Hollowed Out and Turned About: New Social Cleavages and Institutional Change in Advanced Democracies

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ABSTRACT

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This dissertation concerns itself with the negative effects of two structural economic changes in advanced industrial democracies, technological change and financialization on trade unions and how in turn labor market changes in interaction with existing political institutions affect the development of minimum wage policy and individuals' political affinities. I address these issues in four main chapters.

In Chapter 2, I develop a new theory of how technological change causes trade union decline. Following work in labor economics, which shows that automation eliminates middle-wage routine task jobs and causes employment growth in non-routine task high- and low-wage jobs, I find that decline in routine task employment is a robust predictor of decline in trade union density for 21 OECD countries. Using linked employer-employee data from Germany, I find that higher levels of heterogeneity in between-worker skill profiles at the firm-level and in between-firm worker skill profiles at the industry level are associated with increased probability of withdrawal and a lower percentage respectively of participation in collective agreements.

In Chapter 3, I argue that there should be a negative relationship between stock market development and various measures of trade union strength. Investors have a preference for lower labor costs and higher short-term profits and increased control over

management compensation enables them to realize these preferences. Using time series cross-sectional data for 21 OECD countries 1969-2008, I find that short-run increases in stock market development consistently associated with a decline in wage bargaining coordination and centralization, although less consistently associated with changes in union density and opening clauses.

In Chapter 4, I explain a counterintuitive fact about wage setting regulation: countries with the highest labor standards and strongest labor movements are among the least likely to set a legal minimum wage. This, I argue is due largely to trade union opposition. I argue that trade unions will oppose the legal minimum wage when they are strong, specifically when they have high levels of what I call *effective coverage*, a combination of workforce coverage and permissiveness of labor law for cross-union sympathy action. After demonstrating preference variation in line with the theory, I demonstrate the importance of effective coverage by showing how union minimum wage preferences responded to three labor market institutional 'shocks': the Conservatives' labor law reforms in the UK, the European Court of Justice's Laval ruling in Sweden, and the Hartz labor market reforms in Germany.

In Chapter 5, I examine how labor market rigidity affects the political affinities of those marginally employed, termed 'outsiders' in recent comparative political economy literature. I argue that outsider attitudes should vary as a function of two types of institutions, employment protection and spending on labor market policy, which worsen and improve outsiders' labor market opportunities respectively. Using data on trade union attitudes and party preferences for 27 OECD countries, I find that relative to non-outsiders, outsiders are less likely to have favorable attitudes toward trade unions and more likely to favor far-right parties in countries with higher labor market institutional rigidity, those in which the difference between employment protection and labor market policy spending is greater.

I conclude in Chapter 6 by briefly presenting a normative conception of economic regulation, which I term 'Social Protection as Social Balance.' While recent work on the growth of economic inequality has focused largely on the growth in wealth of the top 1% in various countries, I argue that we should be more concerned with declining labor market opportunities for lower-skills, lower-education individuals. Social Protection as Social Balance' argues for a dual approach to protecting the least well-off: continued vocational and education training to help improve the skills of those who would lose their jobs to structural changes and stronger trade unions to both help ensure that the negative distributional consequences of these changes do not fall entirely on the least well-off and to boost the wages of the jobs which remain.

Table of Contents

List of Figures

List of Tables

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to Giancarlo Doria.

Chapter 1

Introduction

Since the end of the postwar employment boom with the oil crisis in the 1970s, the political economies of advanced democracies have changed in a variety of ways. Economic growth, which while not interrupted since the end of the war, had largely been steady and strong, but began to decline. This led to the development of new tensions in labor markets (Rueda 2007). Inflation and then stagflation became problems, only to be brought under control in the 1980s with the rise of independent central banks.[1] Of perhaps even greater long-term consequence for employment were demographic changes, which began with the end of the baby boomer era in the 1960s. Birth cohorts decreased in size and women increasingly entered the labor market, which gave rise to demand for new types of social services, such as daycare and paid maternal leave and put strain on existing ones, such as old-age pensions and high replacement rate unemployment insurance (Esping-Andersen 1999; Häusermann 2010). Immigration became an issue of political concern, either for the first time, as in several western European countries, which had brought in guest workers to help rebuild their countries after the war and

[1] On the economic consequences and politics of central bank independence, see Cukierman (1992) and Alesina et al (1995).

now faced the challenge of integrating them or for the first time in several decades, as in the United States.[2]

In response to these changes and resultant fiscal burdens on the welfare state, many countries began to scale back on generous welfare state benefits and public employment (Clayton and Pontusson 1998; Korpi and Palme 2003). At the same time, many types of taxes were reduced, due both to demand from citizens and states' need to compete with each other to provide favorable conditions for capital (Swank and Steinmo 2002; Kato 2003; Ganghof 2006).[3] Although institutions to facilitate international trade were developed and expanded throughout the postwar period, this picked up dramatically in the 1980s, with increased access to developing countries and removal of trade barriers between developed countries (Irwin 2005). Perhaps of even greater impact due to its relative dormancy since the onset of the great depression was the redevelopment of global finance, with the end of the Gold Standard, technological change, and the reduction of capital controls (Quinn and Inclan 1997; Rajan and Zingales 2003). In the United States especially, financial services became a much greater part of the overall economy, both through the growing presence of global financial flows and equity markets, as well as traditional industrial firms' increasing reliance on profits from financial services as part of their business models. (Krippner 2012; Goldstein 2012)

At the same time, changes in production technology and sourcing strategies led to substantial changes in the labor market. Manufacturing employment, the core of post-

[2]The United States only relaxed strict national origins constraints on immigration imposed in 1920s (which heavily favored immigration from northern and western Europe) with the 1952 McCarran-Walter Act and especially a 1965 amendment to this, which were intended to loosen restrictions to immigration from southern and eastern Europe and Asia, but had the unintended effect of increasing immigration from Latin America. See Reimers (1983). On immigration and conflict in Europe, see Dancygier (2010).

[3]The empirical realities of taxation are very complex. Most authors agree that international competition has led to lower corporate taxes, but that tax decreases have been offset by tax increases in other areas, such as consumption (Kato 2003). Ganghof (2007) argues that within income tax, labor taxes in Denmark increased, but that capital taxes were lowered to balance this.

war economic growth and prosperity began to decline across western democracies in the 1970s (Western 1997). This likely had multiple causes. One, offshoring[4] has become more possible due to improved relations between countries and reduction of trade barriers. Two, technological change allowed the replacement of human-performed jobs with mechanized processes. Industrial production was very labor-intensive up until this period, as most tasks on an assembly line or in an office required human labor. Machines could aid human labor making it more efficient, but were not capable of replacing it. The model of mass industrial employment changed throughout this period, gradually at first with only limited possibility of mechanization of labor-intensive tasks but picking up with earnest in the 1980s and continuing through the present day (Katz and Margo 2014). This has affected both employment across industries, with a substantial increase in the size of the service sector relative to manufacturing and changed the skill mix which employers in western democracies democracies demand (Autor et al 2003; Goos et al 2014).

This dissertation concerns itself with the effects of these deep, structural economic changes on labor market institutions and labor market inequality. With these structural changes have come important changes to the labor market. Across western democracies there has been an increase in both non-voluntary part-time and temporary employment (King and Rueda 2008). In countries with relatively high employment protection, this translates into two-tier labor markets, where 'insiders' enjoy better wages and more stable working conditions in part at the expense of 'outsiders,' those who are seeking to find full-time employment (Rueda 2007). Even more concerning has been the loss of many formerly middle class jobs and the stagnation of wages in the middle and

[4]I distinguish 'offshoring,' the location of production in another country from 'outsourcing,' switching the supplier of a product or components of a production, but keeping production *within* the original country.

increasingly the high end of the wage spectrum in several countries, most notably the United States (Autor et al 2008).

This dissertation addresses two broad issues: 1) How structural economic changes affect economic collective action. I examine this by studying how two aspects, technological change and financialization have affected trade unions. 2) How loss of many mass employment occupations and decline of traditional organized labor interacts with existing political institutions to affect preferences for political wage setting intervention and political attitudes. The overarching idea across these papers is that structural changes affect underlying political and economic cleavages, which then affect support for political and economic institutions.

I address these issues in a four chapters. The first half of this dissertation consists of two chapters which respectively address a different explanation for the decline of trade unions in western democracies: 1) Technological change and its effect on coalitions of support for trade unions among workers and the power resources of employers 2) Financialization and its effect on the balance of power between employers/investors and labor. In chapter 2, I argue that technological change affects coalitions of support for unions because it reduces employment in 'routine task' occupations, which were very labor intensive and often concentrated workers in large workplaces. These workers had similar interests and wage demands, resulting in both high demand and capability for collective action. In chapter 3, I argue that financialization, which I operationalize as stock market development, has increased the number of external investors with a stake in the firm. These investors want increased firm profitability and given the increased tendency to pay management through stock options, they are able to exert greater control. One way to increase profitability is to economize on labor, which I argue should result in increased pressure on unions and union decline.

The second half of this dissertation focuses on political preferences in light of struc-

tural economic changes and the decline of trade unions. It also examines how domestic political institutions mediate these preferences. Chapter 4 examines the case of how these have affected trade unions' preferences for the statutory minimum wage. Many western European countries did not have a statutory minimum wage until the last two decades and I argue that this was in large part because trade unions opposed it. But as trade unions became weaker, they began to support the minimum wage and were able to use their political influence on key center-left political parties to introduce one. These preferences were however mediated by existing labor law; in Nordic countries, where labor law allows secondary strikes and employer blockades, unions remain opposed to the minimum wage. Chapter 5 examines individual political attitudes in light of a recent literature in comparative political economy: that labor markets in many western democracies have become divided into insiders, those with full-time employment and job security and outsiders, those who do not have but would like to have these. I study the attitudes of outsiders toward two potential political ally groups at opposite ends of the political spectrum: trade unions (working class allies) and far-right parties (exclusion/resentment allies). I argue that outsiders will be more likely to have positive attitudes toward the latter and negative attitudes toward the former, ie. will ally with the far-right and the politics of resentment rather than as part of a common working class where political institutions insulate working class insiders at the expense of full employment for outsiders.

In the concluding chapter 6, I present a brief argument for a normative conception of economic regulation, which I term 'Social Protection as Social Balance.' I argue that the purpose of social protection should be Rawlsian, ie. primarily concerned with improving the situation of the 'least well-off.' I limit myself here to the least well-off in the domestic labor markets of the countries examined here. While recent work on the growth of economic inequality has focused largely on the growth in wealth of the top

1% in various countries, I argue that we should be more concerned with declining labor market opportunities for lower-skills, lower-education individuals. While they may have experienced benefits to technological change and financialization as workers, they have taken a tremendous hit in terms of employment opportunities as workers. 'Social Protection as Social Balance' argues for a dual approach to protecting the least well-off: continued vocational and education training to help improve the skills of those who would lose their jobs to structural changes and stronger trade unions to both help ensure that the negative distributional consequences of these changes do not fall entirely on the least well-off and to boost the wages of the jobs which remain.

Before I summarize the chapters, I provide some background on one of the core issues which motivates much of the dissertation, but is not itself a central feature in any of the papers: the debate on the determinants of economic inequality in western democracies. Much of this literature focuses on the importance of labor market institutions, most notably trade union institutions and the minimum wage in explaining both within-country and cross-national trends in inequality. While there has been a good deal of work on the effect of labor market institutions on inequality and some on the impact of economic structural changes on labor market institutions, I believe that there has been insufficient focus on the mechanisms linking the economic structural changes to institutional changes. I provide here what I believe to be a better explanation and testing of some of these mechanisms.

1.1 Inequality and Labor Market Institutions

One of the primary reasons for interest in labor market institutions is for their importance in the regulation of income inequality. Although it is difficult to pinpoint cause and effect, due both to interrelationships between the variables and the possibility of

deeper causes being simultaneously responsible for them, there is a growing consensus that the decline of trade unions across countries and the decline of the real value of the minimum wage (in the United States) have contributed to the growth of income inequality. Inequality has featured much more prominently in political debates in recent years (especially following Occupy Wall Street) and academic work on growing inequality in advanced democracies has also proliferated.

In what has quickly become the canonical contemporary work on the topic, Thomas Piketty argues in his book *Capital in the 21st Century* (2014) that a central determinant of the growth of (wealth) inequality is the relationship between the rate of growth and the rate of return on capital. When the rate of return on capital is higher than the growth rate, ie. where $r > g$, wealth inequality will increase. Although some have criticized Piketty's explanation as not leaving sufficient space for institutions in explaining the growth of income inequality,[5] Piketty clearly believes that institutions play an important role, and spends a good deal of the book discussing the role of the decline of redistributive taxes in recent decades.[6] He notes that taxes and redistributive social policy are increased during and just after wars. Western democracies raise taxes to fund the war and after WWII, created an extensive welfare state which demanded high taxation.[7] These welfare state programs were popular and expanded in many cases for several decades, but then came under increased pressure with declining growth and demographic change. Declining growth and increasingly expensive programs led to a renaissance in (classical/neo-)liberal thought in the 1980s, with an emphasis on lower

[5]Acemoglu and Robinson (2015) in particular go after authors of "general laws of capitalism," into which they lump Piketty with Marx, for allowing "neither for a systematic role of institutions and political factors in the formation of inequality nor for the endogenous evolution of these institutional factors." (4)

[6]See also Piketty and Saez (2013) for a model of optimal inheritance taxes.

[7]See also Scheve and Stasavage (2010, 2012), which Piketty cites, on the relationship between general mobilization for war, taxation, and redistribution.

taxes to help stimulate business growth and reduction of welfare state programs to foster individual initiative and fiscal discipline. Taxes were lowered and growth began to increase (not necessarily a causal relationship), but one of the effects of policy changes during this period was that inequality increased. Piketty's (institutional) explanation for increasing r relative to g is that countries reduced their high postwar tax rates.

Although I believe that it is misguided to critique Piketty's work as ainstitutional, it is true that Piketty's institutional focus is limited in scope. He discusses taxation institutions and how they were established (although the discussion on the latter is limited), but hardly discusses labor market institutions, such as trade unions, the minimum wage, and job training at all. This makes sense given Piketty's focus; he is interested in explaining inequality in the long-run and while labor market institutions may be very important for recent trends in inequality, they were either very weak or nonexistent before the 20th century and thus cannot explain between-country or over-time variation during this period. But for recent decades, while Piketty may very well be correct about the deep structural relationship between the rate of growth, the rate of return on capital, and taxation, there are several other potential proximate causes of growth in inequality, which are more unique to the present day and likely an important part of any explanation of inequality growth.

Arguably among the most important institutions for explaining growth in income inequality are labor market institutions, including trade unions and wage bargaining institutions, and the minimum wage. As attested by numerous studies using a variety of types of data and empirical strategies, unions play an important mediating role between market forces and wage outcomes. A variety of work demonstrates the importance of both trade union structures and trade union membership as important determinants of inequality.[8] Additionally, there is a growing literature on the global decline of labor share

[8]On the negative relationship between wage bargaining coordination and wage inequality in country-

of income. Kristal (2010) shows that labor share of income has been declining in western Democracies since the 1980s and that declining union density and strikes are among the most robust correlates of this decline. Karabarbounis and Neiman (2014a) show that the decline in labor share of income is a global phenomenon, even for countries which are relatively rich in unskilled labor, in which Stolper-Samuelson trade theory would predict that increases in global trade should have benefitted *exactly* this group.[9]

The value of the minimum wage has also been very important for explaining trends in inequality, especially in the United States. While standard economic theory holds that establishing or increasing the value of the minimum wage will cause employers to economize on labor and either reduce employment or employ workers for fewer hours, potentially exacerbating inequality, there is little sound empirical support for this proposition (Dube et al 2010).[10] One of the foremost explanations for the increase in income inequality in the US in the 1980s was the declining real value of the minimum wage (Lee 1999). The minimum wage was not increased during the Reagan administration and its real value decreased substantially during this time. More recent evidence shows that the effect of the minimum wage is primary on lower-tail inequality (the 50/10 ratio), but appears to have spillovers to higher income deciles, where the minimum is nominally non-binding (Autor et al 2015).

In addition to their importance for the aggregate levels of inequality, labor market

level time series cross-sectional data, see Wallerstein (1999), Rueda and Pontusson (2000). Recent works finding a negative relationship between trade union membership and inequality using panel data include Rosenfeld and Western (2011) for the United States and Dustmann et al (2009) for Germany. For an attempt to estimate the casual effect of collective bargaining on wage inequality by instrumenting firm-level presence of a collective agreement in Germany with district-level religious affiliation and 1961 district union density, see Antonczyk (2011).

[9]Rognlie (2015) finds that the increase in ratio of capital to labor share in G7 countries is however driven almost entirely by returns to housing capital, rather than increases returns on investment capital as in Karabarounis and Neiman's account.

[10]Stigler (1946) argues that the minimum wage may actually increase employment if employers are monoposonistic, ie. face a tight labor market and can reduce wages without loss of potential employees.

institutions also likely matter for the shape of the distribution of inequality and for other types of inequality, such as employment inequality. A burgeoning literature in comparative political economy argues that labor markets in advanced democracies have become divided into 'insiders,' those with full-time, stable employment and 'outsiders,' those in part-time and/or temporary employment but are searching for full-time, stable employment (Rueda 2007; King and Rueda 2008). Between-country variation in the percentages of workers who can be classified as outsiders vary by types of welfare state and employment protection institutions. Long-term unemployment and unemployment falling particularly hard on marginal labor market groups (such as youth) tend to be higher in countries with greater employment protection for those already regularly employed and with fewer programs to help find regular employment for outsiders, most notably those in southern Europe (Häusermann and Schwander 2012).

Structural Economic Change and Institutional Change

I argue that labor market institutions are themselves endogenous to some of the deeper structural changes described above. Trade unions saw their first growth spurts in the early 20th century, but it wasn't until the Depression Era when many of the fundamental agreements on trade union status were established and wasn't until after World War II, the heyday of routine task manufacturing that trade unions became national powerhouses. The national agreements also established the primacy of unions in wage setting and in some cases, a very industrial action-friendly labor law, which allowed unions to gain control of wage setting across all economic sectors.[11] But with changes in economic

[11]Two of these important national agreements were the *National Labor Relations Act* (1935) in the United States, which created a process for legal recognition of trade unions applicable in all states and the *Saltsjöbaden Agreement* (1938) in Sweden, which established the system of centralized wage bargaining that persisted into the 1980s and several of unions' important legal rights.

structure has come erosion of the coalitions which supported trade union institutional growth in the first place (Thelen 2012). Chapters 2 and 3 detail how two of these changes, technological change and financialization have shaped the support coalitions for labor market institutions and changed the relative balance of power between the key actors.

Technological change has been of great consequence for labor markets and employment in advanced democracies. Improvements in computing power, which began to massively increase in the 1960s and 70s combined with the development of new software have revolutionized the working environment and the usage of human labor.[12] Jobs requiring the performance of routine tasks have been replaced by mechanized processes.[13] These jobs required a large number of similarly-skilled workers with similar wage demands and tended to be in the middle of the wage distribution. As a result of this mass similarity, there was a great deal of demand and capacity for collective action among workers. As computing power has increased and routine task employment has declined, there has been a polarization of employment, an increase in both high-skills, high wage jobs as the demand for technology production has increased and low-skill, low-wage jobs, as demand for services relative to other goods has increased.

I argue that this has adversely affected coalitions of support for trade unions. Whereas previously there was a mass of similarly-skilled workers with similar wage demands, often working in large workplaces, polarization has weakened the coalition of support for unions. While the number of low-skills workers has increased and, all else equal, their

[12]See Nordhaus (2007) on improvements in computing power over the past two centuries.

[13]'Routine' tasks are those which "can be accomplished by machines following explicit programmed rules..." including "many manual tasks...such as monitoring the temperature of a steel finishing line or moving a windshield into place on an assembly line...," but also cognitive tasks, such as "calculating, coordinating, and communicating functions of bookkeepers, cashiers, telephone operators, and other handlers of repetitive information-processing tasks." (Autor et al 2003, 1283-4). They key points are that these tasks are repeated and conceptually simple enough, such that they can be captured by an algorithm. They are not synonymous with 'simple' tasks for humans, like picking up and moving different sized objects or sensing movement with peripheral vision, which are incredibly complex and in many cases not yet possible to capture with algorithms.

demand for unions may have increased, the increased competition for these jobs due to the loss of mass routine task employment gives employers greater leverage over these workers. This shifts the balance of power for lower-skills workers in favor of employers and others looking to economize on labor.

The increased role of finance and financial actors in recent decades also has important implications for coalitions for trade union strength. The advent of 'shareholder value' as a guiding principle for firm management and the introduction of internationally-mobile investors into the employee-employer relationship focused largely on maximizing profitability and returns to themselves is particularly important.[14] Management compensation has increasingly come in the form of stock options, which incentivizes management to maximize profitability and thus their stock price. Investors will want to use this control to increase returns to themselves at the expense of wages and perhaps future investments in the firm.[15] Management is more beholden to investors and the balance of power shifts from labor to finance/management, as the latter has great ability to weaken the former through labor alternatives, such as robots/outsourcing/offshoring, etc. I argue that this greater focus on labor 'efficiency' for the sake of greater profits for shareholders should also affect unions. Management is incentivized to be tougher on unions, seeking more favorable collective agreements and if possible, breaking collective agreements altogether. Given the increase in labor alternatives, these threats have become more credible.

That trade unions have become weaker also matters for the politics of the minimum wage. One remarkable fact about the minimum wage is that it does not exist in some of

[14]While concern with stock price applies to publicly-held firms, investors in privately-held firms will also want to increase profitability, often with the goal of taking the firm public, which results in a massive windfall for the investors.

