform the overall operation:

```
nl ( doutsider_spending =(1 + {pr}*pr + {weak_right}*weak_right ) * ( {y81}*y81
+ {y82}*y82 + {y83}*y83 + {y84}*y84 + {y85}*y85 + {y86}*y86 + {y87}*y87
+ {y88}*y88 + {y89}*y89 + {y90}*y90 + {y91}*y91 + {y92}*y92 + {y93}*y93 +
{y94}*y94 + {y95}*y95 + {y96}*y96 + {y97}*y97 + {y98}*y98 + {y99}*y99 +
{y00}*y00 + {y01}*y01 + {y02}*y02 + {y03}*y03 + {y04}*y04 + {y05}*y05 +
{y06}*y06 + {y07}*y07 + {y08}*y08 + {y09}*y09 ) + {aut}* aut + {aus}* aus + {bel}*
bel + {can}* can + {den}* den + {fin}* fin + {fra}* fra + {ger}* ger + {ire}* ire +
{ita}* ita + {jap}* jap + {nl}* nl + {nz}* nz + {nor}* nor + {swe}* swe + {uk}* uk +
{us}*us + { unexpected }* unexpected + {dautomatic_i} * dautomatic_i )
predict r, r ; sort ccode year ; gen r_t1=r[_n-1] ; corr r r_t1 ; gen rho = . ; recode
rho *=0.2476
gen doutsider_spending_t = doutsider_spending-rho*doutsider_spending
gen unexpected_t = unexpected - rho*unexpected
gen dautomatic_i_t = dautomatic_i - rho*dautomatic_i
gen y81_t= y81
replace y81_t =(-1)*rho if year==1982
gen y82_t= y82
replace y82_t =(-1)*rho if year==1983
gen y83_t= y83
(...)
gen y09_t= y09
replace y09_t =(-1)*rho if year==2010

nl ( doutsider_spending_t =(1 + {pr}*pr + {weak_right}*weak_right ) * (
{y81_t}*y81_t + {y82_t}*y82_t + {y83_t}*y83_t + {y84_t}*y84_t + {y85_t}*
y85_t + {y86_t}*y86_t + {y87_t}*y87_t + {y88_t}*y88_t + {y89_t}*y89_t +
{y90_t}*y90_t + {y91_t}*y91_t + {y92_t}*y92_t + {y93_t}*y93_t + {y94_t}*y94_t
+ {y95_t}*y95_t + {y96_t}*y96_t + {y97_t}*y97_t + {y98_t}*y98_t +
{y99_t}*y99_t + {y00_t}*y00_t + {y01_t}*y01_t + {y02_t}*y02_t + {y03_t}*y03_t
+ {y04_t}*y04_t + {y05_t}*y05_t + {y06_t}*y06_t + {y07_t}*y07_t +
{y08_t}*y08_t + {y09_t}*y09_t ) + {aut}* aut + {aus}* aus + {bel}* bel + {can}* can
+ {den}* den + {fin}* fin + {fra}* fra + {ger}* ger + {ire}* ire + {ita}* ita + {jap}*

```

jap+ {nl}\* nl + {nz} \*nz + {nor}\* nor + {swe} \*swe + {uk}\* uk + {us}\*us +  
 {unexpected\_t}\* unexpected\_t + {dautomatic\_i\_t}\* dautomatic\_i\_t ),  
 vce(robust)

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