[15]Dallery (2009) argues that profit is hump-shaped with respect to growth. There is some g^* where the profit and growth curves meet, but shareholders will want the firm to limit itself to growth g^{**}, the (lower) growth level which maximizes profit.

the countries which are considered labor strongholds.[16] Another remarkable fact is that trade unions oppose the minimum wage in countries and at times when they are very strong. They want to keep monopolistic control over wage setting, as they believe that government intervention will lead to either or both 1) worse wage outcomes 2) erosion of workers' support and their bargaining position. As they become weaker, they begin to support introducing a minimum wage, which in turn generates support for this policy among center-left political parties. By weakening trade unions, structural changes such as financialization and decline of routine task employment have weakened trade unions and, I argue, led to greater trade union support for and passage of the minimum wage in several European countries.

1.2 The Dissertation in Summary

Part I: Economic Structural Change and Trade Union Decline

Part I of this dissertation focuses on two types of explanations for declining trade union strength. The case of trade unions is important because trade unions one of the most important intermediary institutions regulating wage setting for low- and middle-wage workers. Even workers who aren't covered by union contracts may benefit from the existence of unions, as union wages have spillover effects which drive up the wages of non-union workers, especially in firms where employers are trying to prevent unionization (Rosenfeld 2014). Many studies using a variety of methods have shown that trade unions reduce wage inequality at both the low-end (50-10) and high-end (90-50) of the

[16]There was no statutory minimum wage in The UK until 1999 or Germany until the beginning of 2015. There is still no statutory minimum wage in any of the Nordic countries, Austria, Switzerland, or Italy. See Figures C.1 and C.2.

wage distribution.[17] What I try to show in the subsequent papers is how automation and financialization create new coalition dynamics among workers, and between workers, employers, and investors, which in turn weaken unions.

I focus on these issues by studying both cross-national and within-country developments in trade union strength. Authors within the Varieties of Capitalism paradigm argue that unions should remain strong due to their role in promoting stable, long-term relationships between worker and employers and their role in workers' skill development (Hall and Soskice 2001). Both of these are essential to the functioning of Coordinated Market Economies (CME), which have a global comparative advantage in goods intensive in specific skill inputs. But according to several different measures of union strength, unions have become weaker across OECD countries, often substantially so. Union density in Germany began to decline in the 1980s at roughly the same time as in Liberal Market Economies like The UK and The US and has declined from a peak of 35.5% in 1978 to 18% in 2011 (Visser 2013).[18] Even in Sweden, union density has declines by over 20%, from a peak of 87.4% in 1994 to 68.9% in 2010 (Visser 2013).[19]

But even Hall and Soskice recognized that the CME tradeoff of stable labor relations for skill development is not impervious to changes in other political-economic institutions. They noted that financial development and the decline of stable, long-term financial relationships between banks and firms could adversely impact stable, long-term labor relationships.[20] If employers cannot count on stable, long-term financial

[17]The literature on unions and wage inequality is too long to cite in its entirety. A seminal early empirical work is Freeman (1980). For a review of the labor economics literature through the early 2000s, see Lemieux (2008). Notable recent works include Western and Rosenfeld (2011) for the United States based on the Current Population Survey and Dustmann et al (2009) and Card et al (2013) for Germany using linked employer-employee data.

[18]There was a temporary increase in union density after reunification, which resulted in a union density of 36% in 1991, but this quickly subsided. See Figure A.1.

[19]See Figure A.2.

[20]"...pressures stemming from the internationalization of finance...could force firms whose strategies and

relationships, they cannot commit themselves to long-term relationships with their employees. Hall and Soskice do not, however address the mechanism through which I propose this will occur: that the introduction of new financial actors into the employer-employee relationship will shift the balance of power between employees/unions and employers/financiers, where the latter have a greater preference for, and greater power resources to achieve returning a greater share of profitability to investors.

But beyond changes in management-labor relationships due to financialization, countries may continue to retain their comparative advantage in niche areas of production and still see changes in labor relations because the domestic labor inputs in these various areas do not remain constant over time. Two factors are especially important here: 1) technological change 2) offshoring/outsourcing. Technological change has reduced the labor intensity of much manufacturing production.[21] Greater global interconnectedness, aided by reduced barriers to trade and lower transport/communication costs enable employers to have certain tasks remotely performed in countries with lower labor costs. Gradual legal changes and operations improvements have allowed the development of within-country outsourcing of many non-core tasks to lower-wage-paying work agencies.

Chapter 2: Polarization and Union Decline

Technological change and offshoring have been the subject of much debate in explanations of the shifting composition of employment in advanced democracies in recent

structure have reflected responsiveness to a wide range of stakeholders, including employees, to become more attentive to shareholders and rates of return; and this might reduce their capacity to make credible commitments to long-term collaborative relationships with other firms and employees." Hall and Soskice, 60-1.

[21]For evidence that workplace computerization has affected the composition of employment in Germany, see Spitz-Oener (2006). For evidence that increasing computing power has decreased employment in routine task occupations across all of western Europe, see Goos et al (2014).

decades. There has been a great deal of recent innovation however in the study of technological change, offshoring, and employment composition change. Labor economists have focused their attention on codifying occupations by susceptibility to replacement through technological change or offshoring by focusing on the susceptibility of tasks performed in occupations to these.[22] A body of work argues that occupations rich in 'routine tasks,' conceptually simple, discrete tasks which can be easily codified as a set of algorithmic instructions and performed by machine are particularly susceptible to decline as computing power increases (Autor et al 2003, Goos et al 2014).

Regardless of which or if either of these is the underlying cause, one of the employment trends is striking: employment has increased in occupations at the bottom and top of the wage distribution, but decreased for those in the middle. Spitz-Oener (2006), who studied employment change in Germany, was the first to find evidence of 'labor market polarization,' an increase in employment in occupations which in the late 1970s and early 1980s were at the high and low-end of the wage distribution, but a decrease in employment in occupations in the middle of the wage distribution at this time. Goos and Manning (2007) found evidence for the same trend in The UK 1975-1999, as did Autor et al (2008) in the United States. Goos et al (2009, 2014) found evidence of the same across western European countries. All of these authors attributed this shift largely to a version of the technological change explanation of Autor et al (2003).

In this paper, I build a coalition theory of trade union decline based on the empirically-grounded assumption that technological change/offshoring disproportionately affected jobs which were in the middle of the wage distribution. These jobs required a large

[22]The seminal article on technological change and employment composition change, which develops a coding for routine tasks from American Dictionary of Occupational Titles (DOT) descriptions of the tasks performed in occupations is Autor et al (2003). Most subsequent work follows a similar approach and often uses the same coding. There have been several attempts at generating measures of offshoring. Blinder and Krueger (2013) generate measures from expert surveys, workers' self-assessments of offshorability, and workers' responses to questions intended to get at how offshorable their jobs are.

number of similarly-skilled workers with similar wage demands, typically concentrated in large workplaces. As a result of this mass similarity, there was a great deal of demand and capacity for collective action among workers. Automation of routine task jobs results in employment polarization, a decline in middle-skills but increase in low-skills and high-skills employment. I argue that this has adversely affected coalitions of support for trade unions. Whereas previously there was a mass of workers with similar interests working in close proximity, the workforce has become more polarized in skills and wage demands, weakening the potential workers' coalition of support for unions. As routine task workers lose their jobs, there is greater competition for remaining low-skills employment, as routine task workers who lose their jobs are less successful in searching in the high-skills labor market and end up largely competing for jobs in the low-skills labor market. I argue that further that between routinization and offshoring, routinization should be a stronger predictor of union decline as offshoring has more heterogeneous effects across skill/wage groups. Machinists' jobs can be offshored, but so can those of computer programmers and engineers. The latter can only minimally be replaced through technology as they are responsible for developing and implementing the technology.

I test two primary claims: 1) that decline in routine task employment predicts decline in union density 2) that in addition to replacement of unionized routine task jobs, occupational change also works via a mechanism of increasing heterogeneity in the distribution of workers' preferences for unions. I test the former claim using data on the task composition of occupations, occupational employment, and union density for 21 OECD countries 1969-2008 and find that a decline in routine task employment is associated with a decline in union density. Using a similar task-based measure of occupational 'offshorability' however, I find little consistent evidence that job offshoring is responsible for trade union density decline.

In order to test the further claim that employment polarization and greater between-skill group heterogeneity can explain deunionization, I use linked employer-employee data from Germany 1993-2007. I analyze these data in panel form at the firm-level and aggregated at the industry-level to address the issue of worker selection into firms and the possibility that between-firm heterogeneity is also important for aggregate participation at the sectoral level. At the firm level, I find that greater worker skill heterogeneity is associated with a greater probability of withdrawal from sector-level and firm-level collective agreements, but inconsistent evidence regarding routine tasks, offshorability, and collective agreement participation. I find similar results when I aggregate the data at the industry-level, with higher levels of between-firm skill heterogeneity being associated with lower participation in industry-level collective agreements, but with routine task employment and offshorability being predictors.

Chapter 3: Financialization and Union Decline

According to Hall and Soskice, the eclipse of stable relationship finance by more 'arms length' forms of finance, such as public equities listed on a stock market, may make employers less able to maintain long-term, stable labor relationships. Recent work on finance in comparative political economy shows that even traditional European big banks have become less willing to maintain long-term relationships with firms (Hardie et al 2013). Even the traditional 'patient capital' institutions have begun to act more like investors in Liberal Market Economies.

In my second paper, I develop this logic further and empirically examine the relationship between my proxy for financialization, stock market development (an average of stock market capitalization and the value of shares traded) and trade union strength. The major development regarding finance and labor is that investors have become much

more active players in the employer-employee relationship. Before financial innovation and globalization in the 1980s, it made sense to conceive of the employment relationship as having two main actors, the employer and the employee. Financialization introduces a new type of actor into the employer-employee relationship: the mobile, profit-seeking investor. The investor wants the employer, whom he appoints by having influence over the firm's board of directors, to increase profitability. Compensation has become more closely tied to stock performance. Managers must deliver 'shareholder value,' a greater share of profits to shareholder, or risk either being directly replaced by investors or making the company a takeover target (and then being replaced by investors). Although this can occur through many potential channels, one of the primary ways will be to 'rationalize' employment.

How would we expect this to affect trade unions? One way to rationalize labor will be to persuade management to either try and back out of collective agreements, or where this is not possible, to find ways to lessen the premia in collective agreements. Possibilities for directly attacking union membership include offshoring tasks to other countries or outsourcing labor to (non-unionized) temporary agencies. Instead of, or in addition to this, we might expect investors and management to turn to ways of cutting labor costs within sticky union contracts. One of the foremost examples of this in recent years is the increased presence of so-called 'opening clauses' in wage contracts, which enable management to deviate from wages and potentially other conditions in union contracts if the firm is facing hardship. These have become particularly commonplace in Germany (Eichhorst 2012), while in other countries, such as Sweden, collective agreements increasingly function as a minimum wage setting system, allowing substantial firm-level autonomy for wage setting at higher levels (Ahlberg and Brunn 2005). As equity investors' primary concern is firm-level profitability, we should expect them to be unfavorable toward arrangements which reduce firm-level flexibility over policy-making. Multi-firm

coordination of wage bargaining (at least when not in the presence of opening clauses) reduces firm-level flexibility in employment conditions by setting levels of pay across multiple firms. As a result, we should expect to see reduced participation in centralized collective agreements and decline in measures of wage bargaining coordination at the national level as financialization increases.

In order to examine these claims, I examine time series cross-sectional data for 21 OECD countries 1969-2008. As my measure of financialization, I use a country-year measure of stock market capitalization/GDP. To examine the possibility that financialization has differential effects on different types of union institutions, I study four different dependent variables: union density, presence of opening clauses in wage contracts, wage bargaining coordination, and wage bargaining centralization. Using error correction models to examine whether there may be differential short-run vs. long-run effects of financialization on the different union dependent variables, I find that the relationship between financialization and union density is typically negative, although inconsistently significant and that the relationship with opening clauses is typically positive, although consistently significant only in the short-run. The relationship between financialization and both wage bargaining coordination and centralization is negative and consistently significant in the short-run, but of inconsistent sign for both in the long-run.

Part II: Social Cleavages, Institutions, and Institutional Change

The first half of the dissertation focuses largely on the effects of structural economic changes on trade union institutions. But changes in trade unions institutions may also matter for trade union and individual preferences for wage setting and welfare state

institutions more broadly. As trade unions decline, their political clout will also decline and with it, mass organized support for redistributive social policy. Trade unions become more localized in their political efforts and can still have a substantial impact at the local level, but are weakened as a countervailing power at the national level.[23] To the extent that they continue to have influence at the national level, unions may pursue different types of policies than when they were strong. One example of shifting policy preferences, which I examine in chapter 4, is unions' preference for a statutory minimum wage. Trade unions have historically opposed the minimum wage in several European countries. But where they have lost their ability to set what they consider to be acceptable wages through autonomous wage bargaining, they have begun to support the minimum wage and have used their remaining political power to push labor-allied parties to implement one.

Structural change is often not however the only source of change in social cleavage structures and is often insufficient in itself for explaining these broader institutional changes. Institutions such as labor law, employment protection, and the welfare state also matter for this, as they influence interest groups' power resources, which in turn affect their policy preferences and have stratification effects on the labor market. The two papers in the second half of this dissertation also address the intermediary effects of political institutions on political preferences, both interest group preferences for the minimum wage and individual attitudes toward trade unions and political parties.

[23]See, for example Reynolds and Kern (2001) on trade union support for local 'Living Wage' Campaigns in the United States and Fine (2005) on the growth of 'community unions,' community-based organizations in American cities which focus on wages and working conditions for low-wage workers.

Chapter 4: Trade Unions and the Minimum Wage

One response of trade unions to their own decline may be a change in national political strategy. Certain first-best preferences, such as increasing unemployment insurance or public ownership of firms may become less feasible as unions become weaker, because they simply do not have the political leverage to attain these. As a result, unions may shift their focus to supporting a variety of types of 'second-best' policies, policies which they may not have supported when they were strong, but become increasingly attractive as they become weaker.[24]

One such policy is the statutory minimum wage. While we tend to think of the minimum wage as a 'labor friendly' policy, one of the ironies of western democracies is that the countries with the strongest labor movements have been among the only countries globally without a statutory minimum wage. I argue here that one of the primary reasons for the absence of a statutory minimum wage in these countries has been strong trade union resistance to it.

In this paper, I develop a theory of trade union support for the statutory minimum wage. I argue that trade unions oppose the statutory minimum wage when they have a high degree of what I call 'effective coverage,' a combination of membership/firm coverage and the scope for industrial action under the labor law. Unions which organize a high percentage of the workforce or have collective agreements with a high percentage of firms may not support the minimum wage, because their extensive membership and/or strong presence at establishments give them a more effective strike weapon, which will give them greater leverage in contract negotiations and allow them to set higher wages. The strike weapon may also be strong however if labor law allows unions to engage in

[24]See Mares (2000) on employers' support of contributory unemployment insurance in Weimar Germany as a 'second-best' option to no unemployment insurance, which they felt they could not get, but clearly better than union-administered 'Ghent' unemployment insurance.

solidaristic actions, such as sympathy strikes, where workers go on strike in support of striking workers in another workplace and employer blockades, where workers refuse to service a particular establishment or employer. These allow unions to join together to defend collective wage agreements.

Trade unions will however begin to support the minimum wage when their effective coverage declines or they foresee that it will decline, without reasonable expectation that they can reverse this trend. Using primary source material and interviews from Germany, The UK, and Sweden, I show that trade unions in Germany and The UK began to support the minimum wage as their effective coverage declined, while effective coverage remains high and trade unions still oppose the minimum wage in Sweden. Interestingly, the minimum wage created a cleavage between stronger and weaker unions in Germany and The UK, with the former opposing and the latter supporting it, a finding consistent with the 'effective coverage' theory. Secondarily, I argue and provide evidence that trade union positions on the minimum wage are a central determinant of closely-allied social democratic and labor parties' positions and willingness to pursue minimum wage legislation.

Chapter 5: Labor Market Dualization and Political Attitudes

In chapter 5, I examine how employment protection and welfare state institutions affect the distribution of employment security across the workforce and the consequences of this for political attitudes. There is a growing literature on the presence of labor market dualization in several western democracies. Because of growth slowdown in the post-oil crisis period, labor markets in several countries have become divided into well-protected 'insiders,' those with good jobs and a high degree of job security and 'outsiders,' those with less than full-time jobs and minimal job security trying to get into the regular labor

force (Rueda 2007). Recent work has shown that the presence of an insider-outsider divide varies as a function of existing political institutions (Häusermann and Schwander 2012). This divide is more pronounced in countries with a high degree of protection for the currently employed and less spending to help integrate the underemployed into the regular workforce.

I take these insights in a somewhat different direction from the existing literature, which focuses mostly on classifying insiders and outsiders, their policy preferences, and how political parties react to them. I focus on how institutions affecting employment integration affect potential political coalitions by studying outsiders' attitudes toward trade unions and far-right parties. The starting premise here is that disadvantage may trigger resentment among those harmed as a result of the institutional configuration toward those who benefit. I argue that where institutions prevent reintegration of labor market outsiders into the labor market, these outsiders will be less likely to have favorable attitudes toward trade unions, archetypical labor market 'insiders,' who will be seen as unfairly benefitting from the situation. While labor market rigidity may drive a wedge between working class insiders and outsiders, it may also push outsiders toward right-wing groups which feed on societal resentment. I capture this by examining outsider attitudes toward far-right parties. I posit that outsider political affiliation runs along a spectrum from an alliance with working class groups in countries with minimal labor market rigidity to affiliation with system-critical and anti-immigrant groups in more rigid countries.

In order to examine these propositions, I merge survey data from the European and World Values Surveys with information on political parties from the Comparative Party Manifestos dataset and country-level information on employment protection institutions and welfare state spending. I generate a unique coding for insiders-outsiders from information on survey respondent employment and household employment status in the

European and World Values Survey data. I argue that this measure is superior to previous codings, which are largely based on occupational unemployment as a proxy for risk of job loss and outsider status, as it accounts for both respondent and household employment status. Consistent with the theory, I find that in countries with greater labor market institutional rigidity, outsiders are more likely to have negative attitudes toward trade unions and more likely to support far-right parties than in countries with lower levels of labor market rigidity.

Part I

Economic Structural Change and Trade Union Decline

Chapter 2

Hollowed Out: Labor Market Polarization, and Trade Union Decline

2.1 Introduction

Trade unions are central intermediary actors in the labor markets of advanced western democracies. They reduce wage and income inequality[1] and working poverty (Brady et al 2013). Unions do not just affect the wages of those for whom they bargain; their bargained wages have spillover effects to non-unionized workers, often raising their wages as well (Rosenfeld 2014). Union structures matter for unemployment, with higher wage bargaining coordination across unions being associated with lower unemployment (Calmfors and Driffill 1988; Mares 2006). Furthermore, unions are critical political actors, perhaps the largest organized advocates for redistribution and liberal social policy (Hacker and Pierson 2010; Acemoglu and Robinson 2013). In addition to their influence at the national level, unions are often key actors in local politics, advocating for policies like living wages in cities (Kern and Reynolds 2001).

While there are few signs that trade unions are converging to a similar level of weak-

[1]See Wallerstein (1999) on the negative relationship between wage bargaining coordination and wage inequality for 15 OECD countries, Western and Rosenfeld (2011) on the negative relationship between union membership and wage inequality in the United States, and Dustmann et al (2009) on union membership and wage inequality in Germany.

ness across advanced western democracies, they have almost everywhere been transformed in a 'neoliberal direction' (Baccaro and Howell 2011). While some scholars within the Varieties of Capitalism paradigm hold that union decline should be limited to Liberal Market Economies, as production in Coordinated Market Economies relies heavily on specific skills employment, which in turn depends on training and stable employment regimes fostered by unionization, trade union density decline has occurred in both types of economies (Hall and Soskice 2001; Wood 2001). Figures A.1 and A.2 show trade union density, the percentage of workers who are trade union members for 16 OECD countries 1970-2010.[2] As we can see, union decline is pervasive, although the timing of decline has varied somewhat.

While a variety of explanations have been given for trade union decline, including trade and financial globalization, increasingly hostile politics, and deindustrialization, I argue that these previous explanations either cannot sufficiently account for cross-national variation in union weakening or lack a sufficiently well-developed micro-level explanation of how structural economic change either weakens the collective action capacity of workers to support unions or increases the power resources of employers to suppress unions. Following work on the effects of structural economic change on labor markets advanced western democracies, I refine the 'deindustrialization' hypothesis of trade union decline, that trade unions decline because heavily unionized occupations have disappeared in light of recent work in labor economics on technological change and 'labor market polarization.' I develop a theory of how technological change, via the differential impact it has on employment across occupations simultaneously weakens worker solidarity and capacity for collective action *and* strengthens employers with respect to workers who still have an interest in unionization. Recent work in labor eco-

[2]All figures and tables are collected in Appendices A-D, corresponding to chapters 2-5 in the body of this dissertation.

nomics has shown that deindustrialization is likely a symptom of a larger phenomenon of structural change in employment, as improvements in computing power allow for the replacement of human labor in 'routine task' occupations. These occupations were often heavily unionized as industrial production before the computer age was routine task-intensive and employers required many similarly-skilled workers performing these tasks. Because workers were of similar skill levels and often worked together in large numbers in centralized locations, it was easier for them to agree on and press management to recognize union representation.

But this shift in occupational employment suggests that there may be several possible mechanisms for deunionization. Two of the most noteworthy trends are that both occupational employment and wages have become 'polarized' with respect to occupational wages in previous generations. Both employment decline and wage decline have been greatest in occupations which were previously in the middle of the wage distribution, while employment and to a lesser extent wages have increased in occupations which were near the top and bottom of the wage distribution. This suggests that increased heterogeneity in the workforce, or more specifically in the wages that workers at different skill levels are able to command may be the source of an additional mechanism for deunionization. The relationship between routine task employment (RTE) and union membership may be due to the fact that high RTE occupations were the most highly unionized and that union decline is largely due to attrition in highly unionized occupations. New jobs may simply be less unionized for path dependent reason; it is easier for a union to remain organized in a workplace than to organize a new one. But deunionization might also occur because of changed preferences within different worker skill groups or change in the shape of the distribution of worker preferences across skill groups. Per this explanation, new jobs may be less unionized because the structure of the skill distribution and preferences for unions across workers or power resources of

management over workers are different.

If employment in middle-wage/middle-skills occupations declines, with new occupations being high-skill/high-wage-commanding or low-skill/low-wage-commanding, the workforce overall should become more heterogeneous in its demand for unions. High-skills workers may have lesser demand for unions as their skills are complimentary with new technology and they can individually command higher wages. Low-skills workers may have increased demand for unions to boost their wages, as they are more irreplaceable by than complementary with technology. But while low-skills workers' may still demand unions, there is increased competition for these jobs from those who have lost routine task jobs and do not have the educational or skill background to perform high-skills jobs. This gives employers greater leverage over these workers. Furthermore, high-skill workers' opposition to unions may be strengthened by the fact that under higher wage inequality, union redistribution from high-wage workers to low-wage workers will be greater than when the wage gap between the skill groups is smaller.

Given both important macro-level implications and the need for more fine-grained data to parse the micro-level mechanisms, I examine trade union decline using a combination of time series cross-sectional data and linked employer-employee firm-level data. Using data for 21 OECD countries 1969-2008, I show that routine task employment decline consistently predicts lower levels of trade union density. I examine a similar competing hypothesis, that job loss may be due to job 'offshorability' and find that this is at best a weak predictor of union density decline.

In order to parse out various hypotheses regarding worker skills, skill heterogeneity, and employer power, I examine two linked employer-employee datasets on German firms 1993-2007: 1) a firm-level panel dataset, where firms are observed for several consecutive years 2) a series of yearly cross-sectional datasets of firm-level data aggregated at the industry-level. I use these two approaches to account for two possibilities: 1) that

worker selection into firms biases firm-level results and 2) that the hypothesized mechanisms might operate between-firms instead of or in addition to between workers. In the firm-level regressions, I find that both that greater heterogeneity in worker skill profiles is associated with greater probability of withdrawal from both industry and firm-level collective agreements and that higher mean worker skills is associated with lower probability of withdrawal from both industry- and firm-level collective agreements. Both RTE and offshorability are inconsistent predictors of withdrawal from collective agreements, suggesting that deunionization is driven by worker heterogeneity and employer leverage over workers. When I aggregate the firm-level data at the industry-level, I find relatively robust evidence that higher within-industry, between-firm skill heterogeneity is associated with lower participation in collective agreements, suggesting that the heterogeneity mechanism may also operate at the firm-level.

2.2 Previous Explanations for Trade Union Decline

There have been a variety of explanations for trade union decline. One of the foremost has been that right-wing politicians have become more anti-union, in an attempt to reduce unemployment and inefficiency in the labor market (Brady 2007). The most famous examples of this are the United States, where Ronald Reagan fired striking air-traffic controllers in 1981, which began an anti-union turn in American politics and the United Kingdom, where Margaret Thatcher's Conservative Party passed far-reaching union reforms in the 1980s, removing much of unions' strike immunity and implementing more stringent conditions on union votes.[3] It is not clear, however that this explanation travels

[3]Studying plant-level union recognition elections in the United States, Tope and Jacobs find that union certifications were lower under Republican presidents, when conservatives were appointed to the National Labor Relations Board. See Tope and Jacobs 2009. On UK labor law changes, see Addison and Siebert 2002.

well to other western democracies, which tend to be governed by coalition governments and have not experienced such harsh attacks on trade unions.

A second explanation is that greater global interconnectedness, whether through reduced barriers to trade or foreign direct investment, allows western firms to circumvent the wage demands of unions by moving production to lower wage countries. Choi argues that foreign direct investment has 'threat effect' on union wage premiums (Choi 2001). Employers can threaten unionized employees with offshoring, which will pressure unions to relax their wage demands in order to preserve these jobs. Using industry-level data from the United States, Slaughter finds that union decline was greater in industries which experienced greater inward foreign direct investment (Slaughter 2007).[4] On the other hand, the evidence has been very mixed for the relationship between either trade flows or capital mobility and union decline (Scruggs and Lange 2002; Lee 2005).

A third type of explanation which has received substantial attention is the changing nature of economic production in advanced democracies. Previous work shows that a large percentage of union decline is due to employment decline in heavily-unionized industries (Hirsch 2008; Lee 2005). Per this explanation, unions decline due to attrition; when a unionized job in industry is lost, it is replaced by a non-unionized job outside of industry. But while much of the decline in union density can be attributed to decline in employment in heavily-unionized industries, there has also been a decline in unionization within heavily-organized industries, such as manufacturing.[5] This suggests that there may be more to explaining union density decline than just employment shift away from industry. Furthermore, this line of argument cannot explain *why* new types of jobs are less likely to be unionized than those in manufacturing.

[4]See also Lee 2005.

[5]See Western (1997); Wallerstein and Western (2000). Against this thesis, Western (1997) also argues that manufacturing decline began in the 1970s, a period in which union density was increasing in almost all advanced democracies.

There are however more sophisticated versions of the deindustrialization argument, which recognize that there are differing levels of complementarity between new technology/production methods and different skill groups of workers and that this has implications for between-skill group solidarity and union strength. Pontusson and Swenson and Iversen argue that the rise of 'diversified quality production,' the diversification of mass industrial production into multiple niche sub-industries with technological change in the 1970s and 1980s necessitated greater connection between individual or team performance and rewards (Pontusson and Swenson 1996; Iversen 1996). This put strain on highly-centralized wage bargaining systems, most notably that in Sweden because centralized bargaining led to wage compression between high-skills workers producing high-tech goods competitive in the global market and sheltered domestic workers, especially those in the public sector, whose wage increases were not matched by increased revenue and strained the rest of the economy.[6] Labor economists have incorporated Skill-Biased Technological Change (SBTC), that benefits to technological change linearly increase with workers' skill levels into theories of trade union decline. Dinlersoz and Greenwood (2012) argue that skilled workers are more heterogeneous than unskilled workers and thus will be less likely to form unions while Acemoglu et al (2001) argue that technological change improves the non-union option for skilled workers, removing their incentive to form a coalition with unskilled workers to support unions.

Recent work in labor economics has shown however that SBTC presents a misleading picture of the effect of technological change on employment. In a seminal 2003 paper, David H. Autor, Frank Levy, and Richard J. Murnane (ALM) develop a 'task-based

[6]Using a formal model, Wallerstein (1990) develops the logic of benefits under centralized wage bargaining, showing that when workers are compliments in production, a wage increase by any single union reduces shareholders' optimal level of investment. This in turn decreases the wages of all workers. Centralized wage setters choose wages below the equilibrium of decentralized wage setting. But when workers become less complimentary in production, high-skills workers have less incentive to participate as their future wage gains are less dependent on low-skills workers.

approach' to labor markets, arguing that adoption of computing technology in recent decades has led to a decline in employment in occupations rich in performance of discrete, repetitive 'routine' tasks, which were central in many manufacturing and clerical jobs (Autor et al 2003).[7] In task-based models, tasks rather than worker skills are the fundamental inputs of production. Employment trends and the evolution of the wage distribution are functions of supply and demand of tasks, which are affected by workers' skills and technology (Autor 2013).

The problem with SBTC regarding trends in employment and wages is that it predicts linear wage and employment increases with skill. This does not correspond with actual trends, which have been U-shaped across previous occupational wages, ie. employment and wages in middle-wage occupations have been declining while those in both low- and high-wage occupations have been increasing. Additional work inspired by ALM has found that routine manual and cognitive task occupations were heavily concentrated in the middle of the wage distribution in the late 1970s and early 1980s and that there has been both employment polarization, with employment increasing for occupations at the top and bottom of the early 1980s wage distribution but declining for those occupations in the middle and wage polarization, with wages also increasing for occupations at the top and bottom of the early 1980s wage distribution but declining for those in the middle. A variety of papers have found similar polarization trends across OECD countries.[8]

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[7] According to ALM, a task "is routine if it can be accomplished by machines following explicit programmed rules." This includes "many manual tasks...such as monitoring the temperature of a steel finishing line or moving a windshield into place on an assembly line," but also cognitive tasks, such as "calculating, coordinating, and communicating functions of bookkeepers, cashiers, telephone operators, and other handlers of repetitive information-processing tasks." (1283-4). They contrast these with non-routine manual (janitorial services, truck driving) and cognitive (medical diagnosis, sales, management) tasks and abstract tasks (programming, engineering), which tend not to be divisible into a set of discrete, repetitive steps and cannot yet be written as algorithms and performed by machines. See also Acemoglu and Autor (2011); Autor (2013).

[8] For evidence of employment and wage polarization in the United States, see Autor et al (2008); Autor and Dorn (2013). For Germany, see Spitz-Oener (2006). Goos and Manning (2007) find evidence of employment polarization but monotonic wage increases for Great Britain. For an analysis of 16 western

2.3 Technological Change, Worker Heterogeneity, and Union Decline

Labor market polarization suggests that there may be multiple possible mechanisms for the relationship between technological change and deunionization. It is consistent with a story in which unions decline because the most heavily unionized occupations were also those richest in routine tasks and that unions declined largely through attrition. But it is also consistent with a collective action story, whereby decline in routine task jobs in the middle of the wage distribution leaves a polarized work force with two groups very different in their ability to make wage demands and less willing to act in solidarity: a low-skills group with members whose jobs cannot yet be replaced by technology but cannot command high wages and a high-skills group with members whose job tasks are complimentary with technology and which can command high wages. Even if deunionization is largely due to loss of jobs in heavily unionized occupations, we still need an explanation as to *why* the new jobs created at both the low and high end of the wage/skill spectrum are less likely to be unionized.

This 'hollowing out' of the middle part of the wage distribution may have also affected either individual preferences for unionization and/or the distribution of preferences for unionization across the wage/skill spectrum. High and low-skill groups should have different preferences for unions, which level wages both across and within skill groups, and between-firms in multi-firm agreements (Freeman and Medoff 1984). Labor market polarization increases a cleavage between low- and high-skills workers over increases in productivity vs. greater wage equality. New technology increases both demand for programmers and engineers, who create and maintain new technology, as well as for personnel and business managers to manage what are often more compli-

European countries, see Goos et al (2014).

cated production networks. This gives these workers a great deal of individual wage bargaining power and they may have little desire to be represented by unions. Low-skills workers will likely have relatively high demand for unions as their wages are relatively low and while they are not (yet) replaceable by technology, they are also not individually as necessary to realize gains from improvements in technology.[9] These differences in preferences based on the respective groups' individual characteristics given technology would suggest greater difficulties in achieving collective action between them.

But beyond creating groups of workers with diverging preferences for unionization, labor market polarization should create a cleavage between low- and high-skills workers over between-group redistribution. As distance between workers in commanded wages increases, they should be less likely to agree on union representation, which would redistribute between the groups. Low-skills workers will want wage redistribution, but high-skills workers will not and know that they have high individual bargaining power outside of a union setting.[10] Furthermore, as the skill 'gap' between groups becomes wider, redistribution has more 'bite' for high-skills workers. As demand for their skills and their wages increase due to their importance for developing and operating new technology, the wage gap between high-skills and low-skills workers increases and, assuming that redistribution raises the median wage toward the mean, the amount that is redistributed from them to low-skills workers increases. In other words, the greater the difference between the skill groups in their ability to command wages, the greater the

[9]Frey and Osborne estimate however that 47% of US employment will be susceptible to job loss due to technological change in the next few decades, mostly in low-wage/low-skills jobs (Frey and Osborne 2013).

[10]High-skills workers may however be able to agree on union representation when they are in workplaces with largely other high-skills workers, as there would be less concern about redistribution. So in contrast to the theory of Acemoglu et al, in which high-skill workers do not want to unionize, in this setup they only oppose unionization when they would have to form a union with low-skills workers. This can make sense of the fact that collective bargaining institutions have been quite stable among firms in the core German manufacturing industries, which tend to employ relatively high-skills workers. See Thelen (2014).

degree of wage redistribution between them and the more averse the high-skills group should be to a redistributive institution.[11]

If low-skills employment is increasing, shouldn't this increase demand for union representation among these workers? This may be the case, but workers' preferences for unions do not automatically translate into union representation. With the elimination of middle-wage, routine task jobs, formerly routine task-performing workers increasingly compete with low-skills workers for low-wage jobs, creating a pool of reserve labor and suppressing wages in these jobs. Polarization creates a collective action problem for non-high-skills workers because although all would benefit from union representation, the tight labor market requires that they take whichever job they can get, shifting power to high-skills workers and especially employers.[12] The tighter labor market gives employers greater leverage over low-skills workers, making it easier for them to respond to threats of unionization in a muscular way.[13] Low-skills workers will often be willing to trade union representation and higher wages for greater job security. And although the demand for low-skills workers in service professions has increased, the supply of

[11]That greater between-group inequality is associated with less redistributive spending operates through a similar mechanism and has been the subject of much recent work in political science. See Baldwin and Huber (2010) on between-ethnic group inequality and lower public goods spending and Lupu and Pontusson (2011) on the skew between upper- and lower-tail inequality and redistribution in OECD countries. Most similar to this study, Ahlquist (2010) argues that between-union resource inequality impeded the development of centralized wage bargaining in OECD countries.

[12]Acemoglu and Autor (2011) argue that "it appears plausible that in practice, medium skill workers previously performing routine tasks are a closer substitute for low skill workers employed in manual and service occupations than they are for high skill workers in professional, managerial, and technical occupations. Indeed the substantial movement of medium skill high school and some college workers out of clerical and production positions and into service occupations after 1980 may be read as prima facie evidence that the comparative advantage of middle skill workers (particularly middle skill males) is relatively greater in low rather than high skill tasks." (64). See also Jaimovich and Siu (n.d.) and Autor (2013) on transition of routine task workers to low-skills rather than high-skills jobs.

[13]This need not be as straight-forward as employers threatening workers directly with job loss if they vote for the union, which, at least in the United States, is illegal under the National Labor Relations Act. Under the NLRA, employers can have information 'meetings' with employees about the potential costs of unionization, and can then mention potential operating cost problems.

workers competing for these positions has also increased and because it appears that the increase in supply of workers has outpaced the increase in demand, these workers have reduced collective action capacity.[14]

There is a meta-story underlying this explanation, which is that the state of production technology shapes the demand for skilled labor, and that the distribution of the demand for labor across skill groups affects the probability of solidaristic collective action. Technological change before the computer era was beneficial for unskilled labor in that it actually *increased* the demand for unskilled labor, which combined with production being typically concentrated in large workplaces, created conditions fairly conducive to collective action among unskilled workers. Economic historians have noted that unskilled workers were among the greatest beneficiaries of the industrial revolution, as the combination of capital and unskilled labor substituted for skilled labor (Katz and Margo 2014). One-man artisan jobs became jobs for dozens of people, each performing specific, repeated tasks. The reliance on unskilled manpower for existing tasks declined somewhat with the transition to electricity, but the progression of industry and the development of fordist production methods meant that many new types of unskilled, routine task jobs were required (ibid). Fordist production was unskilled-labor-friendly in a collective action sense. There was high demand for unskilled workers and because the skill differentials and wage demands between them were relatively low, they had a great deal of collective power and were able to develop and support strong unions. But with massive improvements in the power of and decline of the cost in computing, technological change over the past few decades became unskilled labor-replacing, as opposed to complementing (Frey and Osborne 2013).

[14]While pressure on low-skills workers has increased, wages have risen in recent decades in many low-wage occupations. This may be explained in part by employers' willingness to trade wage increases for unionization, which has substantial historical precedent.

From this discussion come three hypotheses: the first is a general hypothesis about the relationship between routine task employment and union strength. It can be tested in cross-national data, but does not distinguish between the various possible mechanisms underlying the relationship. The second hypothesis concerns how increased skill heterogeneity emanating from labor market polarization raises high-skills workers' concerns about the redistribution costs of unionization and decreases their willingness to support unions out of solidarity with low-skills workers. The third hypothesis concerns the respective skill groups' capacities to unionize, net between-skill group heterogeneity. High-skills workers in a homogenous work setting should have greater ability to unionize than low-skills workers because they are less individually replaceable and thus have greater bargaining leverage with management.

H_1: *Higher levels of routine task employment (RTE) will be associated with higher levels of union density.*

H_2: *Greater between-worker skill heterogeneity will be associated with lower probability of participation in collective agreements.*

H_3: *Mean worker skill levels will be associated with higher probability of participation in collective agreements.*

2.3.1 Offshoring

A competing task-based explanation for employment change is 'offshorability,' the idea that certain job tasks can be offshored because they require little face-to-face interaction with customers and/or are not site-specific.[15] Many tasks which can be automated can

[15]Blinder and Krueger (2013) define offshorability as "The ability to perform one's work duties (for the same employer and customers) from abroad." (S97).

also be offshored. For offshorable jobs, employers have increased ability to 'threaten' workers with job loss, which can in turn put downward pressure on union wage premia, making unions less attractive to workers and deterring them from joining, or making them reluctant to support plant unionization. Recent approaches to coding task offshorability include that of Blinder and Krueger, who use three approaches: (1) a survey-based measure asking workers about the difficulty of performing their work in a remote location, (2) a worker questionnaire asking about the nature of their work to classify it as offshorable, and (3) a professional coder-generated measure based on job tasks (Blinder and Krueger 2013). Firpo et al (2011) classify occupations' task content using O*NET, an updated version of the Dictionary of Occupational Titles codings used by ALM for five dimensions: information content, automation, on-site job, face-to-face, and decision-making. Jobs scoring highly in 'On-site job,' and 'face-to-face' are considered high in offshorability.

What should we expect regarding the respective importance of task automation versus task offshorability as explanations for trade union decline? Recent work on employment composition change has shown that offshoring and automation have differential effects on the composition of employment. Offshoring reduces employment across the skill spectrum, while automation results in employment polarization (Autor et al 2014). Many routine task jobs could be potentially offshored as well as automated, but many high-skills jobs, such as engineering and computer programming can be offshored but are less affected by automation. The distribution of offshorability should skew more toward higher-skills jobs which were less likely to be unionized in the first place. Nevertheless, there is still fairly strong reason to believe that the loss of offshorable jobs may adversely affect union density.[16]

[16]This argument mirrors that between Iversen and Cusack (2000) and Rodrik (1998) on technological change vs. trade as determinants of welfare state spending.

H_4: *Higher levels of Offshorability will be associated with higher levels of union density.*

2.4 Cross-National Analysis

In order to mediate between the two task-based explanations of trade union decline, I use time series cross-sectional data for 21 OECD countries 1969-2008. The focal variables in this analysis are country-year measures of the task content of occupational employment, measured by 'routine task intensity' and 'offshorability'. In order to construct these, I use two data sources: information on occupational employment by country-year for 9 1-digit ISCO occupations comes from the LABORSTA database[17] for the years 1969-2008[18] and data on the task content of occupations from Autor et al (2003) and Goos et al (2014).[19] In order to construct the 'routine task intensity' of occupations, Autor et al relied on codings of occupations for five types of tasks (routine abstract, routine manual, service, non-routine abstract, non-routine manual), which they derived from the Dictionary of Occupational Tasks (DOT) for American census occupations. Their routine task intensity measure is a difference between the occupation's level of routine tasks (such as 'finger dexterity' and 'set limits, tolerances, and standards') and the sum of abstract and manual tasks. The offshorability measure was developed by Goos et al and is based on three different codings: Blinder and Krueger's (2013) survey-based measure, Firpo et al's (2011) O*NET measure, and a measure created by the authors

[17] http://laborsta.ilo.org/

[18] The ILO occupation data comes largely from country reports on yearly occupational employment. Some countries have a substantial amount of missing employment data. Employment data is only available for France 2002-2007, Italy 1992-2007, Germany 1992-2007, Switzerland 1991-2007, and the UK 1991-2007. Additionally, many countries changed their classification system for reporting occupational employment in the 80s and 90s, going from the ISCO-68 system, which had 7 1-digit occupational categories to the ISCO-88 system, which has 9. I generated a simple crosswalk to convert ISCO-88 occupations into ISCO-68 occupations.

[19] These task content data are at the 2-digit ISCO level. I collapsed the 2-digit categories into the ISCO 1-digit categories in my employment data by averaging the 2-digit scores within each 1-digit category.

from reports on actual instances of occupational offshoring in different industries from the European Restructuring Monitor. For each country-year, I create scores for these variables **RTE** and **Off** by weighting each 1-digit occupational category's share of total employment by its routine task intensity and offshorability, which I then standardize and center. Higher RTE and Off scores indicate that the share of employment in routine task/offshorable-intensive occupations is higher.[20]

Data on the dependent variable, union density and union institutional variables come from the ICTWSS database (Visser 2013). These include wage bargaining coordination (**Coor**) and presence of works councils (**WrkCn**), which Scruggs and Lange (2002) find stabilize union density. My primary control is for percentage of employment in industry (**IndPerc),** as I argue that specifically routine task employment, whether in industry, clerical, or other occupations will be associated with a decline in union density. I include controls for political party cabinet control (**Party**), a variable coded 1-5 indicating the share of cabinet positions controlled by left parties, which Brady (2007) argues should be positively associated with union strength and a dichotomous variable federalism (**Fed**), which may decrease unions' ability to broadly organize.[21] Outward foreign direct investment (**FDI**) may weaken unions by allowing employers to threaten offshoring, thereby causing them to engage in concession bargaining and weakening workers' desire to pay dues (Choi 2001; Slaughter 2007). Higher levels of trade (**Trade**) and capital account openness (**Kmob**) reduce barriers to selling products produced in other countries in the domestic market, which may also encourage employment offshoring. Under high levels of unemployment (**Unemp**) workers may be more willing to take any available job, whether or not it is covered by a union contract and union members may drop out

[20]Two drawbacks of the task-based approach is that there is likely to be a good deal of within-occupation task heterogeneity and that the job content measures on which the DOT and O*NET are updated infrequently. See Spitz-Oener (2006); Autor and Handel (2013).

[21]These variables come from the Comparative Political Dataset (Armingeon et al 2012).

to avoid paying dues.[22] I also include a control for whether the country has a union-controlled Ghent system of unemployment insurance (**Ghent**), in which participation in unemployment insurance is tied to union membership, as Western has shown that countries with Ghent systems have higher union density (Western 1997). I also include a control for immigration inflows (**Imm**), which Lee finds to be negatively correlated with union density (Lee 2005) and total employment (**Emp**), which Wallerstein (1989) argues should reduce optimal union density. Finally, I included a control for percentage of total employment in the public sector (**PubEmp**), as the government is insulated from market forces and public sector employees can use political power to elect their bosses.

This results in an unbalanced panel of 21 countries 1969-2008, as the employment data are not available for some countries until the late 1980s or early 1990s. These data present a series of concerns. A Wooldridge test for autocorrelation on my preferred specification could not reject the null hypothesis of no autocorrelation in the data. Unit root tests could not rule out non-stationarity in at least one of the panels. Given these, as well as substantial country differences in union density levels due to developments prior to my period of study, I use country fixed effects models, with panel corrected standard errors and a Prais-Winsten transformation to address autocorrelation. I regress first differences of the dependent variable, union density first on contemporaneous first differences of the covariates (Table A.1) and then on first differences lagged by one year (Table A.2). I include an additional model where I include fixed effects for five-year windows (1969-74, 1975-79,...,2005-2008) to address the possibility of period effects (Table A.1, Column 7; Table A.2, Column 7). The estimating equation for the basic model with contemporaneous covariates is:

[22]Data on trade flows, capital account openness, GDP, and unemployment come from the Comparative Welfare States Dataset (Brady et al 2014).

$$UD_{it} = \beta_0 + \beta_1 RTE_{it} + \beta_2 Off_{it} + \mathbf{X}_{it}^{'}\beta_3 + \gamma_i + \epsilon_{it} \tag{2.1}$$

where UD_{it} is union density for country i in year t, β_0 is a constant, β_1 an estimate of the relationship Routine Task Employment and union density, β_2 for employment offshorability, $\mathbf{X}_{it}^{'}$ a vector of control variables, γ_i a series of country fixed effects, and ϵ_{it} a country and year-specific error term. Per H_1, β_1 should be positive, while β_2 will be positive if H_4 is correct.

2.4.1 Results

Table A.1 presents regression results of union density on contemporaneous values of the covariates. Models 1-3 include percentage of employment in industry with just RTE, then just Offshorability, and then both. In both Models 1 and 3, β_1 is positive and significant, with a one standard deviation increase in RTE associated with 16-20% higher union density. β_2 displays the correct sign in model 2, but this flips in model 3. Neither is significant, suggesting that employment offshorability is not a primary driver of the decline in union density. The results are very similar when I add controls to these three models (models 4-6). The magnitude on RTE drops somewhat, but it remains highly significant. Offshorability again displays inconsistent signs. Among the controls, public employment and the Ghent system are positive and significant, consistent with previous work. Trade and capital mobility consistently display a negative sign and the latter is often statistically significant, suggesting a stronger negative relationship between trade and union density than in several previous works on union density. I do not find a consistent relationship between cabinet partisanship and union density. Higher levels of unemployment are associated with higher levels of union density, suggesting that

strong trade unions may either introduce rigidity into the labor market or successfully shield their members from unemployment, consistent with work on insider-outsider labor markets (Lindbeck and Snower 2001).

Table A.2 presents the same regressions, except that the covariates are lagged by one year to help address both reverse causality between the independent and dependent variables and the possibility that there is a lag in the effect of the independent variables. For the main variables, the results are quite similar. **RTE** is always positive and significant, while **Off** is consistently positive, but often with insignificant coefficients of very small magnitude. The relationship between the three globalization variables, FDI, capital mobility, and trade and union density is again consistently negative and the latter two are consistently significant, suggesting that although employment offshorability may not drive deunionization, actual trade and capital flows might. The results for public employment and the Ghent system are similar, while the insignificant coefficient for unemployment suggests that union members may be insulated from unemployment.

2.5 German Firm-Level Analysis

In order to investigate the underlying mechanisms, I turn to firm-level data from Germany. This study uses two datasets: the linked employer-employee LIAB cross-section model, version 2 and the LIAB longitudinal model version 2 (both 1993-2007) from the Institute for Employment Research (*Institut für Arbeit und Berufsforschung*, IAB). Data access was provided via on-site use at the Research Data Centre (*Forschungsdatenzentrum,* FDZ) of the German Federal Employment Agency (*Bundesministerium für Arbeit,* BA) at the IAB in both Ann Arbor, Michigan and Berlin, Germany. This cross-sectional model consists of the IAB *Betriebspanel* (Establishment panel), a yearly survey of between 4,500 and 16,000 firms asking questions on firm performance, employment, training, etc. and

social security records drawn for each of the firm's employees each year on June 30, containing information on sex, level of school completion, and occupation. Firms are selected in a stratified random sample according to industry, federal state, and size.[23] Reporting the individual data is compulsory for employers, allowing creation of full firm-year profiles of the characteristics of a firm's workforce. The longitudinal version of the dataset draws yearly individual biographies for firms which are present in most or all 15 years of the firm survey, allowing for the creation of a panel dataset of firms.

In Germany, firms make the decision whether to participate in collective agreements, primarily by being a member of an employers' association which signs typically one industrial/regional collective agreement with a major trade union.[24] Although the choice is made by the employer, I assume that this choice is a function of employer and worker preferences and power resources. There are two types of collective agreements: industry-level and firm-level. Figure 3 shows the percentage of firms covered by each of these and with no collective agreement. Industry-level agreements, which are typically signed at the regional level (typically federal states) set pay grades for different types of work. These can be exceeded, but firms cannot pay below these grades for given work, unless the contract contains an 'opening clause' which allows firms to pay below the prescribed wages under certain conditions, typically when they face economic hardship.[25] Firm-level agreements are far less common, although they typically cover establishments with large numbers of workers.[26] Although the logic of the theory developed above applies

[23]Large firms are oversampled, as are those in industry.

[24]It is important to note that establishments have historically signed only one collective agreement, which covers all of their workers. This is beginning to change however following a 2010 Supreme Court ruling, which held that establishments could be covered by multiple agreements. Currently the Grand coalition government is considering a law which would mandate no more than one collective agreement per workplace, which would be that of the largest union.

[25]On the proliferation of opening clauses in German collective agreements, see Silvia and Schroeder (2007).

[26]Volkswagen plants, for example have collective agreements which pertain just to Volkswagen plants.

best to firm-level contracts, industry-level contracts have the same wage-leveling feature, and thus a similar logic should apply (low-wage workers will be paid more than under individual bargaining).

In order to test H_2 and H_3, I use Event History Analysis and Cox Proportional Hazard regression on the firm-level panel, setting the data as duration data and modeling the time until a 'failure' in the dependent variable, a firm dropping out of either an industry- or firm level collective agreement.[27] These data present a variety of modeling challenges. One of the primary challenges is how to account for time in the dependent variable. Unlike much Event History Analysis in medicine, where a patient can only die once, there is potential here for multiple events, ie. a firm drops out of a collective agreement, but then after a few years starts to participate once again. A second concern is when to 'start the clock;' presumably many of these firms had already been in existence for several years before 1993, the first year in the dataset. But the dataset is left-censored and there is no information on the number of years of firm existence, let alone for how many previous years it has had a collective agreement.

For lack of a better alternative, I treat the firm's first year in the dataset as its year of origin. As many firms have multiple failures, there are multiple possibilities to account for duration: 1) treat the data as single-record data,[28] modelling time until the first failure, after which the firm drops out of the analysis, 2) single-record data, where a firm drops out of the dataset after not signing a collective agreement, but reenters the next time it signs a collective agreement, 3) single-record data, counting each non-signing as a failure,[29] or 4) multiple-record data, with the clock continuously running from the

[27] I treat the data as event history data rather than regular time series data as I view participation in collective agreements as part of a long-term process, where the explanatory variables have a cumulative effect over years resulting in withdrawal or non-withdrawal.

[28] Single-record data means that a new spell begins after each failure while multiple-record allows a firm to have multiple failures with the clock continuously running.

[29] The difference between (2) and (3) is that in (3), the firm doesn't drop out of the dataset in consecutive

first year the firm is present in the data. Given that there is likely no obvious best choice among these and for the sake of robustness, I present the regressions in each of these four ways.[30]

The original collective agreement variable in the dataset contains three categories: industry-level collective agreement, firm-level collective agreement, and no collective agreement.[31] I recode the original three-category collective agreement variable into two different dichotomous variables; 1) a variable which takes on a value of '1' if the firm has an industry-level collective agreement and a '0' if it has either a firm-level collective agreement or no collective agreement 2) a variable which takes on a value of '1' if the firm has *either* an industry-level collective agreement or a firm-level collective agreement and a value of '0' if the firm has no collective agreement. When the data are set as duration data, periods until the firm experiences a '0' are counted as the number of years since the either the origin or the last withdrawal (depending on the record type).

In addition to the dependent variable, I create four variables to test H_{1-4} at the firm-level; a measure of the mean education level of employees (**MQual**), a measure of the standard deviation of education profiles (**SDQual**) to capture worker skill heterogeneity, a measure of the mean routine task content of occupations (**RTE**), and a measure of the mean occupational offshorability (**Off**). An ideal measure of skill would consist of multiple components, such as scarcity of and demand for the tasks that the worker performs, work experience, and education and qualifications. Rather than develop a complicated coding scheme, I use a relatively simple proxy, education qualification, which is in the

years of non-signing.

[30] I present only my preferred specifications, regression types (1) and (2) in the body of the paper, saving types (3) and (4) for the appendix.

[31] As the collective agreement variables are only available starting in 1995, I restrict my analysis to the years 1995-2007.

individual record data.[32] This is a six-category variable, where '1' is sub-secondary education and the highest category '6' is college degree or higher.[33] My expectation is that higher levels of standard deviation of qualification will be associated with greater probability of withdrawal from industry- and firm-level collective agreements.[34] If H_3 is correct, we should also expect to see that higher levels of mean skills will be associated decreased probability of withdrawal from industry and firm-level collective agreements.

I generated measures of RTE and Offshorability by merging the Goos et al task data into the LIAB individual data. I converted the occupational coding in the LIAB data into the ISCO-88 2-digit data from Goos et al using a crosswalk provided by the FDZ. Unlike with the cross-national occupational data, which was 1-digit ISCO data, I am able here to use the original 2-digit task codings. As in the cross-national data, I expect that firms with higher RTE and offshorability to be more likely to remain in collective agreements longer.[35] Additionally, I include a variety of control variables and fixed effects. Previous work on the determinants of German firm participation in industry-level contracts has found that participation rate increases with size of the firm (**Size**), percentage of goods exported (**Exp**), and firm-age (**New**).[36] I also control for the mean age of workers (**Age**), percentage of women (**PercFem**), firm profitability (**Profit**), and whether there is a works

[32]Other likely components of a well-rounded conception of skill, such as occupational tasks and age (as a proxy for work experience) will be included in the regressions separately as covariates.

[33]The middle categories are various levels of vocational training.

[34]Michaels et al (2014) find a similar U-shaped relationship between occupational employment level and education as other authors have between occupational employment and wages, namely that employment has increased in both low- and high-education occupations, but declined in middle-education occupations. Additionally, recent work on the German training system has shown that the number of multi-year apprenticeships (the middle education categories in my datasets) has been declining as firms have become increasingly unwilling to make this investment (Thelen 2014).

[35]Alternatively, we might expect that firms with higher levels of **RTE** or **Off** will be *more* likely to withdrawal from collective agreements because these jobs are most at risk due to technological change and employers can put greater pressure on unions.

[36]Studies of the determinants of German firms' participation in collective agreements using FDZ data include Kohaut and Schnabel (2003), Addison et al (2009), and Raess (2013).

council (**WrkCn**). I include fixed effects for industrial sector, federal state, and an interaction of these. The latter are particularly important as industry-level wage contracts are typically concluded at the industry-federal state level. Standard errors are clustered at the firm-level.[37]

2.5.1 Firm-Level Analysis

Tables A.3 and A.4 present firm-level regressions to test H_2 and H_3. In table A.3, a firm is coded as 'at-risk' when it is covered by an industry-level collective agreement and experiences a 'failure' when it withdraws from this to *either* a firm-level *or* no collective agreement. In table A.4, a firm is at risk when it has either an industry- or firm-level collective agreement and experiences a failure when it withdraws from either of these to 'no collective agreement.' In both tables, the data are treated as one-spell single-record data in columns 1 and 2, meaning that a firm is in the dataset with the clock running from year of entry until it drops withdraws from an industry-level collective agreement, at which point it drops out of the dataset.[38] Likewise, the data are treated as single record data in both tables in columns 3 and 4, but where the firm remains in the dataset until it experiences an event, at which point it drops out of the dataset *until* it again signs an industry-level collective agreement. At this point, the clock starts again.

Table A.3 presents the results for industry-level agreements. Regression coefficients are presented as hazard ratios, with values greater than 1 indicating a higher probability

[37]There are sampling weights in the data, although I do not use them as they were generated for a different classification of industries than the one I use. Furthermore, firms are sampled with respect to industry, federal state, and firm size, each of which I include as covariates in the models. See Winship and Radbill (1994) on including variables for generating sampling weights as covariates in regression models vs. weighted regression.

[38]Firms whose first instance in the dataset is having either a firm-level agreement or no collective agreement are considered to have experienced a failure in the first period and they drop out of the dataset after this.

of failure (collective agreement withdrawal) in a given period and values less than 1 lower probability of failure. These are interpreted as increased/decreased odds of failure with a one-unit increase of the independent variable; a hazard ratio of 2 would indicate that with each unit increase of that independent variable, the probability of an event in any period is twice as likely, whereas a hazard ratio of .95 would indicate that it is 95% as likely. Columns 1 and 3 present the four main variables **SDQual** as a test of H_2, mean qualification **MQual** as a test of H_3, **RTE** as a test of H_1, and **Off** as a test of H_4, for one-spell single-record and single-record-repeated event data respectively. Columns 2 and 4 add controls to these regressions.

As predicted in H_2, higher levels of workers' skills standard deviation have hazard ratios greater than one and are associated with a greater likelihood of withdrawal of between 2 and 7% withdrawal in any given period. Consistent with H_3, MQual consistently has a hazard ratio less than one, indicating that higher levels of mean skill qualifications are associated with lower probability of withdrawal. In any given period, a one-unit increase is associated with between 3 and 7% lower likelihood of withdrawal from an industry-level collective agreement. While higher levels of RTE are associated with lower probability of withdrawal (consistent with H_1), this result is only significant in the one-spell regressions. What this could mean is that percentage of employees performing routine tasks has a detectable effect only in earlier periods, when routine employment is a more prevalent form of employment, but that this is not the case if observations from later years in the period of analysis are included. Offshorability has a hazard ratio greater that one, and is associated with a higher probability of withdrawal, consistent with the possibility that task offshorability gives employers greater leverage over workers and unions. These results are however statistically significant in only two models, and weakly at that. Surprisingly, few of the control variables are ever significant and all hazard ratios are very close to 1.

Table A.4 presents regression results where a firm experiences a failure when it drops from having *either* an industry- *or* firm-level collective agreement to having no collective agreement. The columns are the same with respect to the variables included and accounting for time. The two main variables, SDQual and MQual are associated with greater and lower probability of withdrawal in any given period, with similar levels of magnitude and statistical significance to table A.3. The other results are also fairly consistent with table A.3. RTE consistently displays a hazard ratio greater than one, but is only significant in the single-record models, while the hazard ratios on offshorability remain very close to one and flip signs. The control variables have more detectible effects in these regressions, although not always in the expected direction. Higher levels of exports are associated with lower probability of withdrawal, consistent with Raess (2013), but this is only significant in model 2. New firms have higher probabilities of withdrawal, consistent with previous work showing that older firms are more likely to participate in collective bargaining agreements (Kohaut and Schnabel 2003; Addison et al 2009). More counterintuitively, firms with higher levels of profitability and with older workforces are more likely to switch from having an industry- or firm-level collective agreement to no collective agreement. One possible explanation for the latter is that since the Hartz IV labor market reforms 2003-5, older Germans are incentivized to participate in the labor market in part-time, tax-sheltered 'mini-jobs,' which allow them to top-up wages from another job or from social security benefits. Firms relying on such part-time labor might be less likely to be unionized.

2.5.2 Industry-Level Analysis

In Tables A.5 and A.6, I aggregate the firm-level LIAB Cross-Section data at the 36-category industry-level. The difference between the LIAB Cross-Section data and the

LIAB Longitudinal data used for the firm-level regressions is that these data are sampled to be representative of the German economy for each year, with firms not necessarily appearing in the data in consecutive years as in the longitudinal data.[39] The dependent variable is either the percentage of firms participating in an industry-level agreement or the percentage of firms participating in either an industry-level or a firm-level agreement. As with the cross-national data, I run two types of models: models where the predictors are contemporaneous with the dependent variable, and models where the predictors are lagged by one-period, to help address both reverse causation and the possibility that there might be a lagged effect of the independent variables. In addition to the four variables from the firm-level analysis, I include controls for mean employment, mean percentage exports, and fixed effects for industry and year.[40] I generate all these variables at the 36-category industry-level from the weighted firm-level data.

There are two primary reasons for conducting this analysis: 1) workers may select into firms based upon a combination of observed and unobserved characteristics, potentially biasing these results in unobservable ways. Selection may be less of an issue at the industry level. 2) The mechanisms may operate at the industry-level between firms. This is especially possible in Germany, given the preponderance of industry-level collective agreements. Recent work on wage inequality in Germany has this is increasingly due to firm-specific components, rather than worker-specific components such as skills, tasks, experience, etc. (Card et al 2013). In other words, strong firms pay high wages and weaker firms pay lower wages, with workers likely sorting into good/bad firms based on their standing within their education, occupation, experience level, etc.

Table A.5 presents the results for participation in either industry-level (columns 1 and 2) or industry and firm-level (columns 3 and 4) collective agreements with contempora-

[39] As in the longitudinal data, firms are sampled with respect to industry, size, and federal state.

[40] Standard errors are clustered by industry.

neous covariates. Per hypotheses H_2 and H_3, the signs on SDQual and MQual should be negative and positive respectively, with higher within-industry between-firm standard deviations of workers' skills being associated with lower participation in collective agreements and higher industry-level mean workers' skills being associated with higher levels of collective agreement participation. The signs are almost always correct, however the results for SDQual are only significant when the dependent variable includes both firms participating in industry-level and firm-level collective agreements and the results for MQual are never significant. The results for RTE are similar; higher mean industry levels of RTE are associated with higher collective agreement participation, but this is only significant when both industry and firm-level collective agreements are included. Interestingly, the sign on offshorability is always negative and it is significant in the industry+firm collective agreement models, suggesting that employers in industries with more offshorable occupations may use the threat of offshoring to resist unionization. Consistent with previous work on collective agreement participation, larger mean firm size is associated with greater participation in collective agreements

Table A.6 presents the results for participation in either industry-level (columns 1 and 2) or industry and firm-level (columns 3 and 4) collective agreements with covariates lagged by one year. Again, SDQual consistently displays a negative sign, but this time is significant across both dependent variables, with and without the controls. This suggests that within-industry standard deviation in firm skills has a lagged effect on participation in collective agreements, which is sensible because we would expect employers' choice to participate in a collective agreement to respond to the industry-level environment, rather than occurring simultaneously with any changes. The results for MQual are also somewhat more consistent. It always displays a positive sign and reaches statistical significance in the two industry+firm collective agreement models. The results for RTE and Offshorability are however less consistent. RTE flips signs across the regressions

and Offshorability has a positive sign. Neither approaches standard levels of statistical significance. Mean employment again displays a positive sign, but is only significant in the industry+firm collective agreement regressions. Curiously, mean exports displays a negative sign and is significant in both models, meaning that higher levels of exports are associated with lower levels of participation in collective agreements.

2.6 Discussion and Conclusion

What can we conclude about the various possible mechanisms through which technological change and decline of routine task employment affect union strength? The results from the German data are relatively clear that between-worker heterogeneity and between-firm worker heterogeneity are important and suggest that increased differences between workers and between firms are more likely responsible for union decline than other possible mechanisms, such as union decline due to loss of unionized jobs and the inherent difficulty of unionizing new types of jobs and workplaces. It is, however difficult to definitely interpret the RTE results as ruling out mechanisms such as attrition because 1) they often display the correct sign and are significant and 2) there are other possible interpretations of these, such that within-occupation tasks are changing over time or that high RTE increases the pressure that employers can put on workers to eliminate their jobs. Future work could attempt to disentangle these various mechanisms by using datasets on the task content of occupations over time.

These findings also have implications for a variety of important themes in political science. Recent work on the growing 'insider-outsider' divide in many advanced democracies has focused largely on the cleavage between the regularly irregularly employed. The results here, combined with recent work on wage inequality in Germany suggest that there may be another insider-outsider divide worth exploring: that between those

who get into top firms and those who don't. If top firms have stable employment relations and pay increasing wages, while these are uncertain or stagnant in other firms, these firm-level differences may become sources of other political and social preferences.

If union strength continues to decline and especially if low-wage workers are most likely to lose union coverage, unions and other advocates for low-wage workers will need to change their strategies for how best to ensure living wages for less-educated, lower-skills workers. One issue which has become much more of a political factor both in the United States and in several European countries in recent years is the minimum wage. Surprisingly, most western European countries have historically not had a statutory minimum wage, but increasing pressure (largely from trade unions) led to its implementation in The UK in 1999 and Germany in 2015.As unions become weaker and lose their abilities (especially for low-wage workers) to mediate wage outcomes, demand will likely increase for political intervention to ensure that wages in low-wage work do not fall below a societally acceptable level. Generally, the minimum wage will likely become more important as a way to deal with the pressures of technological change both on trade unions and directly on wages in low-wage jobs.

Technological change has also affected labor markets in developing countries, and in counter-intuitive ways. Traditional Heckscher-Ohlin trade theory would hold that trade should benefit unskilled labor in relatively unskilled-labor-rich developing countries, while negatively affecting wages and causing job loss in relatively unskilled-labor-poor developed countries. Several recent works, however suggest that increased trade with developing countries has not increased their relative ratios of unskilled employment. The proportion of skilled workers has increased at the industry and even the plant-level in developing countries (Van Reenan 2011). Furthermore, Karabarbounis and Neiman (2014a) have found that there has been a *global* decline in the labor share of income since the early 1980s, more than 90% of which has been within-industry, which favors

within-industry technological change over trade as the likely explanation.[41]

If one of the consequences of technological change is that there is a global decline in the demand for unskilled labor, this could have dramatic economic and political consequences for developing countries. Unskilled jobs are an important source of mass employment and while there will likely be more positions available in high-skills areas, it is unlikely that these will make up for the jobs that would have been created in routine task positions in previous generations. The United States and other western democracies were able to become stable democracies with broad-based prosperity in part to the establishment of a broad middle class, which was in turn possible because of mass employment and high wages in relatively unskilled occupations. If machines with relatively little assistance from humans can produce many of the goods which were produced by human labor in previous generations at lower cost, there will be little need to employ labor on a mass scale and perhaps reduced possibility of developing well-balanced societies in developing countries as in the west after WWII. There will certainly be less reason for employers to tolerate workers demanding higher wages, let alone trade unions.

[41]See also Kristal (2010) on deunionization and the decline of labor share in OECD countries.

Chapter 3

Financialization and the Two Faces of Trade Union Decline

3.1 Introduction

Since the 2008 financial crisis, there has been heightened suspicion that financialization in global markets, including the increased presence of international institutional investors, stock market development, and traditional firms' reliance on financial investments has not helped bring about global financial stability as originally predicted, but has rather contributed to global financial instability. In addition, the belief that financialization has other detrimental effects, such as creating a race-to-the-bottom in labor standards and shifting income share away from labor toward the global rich, who are uniquely able to participate as individual subscribers to hedge funds and private equity funds, has grown.

If such a change in the distribution of revenue is occurring, it may be through many possible channels. One of the major developments in western democracies' labor markets in recent decades has been the weakening of trade unions. Whereas unions were once ubiquitous even in countries like the United States (where they were weak in comparison to most European countries), they have faced a dramatic decline in both mem-

bership and coverage of firms in most of these countries. If financialization has been weakening labor standards and the share of revenue going to labor, one of the mechanisms through which this may have occurred is through weakening of unions by financialization. When management either wants to appeal to, or becomes more reliant on internationally mobile investors, the latter will demand a greater share of firm revenues. One of the main ways to achieve this will be by reducing the share going to labor and thus one common investor demand may be for management to place greater pressure on unions, whether through threats to offshore or outsource, in order to attain for themselves a greater share of firm revenue.

In this chapter, I develop and test a theory that financialization, which I operationalize as stock market development, leads to a decline in union strength. Because 'union strength' is a multi-faceted concept, I break my analysis down into four different dependent variables, each of which I argue fits into one of two classes: within-institution change or change in institutional form. I argue that union density decline, or decline in the percentage of workers who are members of unions and presence of so-called 'opening clauses' in wage contracts, stipulations which allow firms to pay less than contract rates under economic hardship are examples of within-institutional change. While there have been numerous analyses of union density and wage bargaining coordination and centralization, there has been very little discussion of opening clauses, especially in the cross-national literature.[1] I define wage bargaining coordination, the degree to which wage setting for all firms in the economy or in a sector is set or influenced by bargains between peak unions and employers' associations and wage bargaining centralization, the degree to which wages are set simultaneously by peak actors across multiple sectors as institutional forms of wage bargaining.

[1]There is a growing literature on the wage and employment effects of opening clauses in German wage contracts using German firm-level data (Brändle and Heinbach 2011; Ellguth et al 2014).

Although we might expect investors to have consistent preferences over both within-institutional strength and institutional form, namely that unions are decentralized, membership is weak, and firms can receive exemptions from wage contracts, the timing of these phenomena has differed. Wage bargaining coordination and centralization largely occurred in the 80s and 90s and have stabilized in most countries in recent years, while union density decline began in the mid 80s (in the mid 90s in Scandinavia) and has continued in most advanced democracies until the present day. Thus it is an empirical question whether the same explanations can account for both. I review the vast literature on determinants of union density and the smaller literature on determinants of wage bargaining coordination and centralization and find that among different variables used to explain these, one of the most common explanations is deindustrialization and related changes in production methods, which labor economists have recently generalized to decline in all occupations rich in the performance of routine tasks (Autor et al 2003).

In addition to this paper's core theoretical variable, financialization, I focus on the explanatory power of decline in employment in occupations rich in 'routine' tasks, caused by a decline in the cost of computing power and the replacement of workers in such occupations by mechanized processes (Autor et al 2003, Goos et al 2014). I find that while stock market development generally has a negative short-term effect across the four variables, this result is somewhat sensitive to specification for the two within-institution dependent variables, union density and opening clauses. The negative short-term effect of stock market capitalization on wage bargaining coordination and centralization is, however, highly robust across specifications. Consistent with previous work, I find that both short-term change and long-term level of routine task employment have a positive relationship with union density change and that long-term level of routine task employment is negatively associated with inclusion of opening clauses in wage contracts. I

also find, however, that routine task employment level is actually a negative predictor of both wage bargaining coordination and centralization, that these are more likely to be decreasing when routine task employment is high. Additional robustness checks, in which I regress the stock market development independent variable on the different variables provide little evidence of reverse causality, helping to improve confidence in the causal direction of the central claims.

I proceed as follows: Section 2 develops a general theory of how stock market development should affect union strength and discusses previous literature on stock market development/financialization and labor market and wage distribution developments. Section 3 is divided into two parts; the first introduces the four dependent variables I will be analyzing: union density, presence of opening clauses in wage contracts, and wage bargaining coordination and centralization and the specific theoretical mechanisms through which stock market development should affect these. The second part of section 3 reviews the literature on determinants of union density and wage bargaining coordination/centralization and highlights in particular explanations relating to structural change in the composition of employment (deindustrialization/routinization). Section 4 discusses data and methods. Section 5 is divided into two parts, the first of which presents my main results and the second of which discusses concerns regarding interpretation and presents a variety of robustness checks. Section 6 discusses broader substantive questions stemming from and related to the results in this chapter. Section 7 concludes.

3.2 Financialization, Labor Relations, and Labor Outcomes

There is an increasing amount of work in comparative political economy, in particular within the Varieties of Capitalism paradigm, which associates labor outcomes with financial development. In foundational work on the relationship between financial form and labor relations in Varieties of Capitalism, Hall and Soskice (2001) argued that 'patient capital' provided by banks in long-term relationships with firms is a central institution of Coordinated Market Economies (CME) and that this enables long-term, stable relationships with unions, in which banks promise to finance skill investments and protect workers' specific skills during market downturns in return for success in niche, specific-skill-intensive markets. But writing in the early 2000s, Hall and Soskice recognized that financial markets had become far more global and that financiers may no longer be willing to underwrite such relationships, preferring a more globally diverse portfolio. Indeed Hardie et al (2013) find that even large banks in CMEs have been decreasingly willing to provide patient capital because they themselves are dependent on international markets for funding, which makes it difficult to have long-term commitments.

If financial relationships have been changing in advanced democracies over recent decades, what implications might this have for labor relations and labor outcomes? Who are the financiers, and what are their preferences regarding labor? Although there will likely be great variation in labor preferences across different types of investors and perhaps even within-investor types across different sectors and firms, I believe it is helpful to start with a basic conception of the relationship between management and labor in the presence of a generic type of active, internationally mobile investor. In principle, we can think of the financier as a third actor in the game between management and labor, seeking to divert a portion of the firm's earnings to himself.

Under the CME model of patient capital provided by banks, the financier seeks prof-

itability through long-term firm growth. This model was developed to explain a world with largely domestic financial markets and limited scope for international mobility. The financier in this 'world' is more tolerant of corporatist relationships between organized employers and strong unions because his outside options are limited (Amable et al 2005; Hardie et al 2013). He will achieve the greatest return on his capital by ensuring that firms are productive in the long-run, toward which cooperative relations between management and labor will be conducive. Although management and labor will disagree over share of firm earnings as wage share for labor, both will largely agree on the preeminence of firm investment and long-term firm growth. They both stand to benefit, whether through wages and/or prestige as the firm expands. In this form of the finance-management-labor relationship, where the financier has few options, a financier strategy of tough labor relations may be long-term counter-productive.

Both domestic and international deregulation of finance increase the financier's investment options however and change the nature of the game. A central tenet of portfolio investment theory is to diversify investments and now that the financier is able to do so, there will be little reason to commit heavily to long-term relationships. Although it may make sense to invest part of a portfolio in long-term relationships with proven or highly promising firms, there will be little reason to do this for most firms. When long-term relationships with firms on a large-scale become less desirable, the benefits of long-term cooperation with labor also decline. Rather than trade higher wages for a long-term stable relationship with labor, investors will benefit from pressuring management to take a tougher stance with labor, restraining wages in order to deliver a higher share of earnings to investors. If management refuses to do so, investors can take their investment dollars elsewhere, potentially leaving the firm undercapitalized and putting it in a position where it eventually has to act tough with labor anyway.

In this paper, I concern myself specifically with stock market investors, who trade

firms' shares in secondary equity markets.[2] Equities entitle holders to a share of firms' earnings, and make money on their shares when the stock price of the firm increases. Their primary motive is to achieve higher share prices, which comes through increased profitability. This in turn may be achieved by growing the firm, but may also be achieved by reducing the firm to a set of core, profitable activities and reducing the share of revenue going to other stakeholder, most notably labor. Additionally, they may receive a set distribution in the form of a dividend for each of their shares. Initiating or increasing the size of an existing dividend gives equities holders a fixed return on their shares and is typically one of the major demands. Another common demand is for the firm to use cash on hand to buy back existing shares, increasing the value of all shareholders' shares. Many scholars have argued that in addition to these core motives, equities holders tend to have shorter time horizons for firm performance than either management or other types of financiers (Amable et al 2005; Bond et al 2012).

Figures B.1 and B.2 present plots of stock market development, the average of stock market capitalization and value traded on the stock market as a percentage of GDP for 16 of the 21 countries in my sample 1975-2010, broken down into Scandinavia countries, Liberal Market Economies, and Coordinated Market Economies.[3] Whatever virtue these ideal-type classifications might have for other political economy institutions, they do not seem to be natural groupings for stock market development, as this varies at least as much within-groups as between (witness differences between Denmark and Finland,

[2]I focus specifically on publicly traded equities and these actors' preferences regarding union institutions. I do not cover the preferences of bondholders, who invest in securities which promise a set rate of return and neither rise nor fall in value based upon firm performance, although which might be wiped out in a firm bankruptcy. I also do not consider the role of private equity or hedge funds, which may have preferences similar to public equities investors, but for which investment data are not widely available.

[3]I have decided to include both stock market capitalization and stock market value traded as part of my stock market development measure because both overall holdings of stocks and the degree to which they are traded should be important for pressure on labor. The pressure on labor comes from stocks changing hands because investors think that they are either over- or under-valued, thus I believe it is important to include value traded as part of the overall measure.

Austria and Switzerland, New Zealand and The United States.)

What preferences should equity holders have regarding labor? Equity holders will want a larger share of firm revenue to go to themselves. One of the primary ways to do this is to decrease the size of the share going to labor. Dallery (2009) argues that equities-holders will want to maximize profitability, which will often result in lower investment and growth rates than would be preferred by both management and labor, and that this will especially be the case if investors have short-term time horizons. This increased profitability often comes through squeezing labor, whether in the form of tougher negotiations to keep wages low, or though offshoring tasks to lower-wage foreign labor out outsourcing them to non-union domestic labor. Amable et al (2005) argue that shorter time horizons in particular are important for behavior toward labor, as when investors have long time horizons, a cooperative relationship with labor will better maximize firm performance.

How do the preferences of equities holders affect management? In most cases, equities holders are not activist investors seeking to takeover control of the firm. Nevertheless, there are a variety of reasons why management will be responsive to their preferences as their presence increases. One of the most important is that over the past few decades, management's wages increasingly depend on performance pay, with a sizable percentage coming in the form of stock options, which gives them substantial personal financial incentive to care about the stock price (Bond et al 2012). Additionally, even though equities markets are secondary markets and do not directly fund the firm's daily activities, lenders make decisions upon these prices and if the stock price underperforms, the firm may become a target for takeovers by activist investors, who would likely replace existing management to realize latent profitability potential. Again, one of the primary ways to do this is by cutting labor costs. From a behavioral finance perspective, managers derive a great deal of personal prestige from stock prices and may

be willing to forego investment projects in order to make expected quarterly numbers (Graham et al 2005).

3.2.1 Previous Empirical Findings

There is a substantial amount of work on the relationship between liberalized finance generally and labor relations, especially employment patterns and wages, although less specifically on stock markets or on behavior toward unions. Karabarbounis and Neiman (2014a) find that decline in the price of investment goods induced firms to shift away from labor and toward capital investments, resulting in declining labor share across a broad sample of countries, even in relatively low-skils labor-abundant developing countries. Bertrand et al (2007) find that after reforms which reduced government intervention into bank lending in France in the mid-80s, average wage increases were substantially lower in more bank-dependent sectors and worse-performing firms were more likely to outsource. The latter finding has been particularly common in work on the employment effects of financialization. Perraudin et al (2007) find in a survey of French firms that although companies listed on the stock market paid higher wages, they were also more likely to use agency workers and subcontractors. Beyer and Hassel (2002) found that adoption of 'shareholder value' practices was associated with increasing dividends and a lower labor share due to a decrease in total employment through corporate restructuring.

Work in economic sociology has focused largely on the implications of financialization for wages and the distribution of firm earnings to the different groups of actors. Lazonick and O'Sullivan (2000) found that the payment of dividends skyrocketed after financial deregulation in advanced democracies in the 80s and 90s. They also note that one of the of the most significant trends has been a shift in focus by many firms from

profitability through traditional production to profitability through less labor-intensive financial services. Milberg (2008) finds that firms plowed labor savings from outsourcing into dividends, stock buybacks, and increased dealing in financial products. Goldberg (2012) finds that American companies have become 'fat and mean,' with an increasing share of employment and wages going to management in the United States in manufacturing and services 1984-2001. This is due to these companies' increased need to manage long-distance labor and financial relationships. Lin and Tomaskovic-Devey (2013) find that American firms' increasing dependence on financial income in recent decades is associated with a lower labor share of income, increased top executive share of compensation, and increasing earnings dispersion among workers. Most similar to my own analysis, Black et al (2007) find, using cross-sectional data for advanced democracies in the mid-90s, that wage bargaining centralization is lower in countries with higher equity market development and M&A activity, but that this has little effect on either pay or union density.

3.3 Types of Union Institutions and Institutional Change

3.3.1 Equity Investors and Union Institutions

The above theory has implications for two types of institutional change regarding unions, both of which have been the subject of a great deal of focus in political science and economic sociology, but have seldom been analyzed together: institutional forms, predominantly levels of coordination and centralization of wage bargaining and within-institution change, most notably union density, but also opening clauses in wage contracts, which allow firms to pay less than what is prescribed in the wage contract under certain conditions and have received very little attention in the comparative literature.

Figure B.3-10 plots union density, opening clauses, wage bargaining coordination, and wage bargaining centralization for 16 advanced democracies 1969-2010. As we can see in Figures B.3 and B.4, union density has been declining in almost all countries regardless of regime for the last 10 years, although before that the trends differed greatly, with union density increasing until the mid-1990s in the Scandinavian countries (except Norway), beginning to decline in the 80s in the UK and the Netherlands, and being relatively stable in Belgium, Canada, and Norway. Figures B.5 and B.6 show the increased presence of opening clauses in almost all countries, especially in Scandinavia, Germany, and Austria. As we can see in figures B.7-10 and 5a-c, wage bargaining coordination and centralization are more inconsistent within-country year over year, but are generally higher in Scandinavian countries than the continental CMEs (note the different Y-axis values for the three sets of graphs) and higher in the continental CMEs than in LMEs, where coordination and centralization are largely non-existant.

Regarding within-institution change, investors should look favorablly upon ways to cut labor costs. One of the foremost ways will be to put increased pressure on unions. This may involve either offshoring tasks to other countries or outsourcing labor within countries to (non-unionized) temporary agencies in order to reduce labor costs. In both cases, we might expect this to result in lower union density. This decline in union density could be the result of some or all of many potential mechanisms. First, given increased pressures for profitability from investors, employers will look to avenues to avoid using unionized labor, affecting the 'supply side' of unions. But these actions should also affect unions on the demand side. If unions are being increasingly threatened by management with job cuts and outsourcing and as a result are less able to attain strong union wage premia, workers will be less interested in paying union dues, which will also result in a decline in density.

But either instead of or in addition to this, we might expect management to turn to

ways of cutting labor costs within sticky union contracts. One of the foremost examples of this in recent years is the increased presence of so-called 'opening clauses' in wage contracts, which enable management to deviate from wages and potentially other conditions in union contracts if the firm is facing hardship. Investors should favor these as they allow the firm to respond to difficult conditions by cutting wages, which will improve chances for future profitability. These could also help reduce conflict between unions and employers, as they represent a compromise allowing the union to keep progressive wages under good conditions and remain relevant, but acknowledge and adjust to economic hardship.

As equity investors' primary concern is firm-level profitability, we should expect them to be unfavorable toward arrangements which reduce firm-level flexibility over policy-making. Multi-firm coordination of wage bargaining (at least when not in the presence of opening clauses) reduces firm-level flexibility in employment conditions by setting levels of pay across multiple firms. These pay levels may be too high for individual firms and in any case will eat into the share of firm revenue which could otherwise be redistributed to investors. This should apply for wage bargaining centralization as well. Centralized wage bargaining allows unions in lower-growth sectors, which would otherwise be less able to deliver wage increases to their workers to demand a higher-share of the overall pay distribution. This difference should also hold between lower levels of centralization of wage setting, including between the firm and industry level.

3.3.2 Previous Explanations of Within-Institution and Institutional Form Strength

There is substantial literature on both change in institutional form and within-institutional change (most notably work on union density), but there is little scholarship which

attempts to determine whether the same factors can explain both change in institutional form and within-institutional change. Regarding wage bargaining coordination, Ahlquist (2010) develops a model in which coordination of wage bargaining is more likely when there exists a centralized strike fund, which is itself a function of the distribution of resources across individual unions. He finds support for this proposition using data for 16 OECD countries 1950-2000. A different line of explanation comes from single and comparative case study work by Pontusson and Swenson (1996), who study the decline of centralized wage bargaining in Sweden and Iversen (1996), who studies the variation in the decline in centralized wage bargaining across Europe. Both sets of authors stress the importance of structural changes in production and how these introduce heterogeneity in ability to make wage demands and conflict between unions in different sectors. Wallerstein (1990) develops a model explaining the centralization of wage bargaining, which finds that coordinated wage bargaining can help preserve management investment and thus contribute to growth by restraining wage growth, but predicts that this will become unsustainable if underlying differences in union wage demands become too disparate.

There have been a greater variety of explanations for union density. Scholars have argued that complementary national institutions, such as coordinated wage bargaining and works councils help stabilize unions (Scruggs and Lange 2002, Oskarsson 2003), that increased immigration decreases union density (Lee 2005), that foreign direct investment weakens unions ability to obtain wage premia and reduces union density (Choi 2001, Slaughter 2007), and that political control by right parties weakens union density (Brady 2007). But the predominant explanation has been change in the structure of economic production, most notably deindustrialization, as industrial jobs were highly unionized (Lee 2005, Hirsch 2008). Recent work has generalized this explanation to account for work in labor economics, which has shown that occupations rich in performance of

routine tasks have been replaced by computer-driven processes. I found in chapter 2 that decline of occupational employment rich in routine tasks is a robust predictor of union density decline in time series cross-sectional data for advanced democracies.

These explanations have similarities with the analyses of Pontusson and Swenson (1996) and Iversen (1996), both of which argue that structural changes in the economy affect the coalition in support of existing wage bargaining coordination institutions. In one sense, the explanation for union density may be more simple; if the decline in union density mirrors the decline in manufacturing employment, then union density decline may be almost entirely the result of change in the occupational mix of the economy. But if routinization changes changes the distribution of the demand for unions among workers or the demand for different types of workers by employers, it may also be that workers will be less willing to fight for, or less successful in their fight for unions. Labor market polarization has increased demand for both high-skills, high-wage workers and low-wage workers (Goos and Manning 2007), and the former may not want to participate in union agreements with the latter, but the former will also have a more difficult time winning union representation, because there is much greater competition in this segment of the labor market due to the loss of mass routine task employment.

Yet patterns of wage bargaining coordination and centralization have been less consistent than those of union density and opening clauses, which have been fairly consistently declining and increasing respectively in recent years. They did however decline in many countries in the 80s and early 90s and have remained, with the exception of a few years in individual countries, relatively stable since then. The beginning of deindustrialization and replacement of routine task employment by machines roughly coincides with the beginning of the decline in coordination and centralization of wage bargaining, but the former have continued and perhaps become even stronger even after wage bargaining coordination and centralization appear to have settled in most countries. So

while this variable has been shown to have strong and consistent explanatory power for union density, which has been a continual process in almost all OECD countries over the last 20-30 years, and coincides with the timing of increased usage of opening clauses, it may have less explanatory power for changes in institutional form, changes in which occurred fairly early in the deindustrialization process.

3.4 Data and Methods

I have assembled a dataset covering 21 OECD countries 1969-2008. My main variable **skmkt** is an average of stock market capitalization/GDP and stock market value traded/GDP compiled largely from data for 1975-2004 from Claessens et al (2006) complimented by data from the Financial Development and Structure Dataset (Beck et al 2013).[4] Occupational employment data come from LABORSTA, which contains ISCO one-digit occupational employment for OECD countries from 1969-2008.[5] Codings of occupational routine task intensity come from Autor et al (2003). I have generated my **RTI** variable, a country-year measure of the routine task intensity of overall employment by weighting employment in each occupational category as a percentage of total employment by its routine task intensity score from Autor et al. Data for union variables, including union density, coordination, centralization, and presence of opening clauses, works councils, and a strike fund come from Visser (2013). Data on economic variables come from the Comparative Welfare States Dataset (Brady et al 2014). Data

[4]I chose not to use an additional widely available measure, inward portfolio equity investment, which includes both equity and bond investments as these have create different incentives for investors. Bonds guarantee investors a certain interest rate regardless of performance, which will only not be paid out upon bankruptcy restructuring. Equities entitle holders to a share of profits and thus create stronger investor incentives to demand firm profitability.

[5]These data however vary widely in completeness across countries, with some countries, such as Australia, Germany, Canada, and the United States having data for almost the entire period and others such as France, The UK, and Switzerland having data for relatively few years.

on migration come from OECD Stats Extracts and the 1977 and 1985 UN Demographic Yearbooks. I linearly interpolated missing observations within an otherwise complete block of observations within country panels.[6]

I ran diagnostic tests for autocorrelation and stationarity. A Wooldridge test for autocorrelation on my preferred specification could not reject the null hypothesis of no autocorrelation in the data. As a result, I turn to dynamic modeling with a lagged dependent variable in each of my models. I also conducted an Fisher-type test with 1 lag based on the Augmented Dickey-Fuller test for panel data stationarity in an unbalanced panel. This test (conducted in Stata 12) returns four test statistics, Inverse chi-squared, Inverse normal, Inverse logit, and a modified Inverse chi-squared. Both of the chi-sqared tests, but neither the Inverse normal nor the Inverse logit rejected the null hypothesis that at least one of the panels in non-stationary. Due to the uncertainty regarding stationarity generated by these tests and the autocorrelation present in my preferred specification, I use Error Correction Models (ECM), which address both stationarity by first-differencing both the dependent and independent variables and autocorrelation, by including a lagged dependent variable. The basic ECM takes the following form:

$$\Delta Y_t = \alpha_0 + \alpha_1^* Y_{t-1} + \beta_0^* \Delta X_t + \beta_1^* X_{t-1} + \epsilon_t \tag{3.1}$$

where:

$$\alpha_1^* = (\alpha_1 - 1)$$

$$\beta_0^* = \beta_0$$

[6]The only variables for which panels had missing variables within otherwise complete blocks are RTI and Migration, thus both of these contain linearly interpolated values. I did not extrapolate either before or after the first/last year observation on the most incomplete variable, resulting in an unbalanced panel of 21 countries 1969-2008.

$$\beta_1^* = \beta_0 + \beta_1{}^7$$

I run four types of models for all dependent: models with random effects, with country fixed effects, and with country and either five-year or year fixed effects accounting for AR(1) autocorrelation and panel corrected standard errors (Beck and Katz 1995).[8]

In addition to helping address the issue of panel non-stationarity, the ECM is a dynamic model which returns estimates for both short- and long-term processes in the independent variables. With the ECM, changes in the dependent variable are regressed on both changes and lagged levels of the independent variables. This raises a further interesting and important question: what theoretically should we expect the difference to be (if any) between changes and lagged values of X (ΔX vs. X_{t-1})? I argued in chapter 2 that routine task employment was conductive to mass worker collective action, because production reliant on performance of routine tasks tended to require this in large, concentrated quantities. Because of this, we should expect both levels and changes in RTI to matter for union density. If RTI has a continuous relationship with capacity for collective action and capacity for collective action explains union density, union density should increase (decrease) more (less) when RTI is high than when it is low. Additionally, if the relationship to collective action capacity is continuous, we should expect a relationship between changes in RTI and changes in union density. When RTI is decreasing, so should union density. Although opening clauses, coordination, and centralization are categori-

[7]The ECM is based on the Autoregressive Distributed Lag (ADL) model:

$$Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \beta_0 X_t + \beta_1 X_{t-1} + \epsilon_t \tag{3.2}$$

and is generated by subtracting Y_{t-1} from both sides and adding and subtracting $\beta_0 X_t$ from the right-hand side (DeBoef and Keele 2008).

[8]Nickell (1981) demonstrates bias in the fixed effects model in the presence of a lagged dependent variable, however the bias is of the order 1/T, meaning that it should be fairly minimal in TSCS settings with relatively large T, such as this one. Beck and Katz (2011) and Wilson and Butler (2007) find using Monte Carlo experiments that the bias is minimal when $T > 20$ and that fixed effects performs as well as more complicated estimators.

cal variables, similar logic should apply if RTI is an important explanatory variable for these dependent variables.[9]

The relationship between stock market and the union variables is less straight-forward. We might expect the relationship between stock market development and the categorical variables to be short-term; when stock market development begins to increase, coordination and centralization decline and opening clause presence increases in response. These plateau at a certain level, after which we would no longer expect there to be a relationship between stock market development and these variables (especially if they have hit minimum and maximum values). If there is a strong short-term reaction of these variables to stock market development, we might expect the effect to come early in the increase in stock market development that took place in most advanced democracies in the 90s, but for there to be little relationship between the lagged values, which will be permanently higher and further changes in these dependent variables. For union density however, this may continue to decline with stock market development, although it may also be the case that because stock market capitalization becomes less consistent in the 00s and even declines in the latter part of the decade with the financial crisis, the relationship in levels is weak. As a result, I expect to find a negative short-term relationship between stock market development and union density, coordination and centralization and a positive short-term relationship between this and presence of opening clauses, but remain ambiguous for the long-term (lagged) relationships between these variables.

I run the regressions for each dependent variable using a partial slate of controls (stmkt plus RTI, gdp, and unemployment) and with a full set of controls derived from the literature on each of those respective variables. As there is no existing cross-national

[9]The original opening clause variable is a 6-category, while coordination and centralization variables are 5-category variables respectively. Changes in these variables, which are the dependent variables in my regressions, are 7, 9, and 9 category variables.

literature on determinants of opening clauses, I present the regressions with the same slate of controls as for union density.[10] I ran Hausman tests on differences in coefficients between both random effects and country fixed effects models, as well as between models with country fixed effects and five-year block and year fixed effects. The Hausman tests clearly reject the null hypotheses of no difference between the random effects and country fixed effects regressions, but are less consistent from the differences between country fixed effects and the two types of year fixed effects. I include models random effects, country fixed effects, and both country and time (both five-year and year) fixed effects for both the partial and full slates of variables (7 regressions for each variable for a total of 28 regressions) in the regressions, but note that the models with country fixed effects are to be preferred to those with random effects. This is also due to some substantial differences in year coverage between the countries.

3.5 Results and Interpretation

3.5.1 Main Results

Tables B.1 and B.2 present results for union density and opening clauses respectively, my two measures of within-institutional change. The first three columns of results are simplified models with 4 variables (in both change and one-year lag), the average of stock market capitalization and stock market value traded as a percentage of GDP (**stmkt**), occupational employment weighted by occupational routine task intensity (**RTI**), GDP, and the unemployment level (**unemp**). Columns 4-7 are full models with fixed effects. The variables in the top half of each column are one-year changes in X, contemporaneous with the dependent variable, a one-year change in Y, while those in the bottom half are

[10]The results are substantively similar if I use the coordination/centralization slate of controls.

one-year lags of the Xs.

As we can see in table B.1, the stock market variable has a fairly inconsistent relationship with union density. The relationships between both short-term (change) and long-term (lagged) stock market development are negative in the models with random effects and country fixed effects, but switch to positive when I include either the five-year block or year fixed effects and are inconsistently statistically significant. We cannot therefore conclude from these models that stock market development has a clear negative effect on union density.

Among other controls, the relationship between both RTI change and level and union density is always positive and almost always highly significant (excluding the levels in the random effects models). This means that union density decline is greater at lower levels of RTI employment and when RTI employment is declining, according to the expectation of the collective action theory. The other globalization variables, capital account openness (**CapOp**) and trade openness (**TrOp**) have fairly inconsistent effects across specifications, although levels of outward FDI (**FDI**) are negative and usually significant. Consistent with previous work, I find that countries with a Ghent system (**Ghent**) have lower levels of union density decline (**UnDen**) and both change and level of female employment (**FemEmp**) are associated with higher union density. Unemployment has a positive short-term relationship, but a negative long-term relationship, which conforms to expectations. I do not find consistent support for Lee's (2005) thesis and finding that immigration (**Immi**) has a negative relationship with union density.

Table B.2 presents the results for opening clauses. The original opening clause variable is coded 1-6, where 1 represents a complete lack of room for deviation from the conditions of sectoral wage contracts, while 5 indicates extensive presence and use of exceptions and 6 indicates lack of presence of sectoral wage contracts. As we can see, change in stock market development has a consistently positive and statistically signifi-

cant relationship with change in opening clauses, meaning that as stock market capitalization is increasing, there are more likely to be exceptions written into wage contracts and used. There is little relationship between however level of stock market development and change in usage of opening clauses.

RTI has little detectable short-term relationship with opening clauses, but the lag is consistently negative and statistically significant. This is consistent with the results and underlying theoretical mechanism for union density; when RTI employment is lower, there is increased usage of opening clauses in wage contracts, consistent with theory that collective action among labor to secure higher wages and better working conditions becomes more difficult as routine task employment declines. Few of the remaining controls have a consistent relationship with opening clauses, but two interesting results are for political party (**Party**) and unemployment. Presence and usage of opening clauses is less likely as presence of members of left political parties in government increases while increase presence and usage of opening clauses is higher at higher levels of unemployment, at least in all fixed effects models.

Tables B.3 and B.4 present results for wage bargaining coordination and centralization respectively. We can see that the results for stock market development and both wage bargaining coordination and centralization are very much as they were for opening clauses. There is a negative relationship between change in stock market development and change in wage bargaining coordination and centralization, although levels of stock market development have little relationship with changes in either wage bargaining coordination or centralization. This provides evidence for the hypothesized short-term effect of increases in stock market development on these variables and well for the ambiguous nature of their relationship with level of stock market development.

One of the most interesting results here is the relationship between RTI and wage bargaining coordination and centralization. Changes in RTI have little relationship with

changes in wage bargaining coordination, but, in all fixed effects models, the relationship is actually negative, meaning that controlling for other the variables, countries actually experience a greater declines in wage bargaining coordination when routine task employment is higher. The relationship between lagged RTI and wage bargaining centralization is usually negative, but less consistent. This suggests that the mechanisms underlying wage bargaining coordination change and within-institution change are different and that the loss of labor collective action capacity due to the decline of routine task employment is not a key factor for explaining changes in wage bargaining coordination and centralization. How should we interpret more broadly this negative association between lagged levels of RTI and coordination/centralization? It may mean that these institutional forms face a lot of pressure early in the process of structural economic change. As case study work shows, it is relatively easy for the coalition of losers of coordination to just back out, resulting in a rapid decline of coordination. This can happen when RTI is just starting to decline.

There are also interesting results among the other controls. Perhaps the strongest and most consistent relationship in both the short- and long-term is the presence of a centralized strike fund (**StkFd**), which is associated with higher coordination and centralization. Ahlquist (2010) argues that coordinated wage bargaining is more likely to occur in countries with a centralized strike fund, which itself occurs where there is relatively low inequality of resources across unions. I also find that, at least in the fixed effects models, levels of unemployment have a strong, negative, and consistent relationship with wage bargaining coordination and centralization. As with union density and opening clauses, the other globalization-related variables have fairly inconsistent relationships with wage bargaining coordination and centralization. Neither changes nor levels of either capital account or trade openness appear to have a detrimental effect on wage bargaining coordination or centralization. In fact, capital account openness change

and level are often both positive and significant. Levels and changes of outward FDI have largely positive relationships with coordination but largely negative relationships with centralization. In any case, these relationships are often not significant. For wage bargaining centralization but not coordination, decreases are less likely when left parties are in power. In both cases, unemployment level is a consistently negative and significant predictor, meaning that decentralization/decoordination are more likely following periods of high unemployment.

3.5.2 Interpretation and Robustness Checks

As all observational data work without some type of exploitable natural experiment, one should be careful about interpreting the results as causal. This would require at least three things: (1) that wage bargaining institutions don't explain 'selection' into stock market development in the long-run, with stronger wage bargaining countries having lower levels of stock market development; (2) that there is not some additional omitted variable which explains both stock market development and wage bargaining institutional change; (3) that there is not reverse causality in the short-run, whereby contemporaneous changes in wage bargaining institutions cause changes in stock market development.

Selection into stock market capitalization based on other variables, including wage bargaining institutional form and strength is a cause for concern. We would expect investors to shy away from countries with strong, and especially strong centralized union movements, as these reduce management autonomy in firm-level decision-making and would want to keep the ratio of firm revenues divided between workers and investors high. On the other hand, countries with very strong unions, such as Sweden have had these for a long time and nevertheless have several very strong, internationally active

firms in which investors would be willing to invest, despite union strength. As long as union actions are predictable, they can be factored in as one-among-many costs of doing business.

The inclusion of various types of fixed effects should help address the issue of selection effects as there are stark differences between countries in stock market development, which cross-cut regimes and are likely based on uncaptured country-level factors and that in most countries, stock market increases started to happen roughly around the same time and tend to be cyclical. Country fixed effects should help address concerns about labor and corporate governance legal institution selection into stock market development. The possibility of selection effects means we should be wary of relying too heavily on any one model. Nevertheless, I believe that the robustness of the results across the different specifications should assuage some of the concerns about selection into stock market development. These same arguments should also apply for omitted variables bias, which is always a concern in observational work, but can be reduced by showing robustness across a variety of types of fixed effects models.

Of these three types of concerns, (3), reverse causality is likely the largest regarding interpretation of the coefficients, especially those on the ΔXs. It could very well be the case that decreases in coordination/centralization or introduction of opening clauses would cause stock markets to rise. Although there is no method to perfectly address this concern given the type of data I am using, one way which may help address it is to use a different lag structure in the ΔXs.

I order to address this, I lagged the ΔXs by one year, resulting in a model of the form:

$$\Delta Y_t = \alpha_0 + \alpha_1^* Y_{t-1} + \beta_0^* \Delta X_{t-1} + \beta_1^* X_{t-1} + \epsilon_t \tag{3.3}$$

If the contemporaneous correlations in the ΔXs are due to largely to reverse causality,

we should find that the relationship which existed between ΔY and ΔX is either weaker or entirely disappears between ΔY and ΔX_{t-1}. I present four regressions, with the full slate of controls and the different types of fixed effects for each of the dependent variables in Tables B.5-8. This has some interesting effects on the results. For union density, change in stock market development is now negative and significant for all union density regressions except with year effects. **RTI** level remains robust in the fixed effects models, but the sign on ΔX_{t-1} is now negative. The relationship between change in stock market development and opening clause introduction disappears, and although the negative relationship between **RTI** and opening clauses is largely robust, in some regressions, the relationship is between the levels and in others it is between the changes. These regressions however do support the conclusion from the original regressions that the while there is some evidence for a negative relationship between stock market development and within-institution strength, it is inconsistent.

More consistent with the original regressions are the results for wage bargaining coordination and centralization. Change in stock market development remains negative and significant across all specifications. In the previous regressions, RTI levels had a negative and significant relationship. The level relationship disappears, but now RTI changes exhibit a negative and significant relationship with changes in wage bargaining coordination and centralization. The substantive conclusion however is fairly similar: the effect of stock market development on union institutions occurs is found in short-term changes, not long-term levels of stock market development and the negative relationship is more robust for institutional form than it is for within-institution change. Contrarily, RTI has a negative within-institution effect, but not on institutional form.

As an additional robustness check for reverse causality, I ran the regressions with stock market development as the dependent variable and the four dependent variables as predictors in the same models presented above in both the original regressions and

the robustness checks (Table B.9). I present regressions with each dependent variable as an independent variable with both basic controls and country fixed effects and then in full models with all of the controls and year fixed effects. As we can see, the union institution dependent variables are seldom significant predictors of stock market development, providing greater confidence that the results are not due to reverse causality.

3.6 Discussion

These results have interesting implications for debates on institutional change as well as for the role of financial market actors and unions in the study of advanced post-industrial democracies more generally. Work on institutional change has focused largely on the importance of abrupt change at critical junctures (Capoccia and Kelemen 2007), but it is important to note that institutions are comprised of many different dimensions and while the broadest dimension, the form that the institution takes (coordination of wage bargaining, presence of a filibuster procedure, a proportional representation vs. single member district electoral systems, etc.) is a categorical variable and official changes at a discrete time, there are aspects of the institution which may be simultaneously changing and affecting its performance. Furthermore, changing behavior of critical actors due to changing circumstances under a constant institutional regime may affect the outcomes under the institution more than would institutional form change itself. In any case, what may seem like a stable institutional arrangement may just be a front for a very dynamic within-institution process and changing critical actor preferences and actions.

Yet institutional form can still matter a great deal for substantive outcomes. Even though wage bargaining is not as centralized as it was previously in Scandinavian countries, sectoral wage contracts are still present in almost all if not all sectors. Almost

every firm is covered by a sectoral wage contract, which set largely minimum wages.[11] For strong firms, these contracts are of minimal importance, as the contracts tend to set only minimum wages (unlike in the past, when there were wage scales) and all workers tend to make above the minimum rates. But in weaker firms, and especially for firms in sectors which are typically low-wage sectors in other countries (such as fast food or transportation), the sectoral wage contracts guarantee relatively high wages for all and as a result, there is almost no phenomenon of 'the working poor' in Sweden and other Scandinavian countries, unlike the United States or increasingly even, Germany (Gautie and Schmitt 2010).

Of course, it is also important to recognize that one of the main reasons why industry-level collective agreements are still strong in Sweden and other Scandinavian countries is that unions have great legal latitude, much greater than in other countries, to conduct strikes against employers (Chapter 4). This includes the right to conduct sympathy strikes in support of other striking unions and blockades of employers unwilling to negotiate with unions. So it is not just institutional form which is important, but a favorable legal framework is likely necessary in order to allow unions to defend their institutional structures. Although I have provided some evidence that increasing stock market development erodes unions' institutional structures, there is likely a lower-bound to how much they can be eroded if unions face a favorable legal framework. But, of course, if equities investors become a very important part of the economy and demand further weakening of industry-level collective agreements, they may lobby politicians to weaken unions' legal protections and privileges. Whether this has occurred and the extent to which it differs across advanced democracies is an important area for future research.

[11] Rates of firm coverage by sectoral wage contracts are above 90% in Denmark, Finland, and Sweden, as well as other European countries including France and Belgium (Visser 2013).

Regarding financialization and labor more generally, this paper only begins to scratch the surface of how finance matters for labor relations. This paper primarily addresses the role of stock market development in union decline and secondarily that of foreign direct investment and general permission of capital mobility, but there are additional types of financial flows, such as bond investment and investment by private equity and hedge funds, which may have subtly different implications for labor relations. Gospel et al (2011) argue that private equity firms have mid-term time horizons and are most likely to take an activist role in corporate governance, while hedge funds are less likely to take an activist role, but have shorter time horizons and have as a primary goal pressuring managers to increase returns to shareholders. Nevertheless, in case studies of select firms in Spain, Germany, and the UK, they find little evidence of a substantial change in labor relations after assumption of ownership by private equity funds or increased ownership by hedge funds.

It will also be important to begin to study in more detail how financial activities themselves have become an increasing part of firms' business models and how this affects other types of firm policies, including relations with unions. Economic sociologists have recently begun to study this phenomenon in the United States (Lin and Tomaskovic-Devey 2013), but I am not aware of any work which examines development of this practice in other advanced democracies, including the extent to which it varies between them and how this affects employment and firm investment. This could have implications for trade unions in multiple ways; in addition to internationally mobile investors trying to divert production gains from labor to themselves and attacking unions as a means, if firms, especially large industrial firms become more reliant on income from financial services, they will be less reliant on traditional industrial employees and more reliant on those with programming and business skills, who will likely be much less willing to join unions.

Finally, there is also the issue of final labor outcomes, such as labor share of income and income inequality. I have reviewed papers which link declining labor share and increasing income inequality with financial development at the industry-level, but this work is largely based on a US sample (cf. Karabarbounis and Neiman 2014a). Such an approach could be extended to sectoral data for a cross-section of advanced democracies or to single-country linked employer-employee data in order to see whether results for the US extend to countries with very different labor market institutions and histories of concentrated ownership. Future work could additionally expand the range of labor outcomes to include overall employment levels, firm-level outsourcing to either subsidiaries or agencies, and the presence of firm-level worker representation.

Part II

Social Cleavages, Institutions, and Institutional Change

Chapter 4

Protecting Strategic Capacity: Trade Unions and the Politics of the Minimum Wage

4.1 Introduction

In a recent article in the *New York Times*, Liz Alderman and Steven Greenhouse compare the stories of Anthony Moore and Hampus Elofsson, both employees at Burger King, the former in Tampa, Florida, the latter in Copenhagen, Denmark.[1] Moore is a shift manager who makes $9 an hour and typically receives fewer than full-time hours, giving him a take-home pay of around $300 per week. He is on food stamps and struggles to pay rent and utilities. Elofsson however makes $20 an hour and is able to afford to save after paying living expenses.

One of the most likely explanations for the wage disparity within the same establishment would be that Denmark has a higher minimum wage than the United States. And in a sense, this is true; $20 is the minimum that employers can pay in the fast food

[1]Liz Alderman and Steven Greenhouse. "Fast Food in Denmark Serves Something Atypical: Living Wages." *The New York Times.* October 28, 2014.
At http://www.nytimes.com/2014/10/28/business/international/living-wages-served-in-denmark-fast-food-restaurants.html

sector in Denmark. But this minimum wage is set in a collective agreement between the Danish union 3F and the employers' association Horesta. Remarkably, Denmark does not have a legal minimum wage. In fact, employers are not even legally bound to abide by the minimum wage set in the collective agreement. But they do, because they face highly organized strikes and boycotts if they do not. As the authors note: "McDonald's learned this the hard way. When it came to Denmark in the 1980s, it refused to join the employers association or adopt any collectively bargained agreements. Only after a year of raucous, union-led protests did McDonald's relent" (ibid).

How can there be no minimum wage in a country where labor is so strong that it is able to pressure employers into signing collective agreements with such high wages? This paper argues that it is *exactly* because unions are so strong that there is no legal minimum wage. Unions have historically opposed the minimum wage in Denmark and other countries, including Sweden, Germany, and the UK. Although a minimum wage does benefit unions by putting a floor under wages and preventing low-wage competition, unions have countervailing concerns, including that a legal minimum wage will reduce workers' incentives to organize and result in loss of control over wage outcomes. These concerns will outweigh the benefits of a legal minimum wage when unions are near-monopolistic representatives of labor. Only when unions become less able to achieve desirable outcomes through direct wage bargaining do they begin to appeal for a legal minimum wage.

Section 2 explains union preferences for a legal minimum wage within a theoretical framework of 'forum shopping,' where actors and interest groups seek intermediary institutions only when they are not able to realize their preferences under the existing institutional framework. Unions begin to support a legal minimum wage when they face a decline in *effective coverage*, defined here as a combination of membership and firm coverage, as well as how labor law allows unions to leverage these against employers.

Membership and firm coverage help fund strikes and provide people to strike in order to generate leverage in contractual negotiations. Labor law affects unions' ability to leverage their membership and firm coverage by shaping 1) conditions for solidaristic industrial action, notably secondary strikes and employer boycotts and 2) extension of collective agreements to non-signatory firms. If unions are allowed to conduct secondary strikes and employer blockades to pressure employers into signing collective agreements or collective agreements are extended to non-signatory firms, collective agreements can remain an effective way to set minimum wages.

Empirically, this paper sets itself three tasks: 1) to demonstrate that union positions accord with the theory of effective coverage and preferences 2) to show that regulatory 'shocks,' which reduce unions' effective coverage cause most-affected unions to change their minimum wage preferences 3) to show that union confederation support for the minimum wage is critical for inducing minimum wage legislation support among political parties close to labor.

In section 3, I use a combination of interviews, primary, and secondary sources for the UK, Germany, and Sweden to show that union minimum wage preferences accord with the theory of effective coverage. The *Deutscher Gewerkschaftbund* (DGB), the confederation of German trade unions has only supported the the minimum wage since 2006, after more than a decade of membership decline. The British Trade Unions Congress (TUC) has only supported the minimum wage since 1986 after being weakened by the Conservative government's legislative changes. The *Landsorganisationen i Sverige* (LO), the confederation of Swedish blue collar and service sector trade unions has, however weakened to a lesser extent and continues to oppose the minimum wage.

Section 4 demonstrates both the degree of importance of unions' minimum wage preferences to them and the impact of changes in the regulatory component of effective coverage by examining union preferences before and after labor market regulatory

shocks in the three countries: the Conservative Party's labor law reforms in the UK in the early 1980s, the European Court of Justice's Laval ruling (2007) on wages for posted foreign workers in Sweden, and the Hartz labor market reforms in Germany in the early 2000s. While all of these had substantial implications for their respective countries' labor markets, only the Conservative labor law reforms had a significant impact on effective coverage and thus on union minimum wage preferences. The LO remained staunchly opposed to the minimum wage after the Laval ruling, even though a legal minimum wage would have been the most straight-forward solution to the ruling. The Hartz reforms likely had some impact on the DGB leadership's support for the minimum wage, but there is little evidence that it affected the positions of the individual unions.

Section 5 shows how adoption of the minimum wage by the TUC and DGB were critical for persuading the Labour Party and the German Social Democratic Party (SPD, *Soziademokratische Partei Deutschlands*) respectively to support and make legislative attempts to introduce a minimum wage. The Labour Party and SPD did not begin to support the minimum wage until 1987 and 2007, one year after their respective trade union confederations began to support it. On the other hand, there is no evidence of official support for the minimum wage in the Swedish Social Democratic Workers' Party (SAP, *Sveriges socialdemokratiska arbetareparti*) in recent decades. Section 6 concludes with reflections on the role of market dominance in theories of interest groups' institutional preferences, how this study can help enrich our understanding of the sources of labor market dualization in European countries, and the future importance of the minimum wage for dealing with the issue of living-wage work.

4.2 Union Preferences for the Legal Minimum Wage: History and Theory

One noteworthy fact about the legal minimum wage is just how prevalent it is around the world. Although the amount varies greatly in both absolute terms and relative to the country's median wage, roughly 90% of countries have a minimum wage set either by the legislature, a commission, or by indexing to either inflation or the cost of a basket of essential goods.[2] Figures C.1 and C.2 show the presence of a legal minimum wage around the world and in Europe respectively. The countries without a legal minimum wage are an odd mix. About half of these are in Western Europe and have among the strongest labor rights and lowest inequality in the world.[3] The others are either very low income or politically unstable countries (Somalia, Cambodia), or very small, wealthy ones (Brunei, Qatar).

This is puzzling. We would think that the most labor-friendly countries would also have high legal minimum wages. While there is substantial work on the effect of minimum wage increases on employment,[4] there is less on why the minimum wage is raised or established in the first place outside of the United States.[5] Work on minimum wage

[2]This follows Visser's definition of a legal minimum wage. See Visser (2013). Collective agreement wages extended by government decree to other firms are not considered legal minimum wages, although they may be functional equivalents.

[3]Among the European countries on this list, all except Italy are in the bottom 20 in global income inequality, measured by the GINI coefficient. At https://www.cia.gov/library/publications/the-world-factbook/rankorder/2172rank.html

[4]There is substantial work on the employment effects of the minimum wage and this is still a very active area of research. The state-of-the-art approach is to exploit US state-level changes in minimum wage rates on employment in border regions to estimate the effect of minimum wage increases on employment and wages in areas with otherwise similar characteristics. Papers using this approach have found small and statistically insignificant effects of actual minimum wage increases on employment and wages. See Card and Krueger (1994); Dube et al (2010).

[5]Aghion et al (2011) argue that presence of a legal minimum wage will be less likely in countries characterized by high levels of social trust, which regulate labor markets through social cooperation rather than legislation.

increases at the federal level in the United States has found that state-level union strength is a positive predictor of representative and senator support. This applies both to the original introduction of the federal minimum wage in the Federal Labor Standards Act of 1938 (Seltzer 1995) and subsequent house and senate votes for federal minimum wage increases (Sliberman and Durden 1976; Krehbiel and Rivers 1988).

All else equal, this positive relationship between union strength and minimum wage outcomes makes intuitive sense because there is much reason for unions to support the minimum wage. A minimum wage removes wages from competition to some extent, making higher-wage union labor less unattractive. Cox and Oaxaca formalize the argument that high-skills unions will support introducing a minimum wage as it increases the price and thus decreases the demand for substitutable non-unionized low-skills labor relative to that of unionized high-skills labor (Cox and Oaxaca 1982). One can easily extend this logic to the minimum wage preferences of unions representing low-wage workers. Assuming that unionized workers make higher wages than non-unionized workers, an increase in the legal minimum wage increases the price and decreases the attractiveness of non-unionized, low-skills labor relative to unionized, low-skills labor.

But while this logic appears to explain American unions' positions on the minimum wage over the past few decades,[6] it does not appear to generalize well to other advanced democracies.[7] Table C.1 presents union density and collective agreement coverage rates for 18 OECD countries.[8] There is a fairly high, negative correlation between both col-

[6]See, for example Reynolds and Kern (2001) on union support for local 'living wage' campaigns.

[7]American unions were not entirely happy with the inclusion of a legal minimum wage in the Federal Labor Standards Act of 1938 either. There was a cleavage between the two largest American trade union confederations, the Council of Industrial Organizations (CIO) and the American Federation of Labor (AFL), with the former, representing largely lower-skills, industrial unions being fully supportive and the latter, representing smaller, higher-skills craft unions having several reservations. See Forsythe (1939); Nordlund (1997).

[8]Most countries have higher rates of collective agreement coverage (percentage of workers covered by a collective agreement) than union density (percentage of workers who are union members). Some

lective agreement coverage and existence of a minimum wage and union density and existence of a minimum wage.[9]

If the standard economic logic is insufficient to explain variation in trade unions' preferences in several European countries, what here is different? The primary issue for unions' minimum wage preferences is whether they can set satisfactory wages through 'autonomous' wage bargaining between themselves and employers. When unions are very strong and can pressure employers to accept favorable wage outcomes with minimal government intervention, as has historically been the case in many European countries, this is their preference. It is only when unions become weaker and are unable to set satisfactory wages through autonomous bargaining that they want a legal minimum wage.[10]

Even though a minimum wage also helps strong unions by reducing wage competition, there are overriding reasons why unions have a preference for autonomous wage bargaining rather than a legal minimum wage when they are strong. One concern is that a minimum wage will disincentivize worker unionization. Why, for example, would a worker pay union dues if the union is not responsible for setting his wage? From the perspective of a union leader, this position may be either or both self-interested (union leaders want to have turf to control) or universal (union leaders believe that workers will be better off if they are represented by unions). Another is that government intervention in wage setting will set a 'slippery slope' precedent, which will make it more difficult

countries, most notably France have very high coverage but very low density. This occurs when collective agreements are extended to non-signatory firms, which is common in several European countries.

[9]The correlations for these 18 countries are $\approx -.54$ between collective agreement coverage and existence of a legal minimum wage and $\approx -.52$ between union density and existence of a legal minimum wage.

[10]Marks (1989) makes a similar argument for union involvement in politics generally. He argues that when unions are strong and able to adapt to challenges in their economic environment, they adopt a 'voluntarist' strategy, eschewing politics in favor of workplace activism. Only when economic conditions become unfavorable do they turn to political activity.

for unions to resist similar future government interventions (Volokh 2003). It could, for example set a legal precedent allowing mandated wage restraint to combat inflation or unemployment. More generally, there is a concern about loss of place as a central actor in wage setting. Loss of position increases uncertainty about future outcomes and there is concern that it will enable opponents to more easily circumvent you in negotiations.[11]

As unions lose members and become weaker, these concerns become less significant as they are unable to set acceptable wages through autonomous wage bargaining. A minimum wage would be unlikely to have as strong an effect on workers' incentives to join as when unions are strong and able to attain high wage increases. Likewise, concerns about unfavorable governments not increasing the minimum wage are diminished, as the future stream of wages for workers in low-wage sectors will be higher under a legal minimum wage than under autonomous bargaining.

Similar theories have been developed in political science and economics to explain actors' support for institutional 'forum shopping.' Actors support institutional change when they believe that they face perpetual disadvantage under the current institutional structure relative to a likely new one. Under these conditions, they will be willing to adopt mechanisms that trade benefits when they are in power for those when they are not. (DeFigueiredo 2002). When actors are strong, they want to keep power within the existing institutions and make these as robust to external threats as possible. DeFigueiredo (2003) finds that the adoption of the governor line-item veto in US states is more likely when state legislatures are controlled by fiscal conservatives, who want tighter budgets and believe that the line-item veto will be more likely to result in fiscal

[11] An additional reason why some high-wage unions may oppose the minimum wage is that they benefit from lower wages for low-wage workers or want to prevent wage redistribution (Carlin and Soskice 2009; Nijhuis 2013). There is, however reason for skepticism that concerns about redistribution drive high-wage unions' minimum wage preferences when low-wage unions are weak. The threat of between-union redistribution becomes weaker as low-wage workers' wages fall, which is when political demands for the minimum wage become strongest and high-wage unions tend to back off.

restraint in the long-run. Smith and Fridkin (2008) find that US state legislatures in the early 20th century were more likely to delegate to citizens the power to bring ballot initiatives when facing high inter-party competition and powerful third parties. Work on forum shopping has shown that when given a choice of regulatory institutions, actors will choose those which are most favorable given their future aims.[12]

The legal minimum wage can be set in multiple ways, and union preferences tend to be for mechanisms which will give them either greatest influence in the process or will be more likely to set higher rates. In many countries, including Australia, Canada, and the UK, it is set by a tripartite committee consisting of representatives of the government, unions, and employers (Boeri 2012). This is often the preferred solution for unions because it gives them an institutionalized voice in the process. Another favored solution is to automatically index the minimum wage to the cost of living on a regular basis, as is done in France. Although this does not give unions a role in the setting process, it ensures continual wage increases pegged to a generally acceptable standard. The third mechanism, where the legislature unilaterally sets the minimum wage (as at the federal level in the United States) is often the least preferred, as it does not give unions a role in the process and is most susceptible to rate stagnation under unfavorable governments.

4.2.1 Explaining Variation in Strength and Preferences

Two questions remain: what constitutes strength for trade unions and what explains change in strength? Unions' central weapon is industrial action, most notably strikes and employer blockades. The more powerful these weapons and the more credible the threat to use them, the better able unions will be at persuading employers to sign favor-

[12]See Lerner and Tirole (2006) for a model of forum shopping with reference to goods producers searching for independent certifiers and Busch (2007) for a model and case studies of forum shopping in international trade disputes.

able collective agreements. Capacity for effective industrial action is in turn a function of two things: 1) current and future perception of union membership and firm collective agreement coverage 2) how labor law regulates conditions for solidaristic industrial action and extension of collective agreements to non-signatory firms. Membership is critical as unions require dues payments for their activities. Additionally, there must be a sufficient number of workers willing to participate in a strike or an economic blockade in order for it to be effective. Perceptions of future membership and firm coverage are important, as a general belief that unions are becoming weaker will give employers assurance that they can better endure a drawn-out conflict.[13]

The second important factor is how labor law regulates solidaristic industrial action, most notably sympathy strikes and employer blockades. These legal regulations affect unions' ability to leverage latent power in their membership. Sympathy strikes are those taken in support of striking workers in either a different part of the same firm or another firm. Almost all EU countries allow sympathy strikes, but level of permissiveness varies greatly.[14] Blockades occur when a union refuses to allow its workers to perform work for a particular employer. Where employer blockades are permitted, even unions with relatively low levels of agreement coverage may together be effective in pressuring employers into favorable collective agreements.

Although it does not have as direct an effect on unions' ability to successfully withhold labor, statutory conditions for extending collective agreements to non-signatory firms (known as *Erga Omnes* clauses) should also influence whether they will support

[13]I leave aside here the issue of structural reasons why trade union membership and collective bargaining coverage decline. Author argues that technological change allows the automation of 'routine' task jobs and that this drives trade union decline by increasing the demand for both high and low-skills workers, who have opposing preferences for unionization.

[14]The Nordic countries are the most permissive of secondary strikes. Sweden requires neither reasonable proportion between the strike and the grievance, nor either a legal or economic connection between the union and the targeted party. Secondary strikes are technically legal in Germany (although under very restricted conditions) but illegal in the UK (Warneck 2007).

a legal minimum wage. Most european countries have a threshold at which contracts can be extended to firms which have not signed them.[15] If this threshold is low enough, even at relatively low levels of contract coverage, unions will have substantially more wage setting power than membership density would imply.

The main prediction is that lower-wage unions with high effective coverage will oppose the legal minimum wage but that as effective coverage declines, they will begin to support it. We may see up to three types of variation between union positions: variation within-union over time, within-country variation between unions, and between-country variation for unions in similar sectors. Higher wage unions will be less likely than low-wage unions to support the legal minimum wage as their workers are less likely to be affected by low-wage competition. They will likely prefer policy alternatives which more directly benefit them, such as legal reform to make it easier to extend collective agreement rates to non-signatory firms. But if this is politically infeasible or the capacity to attain acceptable collective agreements is too weak, they may give in and join the effort for the minimum wage. At some point, the importance of solidarity outweighs possible material benefits. In addition, the legal minimum wage has the benefit of being popular with the public across countries, especially when there is a perception that wages are stagnant or falling for low-wage workers.[16] Public opinion may be an additional factor nudging high-wage unions to accept supporting the legal minimum wage.

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[15]In Germany, a collective agreement must cover 50% of all workers in a sector nationwide and the Ministry of Labor must deem extension to be in the public interest. This 50% threshold is also custom in The Netherlands, but there is no public interest requirement. In France, collective agreements can be extended by the Ministry of Labor regardless of coverage, as long as they cover a wide range of working conditions (Blanpain 2005).

[16]In a 2006 survey, 57% of the German public favored a legal minimum wage while 34% opposed it. "Introduction of a Legal Minimum Wage." [in German.] At https://www.mindestlohn.de/w/files/umfrage/infratest-6-2013/2013.06.05-wegewerk_mindestlohn-graf.pdf. In Gallup Polls of opinions on raising the minimum wage between 1999 and 2013, between 71% and 83% of Americans favored increasing the minimum wage. "In US, 71% Back Raising Minimum Wage. At http://www.gallup.com/poll/160913/back-raising-minimum-wage.aspx.

4.3 Examining Preferences

4.3.1 Case Selection

Given the focus of the theory on actors' reasons for their positions, this study uses a comparative case examination of three countries, Germany, the UK, and Sweden, combining interviews, primary, and secondary sources.[17] These cases are representative of different models of welfare states (Continental, Liberal, Scandinavian) and political institutions (first-past-the-post electoral system in the UK, proportional representation in Germany and Sweden). They exhibit substantial within-case over-time and between-case variation in the dependent variable, unions' legal minimum wage preferences.

There is a great deal of diversity in effective coverage both within unions over time and between unions in Germany and the UK, but less so in Sweden. Although union density is declining in all three countries, the timing is different, beginning in the 1980s in Germany and the UK, but not until the 1990s in Sweden. British unions faced extremely unfavorable changes to the labor law in the 1980s, but while there have been unfavorable labor law developments for both German and Swedish unions, these have been of much lesser magnitude. Furthermore, Germany is a particularly timely case as the minimum wage has been one of the foremost political issues in each of the last two election cycles and was until fairly recent the subject of much controversy among trade unions. Sweden is one of the only countries in which unions still oppose having a legal minimum wage and given the emphasis on strong unions' reasons for opposition, it is very important to include such a case.

[17] Gerring (2004) argues that case study methodology is especially well-suited when (among other conditions) (1) propositional depth is prized over breadth and boundedness, (2) insight into causal mechanisms is more important than insight into causal effects, (3) and especially when useful variance is available for only a single unit or a small number of units. (2) and (3) are especially applicable here.

4.3.2 Germany

The introduction of a legal minimum wage was one of the central issues of the 2013 parliamentary elections and became part of the coalition contract between the SPD and their coalition partners, the Christian Democratic Union (CDU, *Christlich Demokratische Union*) and the Christian Social Union (CSU, *Christlich-Soziale Union*). The coalition contract states that the legal minimum wage will be set at 8.50 *e* per hour, applicable from January 1, 2015.[18] This was passed into law in June 2014. Although there was no single legal minimum wage before this, there were two legal procedures by which sectoral minimum wages could be set through extension of collective agreements: 1) Sector-specific minimum wages could be set if an existing collective agreement covered at least 50% of employees in that sector nationwide and both the employers' association and major union in the sector declared their interest in general bindingness. 2) In industries where collective bargaining was weak, unions, employers, or a federal state government could convene a committee to set a minimum wage. If the committee determined that the industry was characterized by deep social rifts, it could set a minimum wage.[19]

The DGB has supported introducing a legal minimum wage since its 2006 congress (Bosch and Kalina 2010).[20] This position was, however quite controversial among member unions. Below, I examine the preferences of two DGB member unions opposing the minimum wage, IG Metall (manufacturing) and IG Bau (construction) and two unions supporting it, NGG (hotels, restaurants) and Ver.di (non-food related service sector). I

[18]"What is in the Coalition Contract." November 27, 2013. *Zeit Online* [in German.] At http://www.zeit.de/politik/deutschland/2013-11/koalitionsvertrag-beschluesse-ueberblick.

[19]The first procedure has been implemented in several sectors, including the construction, painting, roofing, demolition, janitorial, electrical, and postal service sectors in 2008 covered approximately 1.3 million workers. As of 2011, the second procedure had not been used (Bispinck and Schulten 2008; Bosch and Weinkopf 2011).

[20]The DGB congress is a general convention of representatives and members of the various DGB member trade unions, which meets every four years to discuss and vote on policies and political strategy.

use as my main source minutes from a debate between representatives of these four unions from the 2006 DGB Congress (Sterkel et al 2006). This is a particularly useful source of information as it comes just one year after a critical juncture, the Hartz IV reforms, which reduced the duration for unemployment benefits and created incentives for employers to hire individuals for part-time and temporary jobs. Yet as we will see, there is still a distinct divide in the unions' positions, with the two relatively low-wage, low effective coverage unions NGG and Ver.di supporting it, and the two relatively high-wage, high effective coverage unions preferring that the DGB use its political capital to lobby to relax the law on collective agreement extension.

IG Metall: IG Metall is currently the largest union in Germany, representing approximately 2.3 million workers largely in manufacturing (including automotive) industries. Its members typically receive well above the level of what the legal minimum wage would be. We might therefore think that they would be relatively unconcerned with the introduction of a legal minimum wage. Yet they were clearly uncomfortable with it. Michael Guggemos, head of the central office in Berlin argues that the primary problems facing German unions are that employers are increasingly choosing not to participate in collective agreements and that both unemployment and the possibility of outsourcing production to eastern european countries enhance employers' exit option. Opening the debate, he argues that:[21]

> *A general legal minimum wage does little to solve these problems. It would rather remove a part of unions' political autonomy, by which we, instead of improving our own negotiation possibilities, give regulation of wages to the state level, on which we don't have much influence under the circumstances. The position of IG Metall is: At its core, the fixing of wages must remain with unions... IG Metall demands the revision of the law regarding the fixing of minimum working conditions from the*

[21] I have translated all quoted passages from the original German.

> *year 1952, in which the lowest contract rate of a sector can be declared the legal sector minimum income.* (Sterkel et al 2006, 266).

IG Bau: This position is shared by IG Bau, a union representing workers primarily in the building sector. It is one of the few sectors to have a minimum wage set through the collective agreement extension procedure. This has been the case since 1996, and it has been consistently supported both by unions and employers as a way of stemming competition from low-wage, non-German contractors (ibid, 267). IG Bau's position is represented by Gregor Asshoff, head of the Department of Politics and Policy (*Hauptabteilung Politik und Grundsatzfragen*), who insists on the preservation of wage bargaining autonomy.

> *"The position of IG Bau is: let us try to make the posted workers' law usable for other sectors...We are as before of the view that this is the least harmful way for wage setting autonomy. We want the fixing of sector-specific minimum wages, which have a connection to the amounts in our normal compensation contracts."* (ibid).

NGG: The Food, Beverages, and Catering Union NGG (*Nahrung, Genuss, Gaststätten*) represents workers in hotels, restaurants, and other food-related industries, such as slaughterhouses. It was the first union to demand a legal minimum wage (ibid, 268). It has been interested in a legal minimum wage since the early 90s, as the incorporation of the former East German states into the Federal Republic put downward pressure on wages in many of the sectors which it covers. At that time, the union organized warning strikes and campaigns to improve organizational quality, but had difficulty gaining traction as worker turnover was fairly high and there were too many small and medium-sized employers to be effective (ibid, 269). This made it difficult to develop national-level contracts and as a result, most of the contracts in these sectors are regional or in-house

and cannot be used as the basis for a comprehensive industry minimum wage. A minimum wage is necessary, according to Gerd Pohl, head of the department of collective bargaining policy, because:

> *"Low-wages are neither a problem of an individual economic sector, nor expression of insufficient union work. Low-wages are a structural and a societal-political problem, which is quickly growing. We can only make limited progress against this with collective agreement instruments. We need flanking intervention of the law...*(ibid, 269-70).

Ver.di: This position is largely shared by Ver.di, the United Services Union (*Vereinte Dienstleistungsgewerkschaft*), which represents workers in largely non-food-related service industries. Günther Waschkuhn, Ver.di representative from Brandenburg notes that:

> *"For us, it has to do with a paradigm shift on the side of employers' associations and with structural changes in employment and membership developments, which we will not reverse with better advertisement or organizing. We have a very high share of employees in small firms and in firms without works councils, straight through all sectors. We have to deal with outsourcing strategies."* (ibid, 273).

He acknowledges that he was previously of the position of IG Metall and IG Bau, that unions cannot let the regulation of wages out of their hands. In order to address the latter concern he argues that in supporting the minimum wage, unions insist that it not be set by a commission without their input, but in a way which involves them:

> *"Earlier, I was of the position that we would be committing an irreparable mistake if we even let the regulation of wages a little bit out of our hands-the way of minimum wages would lead automatically at some point to mandatory arbitration by the state. Today, I see things differently...It is important that the conception does not come from political deputies or distant decisions in some commission. The minimum wage must be the result of our own negotiation and our own political action."* (ibid, 272-3).

4.3.3 The United Kingdom

In contrast to Germany and Sweden, the UK currently has a legal minimum wage, which was introduced in the National Minimum Wage Act of 1998 by the Labour government and is set by the Low-Pay Commission, a tripartite commission comprised of representatives of unions, employers, and government-appointed pay experts. Also, unlike Germany and Sweden, the UK had, up until 1993, a system of wage councils, which set minimum wages for select low-wage sectors in which unions were weak.[22] These had, however been declining throughout the 1970s and were largely abolished by the Conservative government in 1986 (Metcalf 1999). Unions supported the Labour Party's abolition of 14 wage councils while it was in power 1974-79, as they believed that these institutionalized low-pay and discouraged the labor force from seeking union membership (Blackburn 1988).

The legal minimum wage was even more controversial among British trade unions than the wage councils. Although the issue did not receive a great deal of attention before the 1980s, it received substantial union pushback whenever it was raised, especially from high-wage unions (Nijhuis 2013). The wage councils were considered more acceptable than a general minimum wage because they only applied in sectors in which bargaining was weak and would disappear when bargaining became strong enough. Both unions and the Labour Party felt that a national minimum wage would replace the councils with a less favorable form of collective bargaining (Metcalf 1999). Some felt it "could be used by employers to undermine trade union organization, negotiation and collective bargaining." (ibid, 2). They were concerned that minimum wage increases would become either a ceiling on wage increases or an informal indicator of the 'going rate,' that which union negotiators would be compelled to accept by circumstance (Coats

[22]There is one remaining wage council, in agriculture. Author Interview with Paul Sellars, *Trade Unions Congress* Headquarters. London, UK 03/06/2014.

2007).

But by the mid-1980s, unions began to more widely support introducing a minimum wage. The TUC began to officially support the introducing a legal minimum wage in 1986 (Blackburn 1988; Metcalf 1999; Coats 2007). In order to get a better idea of the reasons underlying the trade unions' previous opposition and why they changed their position, I interviewed Paul Sellars, a Trade Unions Congress policy officer specializing in the national minimum wage. Although British trade unions are now unanimous in support of the national minimum wage:

> *"There was a long-running skepticism of the role of the law in the workplace in the UK amongst trade unions and certainly for most of the post-World War II period right up to the 80s the aim was to keep the law out of the workplace because unions could then operate and regulate. Very often the law was seen as a negative and that goes back right though our history back into the 1870s when trade unions were fully legalized."* (Sellars 2014).

And in a situation similar to Germany, there was a cleavage between stronger and weaker unions, the former expressing greater opposition to the minimum wage and the latter greater support. The National Union of Public Employees (NUPE), which represented many low-wage workers in the public sector had expressed support for the legal minimum wage as early as the 1966 TUC Congress. Modest support was also expressed by the USDAW shop workers' union and the GMWU general union (See Coats 2007, 20; Nijhuis 2013, 38). Contrarily, the TGWU, an industrial union representing transport workers opposed the minimum wage in the early years for several reasons.[23] According to Ian McCartney, a Labour Party member of parliament in charge of preparations for the National Minimum Wage Act: "They were worried about jobs, they were worried about differentials...but beyond that there was a general collective bargaining fear for

[23]In the 1960s, the Iron and Steel Trades Confederation (ISTC) and the white collar National Association of Local Government Officers (NALGO) also opposed the minimum wage (Nijhuis 2013, 38).

a number of trade unionists. They said 'If you legislate, at what price to trade union organisation? It would disappear.'"[24]

But union positions were affected by the Conservative government's labor market reforms in the early 1980s. The TGWU, formerly opposed to the minimum wage, began to support it by the mid-80s as they "began to realise that their position was weak too and that in the absence of an effective wage floor there would be downward pressure on negotiated rates, particularly at a time of high unemployment." (Coats 2007, 22). In addition to policies affecting strikes, the reforms included substantial privatization of public sector industries which, when combined with tougher restrictions on industrial action, meant that unions in these sectors faced the prospect of their workers receiving substantially lower pay.

4.3.4 Sweden

In contrast to those in Germany and the UK, Swedish unions have managed to keep both very high membership and collective agreement coverage, at 68.9% and 91% respectively in 2010 (Visser 2013). High density and collective agreement coverage, especially when combined with a legal framework giving wide permissiveness for solidaristic industrial action give Swedish unions very effective strike power and thus a great deal of power in autonomous bargains with employers. This is also true in lower-wage service sectors, which in other countries tend to have a far lower unionization rates.

The LO is the largest of three Swedish trade union confederations and its member unions represent workers across industrial and service sectors.[25] I conducted interviews

[24]"The Introduction of the National Minimum Wage" (1998).
At http://www.instituteforgovernment.org.uk/sites/default/files/the_mimimum_wage.pdf, 61-2.

[25]The other two trade union confederations, TCO and Saco represent white collar workers such as engineers and professional/academic employees respectively (Ahlberg and Bruun 2005).

with LO representatives Tomas With, a former steelworker and union officer for steel industry negotiations and Claes-Mikael Jonsson, a confederation lawyer for collective bargaining and European law in November 2013.[26] The LO has always opposed the legal minimum wage, continues to oppose it, and interviewees gave no indication of any variation in positions between unions in different sectors.[27] They made their position very clear. According to Tomas With, their idea "is to be a cartel...We sell labor. And if we sell labor, we will negotiate the price of labor." (Jonsson and With 2013).

The key points for the LO are to maintain union incentives to organize workers, worker incentives to join unions, and ultimately "upholding social power within the workers' movement."[28] One of the concerns about ceding social power is that this will eventually jeopardize other trade union rights as well. According to Claes-Mikael Jonsson:

> *"...it's all about social power. So if we, sort of let the power or the price of labor slip through our fingers and we get someone else doing that for us, then we will lose a lot of influence. And it will lower the wages, other conditions will follow, and that's what you learn from all other countries. So, last resort as a trade union is to demand a legislative minimum wage. As soon as you're there, I think it's very difficult to get out of it."* (Jonsson and With 2013).

In addition to having high density and collective agreement coverage, Swedish unions' effective coverage is even higher due to labor law. Although unlike Germany there is no legal procedure for extending collective agreements, sympathy strikes and blockades are

[26] Author Interview with Claes-Mikael Jonsson and Tomas With, LO Headquarters, Stockholm, Sweden. 11/28/2013.

[27] Work on trade union preferences for a Europe-wide minimum wage shows similarly that unions in Sweden (and Scandinavia generally) are most likely to oppose this (Furåker and Bengtsson 2013).

[28] With: *"I think that if we no have legal minimum wage we have an incitement to organize the workforce and ask for a collective agreement. It's easier to negotiate...if we do not have a legal level. The idea is that we shall regulate it by ourself. If it was a regulation from the beginning, why should we try to unionize the workplace?"* Jonsson and With 2013.

legal. This allows unions to act solidaristically to pressure non-cooperative employers to sign collective agreements.[29] The right to strike is specifically protected by the constitution and the right to sympathy strikes is much broader than in Germany and most other countries, requiring neither reasonable proportion between primary and secondary action nor a legal or economic connection between workers and the targeted firm(s).[30] Public employees are entitled to strike. The two primary restrictions on strikes are that the primary strike must be taken with the purpose of securing a collective agreement (secondary strikes are not bound by this condition) and that strictly political strikes are illegal. Claes-Mikael Jonsson acknowledged the fundamental importance of these regulations for the Swedish system of wage setting:

> *"It's all laissez-faire. It's all about blockades, sympathy actions. The right for trade unions for sympathy actions is pretty generous, but that's because we don't have another system...so there's no other way for it...So it's a battle of interests, at the end of the day."* (Jonsson and With 2013).

The interviewees did however acknowledge that if the situation were to change and they became less effective in getting employers to sign collective agreements, they would probably begin to support a legal minimum wage. Collective agreement coverage has been declining in certain service sectors (such as hotels, restaurants, and transportation) and there is some concern about the future possibility of maintaining strength in these areas. In the end, Claes-Mikael Jonsson conceded that:

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[29]This has been especially important for dealing with international firms in Sweden. The interviewees relayed that when American toy retailer Toys "R" Us came to Sweden in the mid-90s and refused to sign a collective agreement, the workers went on strike and electrician and transport workers blockaded Toys "R" Us stores. This brought Toys "R" Us to sign a collective agreement, establishing an important precedent.

[30]German labor law only allows sympathy strikes if secondary strikers under a separate collective agreement work for the same firm as the primary striking workers (Warneck 2007).

> *"It's pure interest. It's all about interests. There's no ideology as such, I would say...So if we need to do that we will do that, but there is no such need today and we don't see any such need."* (Jonsson and With 2013).

4.4 Regulatory Shocks and Unions' Minimum Wage Preferences

Although the minimum wage preferences of German, British, and Swedish unions have been shown to have been in line with the predictions of the theory, there is still a matter of the causal efficacy of the central independent variable, effective coverage. A key premise of the argument is that the issues underlying unions' minimum wage preferences are of deep importance and they will only change their preference for autonomous wage bargaining if they lose sufficient leverage with employers and it becomes impossible to attain acceptable wages this way.

Given both the secular decline in union membership in most countries in recent decades and the endogeneity of membership and firm coverage to the regulatory framework, this section restricts its focus to the effects of changes in the regulatory component of effective coverage by focusing on how unions' preferences respond to important labor market regulation 'shocks.' Per the theory, we would expect unions to become more favorable toward the legal minimum wage after a change in labor market regulation which makes it more difficult for unions to either build their membership or engage in solidaristic industrial action. Not all changes in labor regulation should be expected to have equal impact on effective coverage, however. Regulatory changes which leave in place broad scope for solidaristic industrial action and do not substantially change conditions for membership will have less of an effect on preferences. Unions will continue to prefer to use industrial action to ensure that minimum wages in collective agreements are sufficiently high.

This section examines the response of union minimum wage preferences in the three case study countries to a regulatory shock affecting each of them respectively: British unions' response to the Conservative Party's labor law reforms in the UK in the early 1980s, Swedish unions' response to the European Court of Justice's 2007 Laval ruling on the posting of foreign workers, and German unions' response to the Hartz labor market reforms the early 2000s. Of these three regulatory shocks, only the British Conservative Party's labor law reforms dramatically affected capacities to cultivate membership and conduct solidaristic industrial action and could be expected to greatly impact unions' minimum wage preferences. These made secondary strikes illegal, greatly curtailed unions' legal immunities for primary strikes, increased the procedural burden for union recognition, and abolished extension of collective agreements. Although both Laval and Hartz had major labor market implications, neither affected conditions for solidaristic industrial action and the latter had only side-effects on conditions for membership. Sweden retained its liberal framework for sympathy action and unions remained resolutely opposed to the minimum wage following Laval.[31] Germany represents an in-between case. It had greater restrictions on solidaristic action however and while the Hartz reforms did not affect the positions of high-wage unions, they likely softened the position of the more moderate DGB leadership, which came to believe that there was no way to support low wages through the existing system.

The British Conservatives' Labor Law Reforms: The Conservative Party's labor market reforms in the early 1980s had a tremendous impact on all aspects of unions' effective coverage. These reforms both dramatically curtailed unions' legal immunity to strike[32]

[31]The Swedish case can be viewed as a placebo test, showing the effect of a regulatory change with no real effect on the independent variable.

[32]There has never been a legal 'right to strike' in the UK. Since 1906, there have been a series of immunities for trade union actions undertaken in contemplation or furtherance of a trade dispute. Prior to the Conservatives' labor market reforms, the definition of a trade dispute was very broad and could be interpreted to cover most types of industrial disputes (Addison and Siebert 2002).

and also made it substantially more difficult for them to recruit members. By the mid-1980s, unions had lost their ability to conduct secondary strikes, faced much higher legal hurdles to conduct primary strikes, and faced greater restrictions for a plant being declared a 'closed shop,' where all employees must join the union.

Although there were six major labor market reforms from 1980-1993 (the last occurring under Prime Minister John Major), the first three, The *1980 Employment Act*, *1982 Employment Act*, and the *1984 Trade Union Act* were primarily responsible for removing unions' legal immunities for strikes and tightening the conditions for maintenance of closed shops (Addison and Siebert 2002). The latter three laws largely closed loopholes in and reinforced the intentions of these first three reforms.

The 1980 Employment Act restricted picketing to primary employer disputes and removed immunity from breach of contract for workers striking against anyone other than their primary employer. It also required closed shops to be approved in a secret ballot of at least 80% of those entitled to vote. The 1982 Employment Act further curtailed the scope for strikers' immunity, limiting this only to disputes between workers and their primary employers. Critically, and unlike the 1980 act, this act also made unions, not just the individual workers, financially liable for unlawful industrial action, which would open them to crippling lawsuits. It also required closed shop agreements to be renewed every five years and outlawed contracts specifying that only union labor could be used. The 1984 Trade Union Act further limited unions' strike capabilities by requiring unions to send ballots to all workers who would be called upon to strike. This raised the possibility of strikes being declared illegal if even a few ineligible workers were sent strike ballots or these were not sent to a few workers entitled to vote.

The TUC voted to support a legal minimum wage in 1986, less than two years after the main parts of these reforms had been completed. These reforms had removed almost all protections for striking and dramatically increased the financial liabilities associated

with this, limiting unions' ability to apply pressure on employers in collective bargaining. While the weakly unionized sectors already set minimum wages through the wage councils, there was a growing concern that the Conservatives' reforms had begun to affect wages even in sectors that had relied solely on wage bargaining between unions and employers. As David Coats notes: "...broad based union support only crystallized when it became clear that Thatcherism was widening the distribution of earnings in the UK and eroding the effectiveness of collective bargaining." (Coats 2007, 21). Unions could begin to see that a legal minimum wage was becoming the only way to regulate low-pay.

The Laval Case: Laval was a 2007 European Court of Justice ruling on the case of Latvian construction firm Laval, which had been awarded a contract to build a school in Vaxholm, Sweden. Laval wanted to use Latvian workers and pay them Latvian wages for this work. The Swedish construction union pressured Laval to sign a collective agreement paying Swedish construction wages and when Laval refused, unions blocked the construction site. Although the blockade was deemed legal under Swedish labor law, Laval contested the blockade at the European Court of Justice under the *Posted Workers Directive* (1996), which held that wage rates for posted workers must be ex ante predictable, either through a legal minimum wage or declaration of collective agreements as generally binding. As neither of these were in place in Sweden, the European Court of Justice ruled that the blockade was illegal (Skedinger 2010).

Two straight-forward responses to this ruling would have been either to introduce a legal minimum wage or a legal procedure to extend collective agreements. Although Laval led to increased discussion about having a minimum wage, the LO preferred a solution that would not require them to give up wage setting autonomy and would

allow them to continue to set flexible rates.[33] The Swedish Parliament's Laval Commission (2008) cooperated, rejecting both a minimum wage and legal extension of collective agreements. Instead, it proposed to allow unions with clearly defined contractual minimum wages to impose these on foreign firms with posted workers by means of a special 'posting' collective agreement. Unions can demand that firms posting workers sign Swedish collective agreements, but only if these firms do not already offer their workers wage conditions on par with representative Swedish collective agreements (Skedinger 2010). This has the advantage of meeting the conditions required by the Court of Justice's ruling and ensuring that all employers have to negotiate with the union, allowing unions the autonomy to deal on a case-by-case without state intervention. And according to Claes-Mikael Jonsson, this approach as been successful.[34]

The Hartz Labor Market Reforms: The Hartz reforms were a series of four rounds of labor market and social insurance reforms in Germany, which occurred under the social democratic government of Gerhard Schröder in the early 2000s. Hartz I-III deregulated the market for atypical employment through liberalization of temporary work and introduced incentives for part-time employment and self-employment. Individuals could take so-called 'Mini-Jobs,' which would allow them to earn up to 100 €per week, without either they or their employer having to pay social insurance contributions. This drew many people into part-time employment in the low-wage service sector who otherwise may not have participated in the labor force. Hartz IV shortened the duration of short-term unemployment benefits from 32 to 18 months and created a new scheme of long-term unemployment benefits (Jackson and Sorge 2012). Together these reforms had

[33] It is typical for Swedish unions in the construction sector to use piece-rate contracts, which set different rates for different projects rather than a flat hourly rate. (Jonsson and With 2013).

[34] *"During these years, I would say that we have had huge success in getting the collective agreements in place. We have a lot of different collective agreements in place which are the normal Swedish ones."* (Jonsson and With 2013).

the effect of increasing competition for employment in low-wage sectors, as individuals could no longer remain unemployed long-term while continuing to draw benefits at a high percentage of their former income.

We might expect that Hartz would change union preferences for a legal minimum wage because labor market liberalization without a minimum wage will increase low-wage labor market competition and place downward pressure on wages. But among unions examined in the previous section, minimum wage preferences do not appear to have changed much in response to the Hartz reforms. Labor law regarding strikes, blockades, and the extension of collective agreements to non-covered firms was not affected by Hartz. Union coverage had already been rapidly declining before Hartz.[35] Although Hartz certainly did not help with the issues that led to a preference for a legal minimum wage among low-wage unions, Ver.di and NGG's support predated these reforms.[36] NGG forwarded a plan for a 1,500 €/month minimum wage in the 2002 DGB congress, but this met a great deal of resistance from other unions (Sterkel et al 2006, 274). And we can see in the 2006 DGB debate that even post-Hartz, high-wage unions did not support the minimum wage. The debate over the minimum wage reminded them of the problems with government intervention in the labor market; they had little influence over the design of Hartz and were very unhappy with the results.

While the positions of the strongest supporters and opponents of the minimum wage were not changed by Hartz, critical centrist actors likely moderated their positions in response to downward pressure on wages and increased labor market competition. In the summer of 2004, before completion of the Hartz reforms, SPD chairman, Franz Münterfering proposed a legal minimum wage as a way to ensure that wages in newly liber-

[35]The Visser data show steady decline in union density and coverage rates since the early 1990s.

[36]We cannot rule out the possibility that Hartz would have changed these unions' preferences if they had previously opposed the minimum wage.

alized low-wage sectors did not fall too much. This was rejected by DGB chief Michael Sommer, who argued at the time that wages should be "oriented to the contractually agreed and local wages."[37] But his position, as well as that of the DGB advisory board had changed by the 2006 congress after over one year under the Hartz reforms, where they put forth a proposal to set the minimum wage at 7.50 €per hour, which was passed by the delegates. The Hartz reforms do not appear to have had a broad effect on union preferences across unions as in the UK, but they likely had a marginal effect on median unionists, whose preferences were decisive for the DGB changing its course.

4.5 Union Preferences and Party Positions

Although not the central focus of this paper, there is also evidence that the positions of political parties close to labor follow those of trade unions. These parties' support was in turn critical for introducing and passing minimum wage legislation. In the UK and Germany, the Labour Party and the SPD did not officially propose introducing a legal minimum wage until shortly after the trade union confederation endorsed it. There are, however no references to introducing a legal minimum wage in Swedish SAP manifestos dating back to the 1950s. This is sensible because trade unions are these parties' critical constituents, especially regarding wage setting issues. Parties further left, for whom trade unions are not central constituents, may support the minimum wage before trade unions in order to boost their support among non-union, low-wage voters.

Before the TUC vote to support the minimum wage in 1986, the Labour Party had investigated the possibility of introducing a minimum wage several times, including official discussions at Labour Party Conferences in 1964 and 1973 (See Coats 2007; Nijhuis

[37]"Reform Conflict: Unions Defend Themselves against Minimum Wage." August 22, 2004. *Spiegel Online.* [in German.] At http://www.spiegel.de/politik/deutschland/reformstreit-gewerkschaften-wehren-sich-gegen-mindestlohn-a-314490.html

2013). In both cases however, they did not end up supporting it, largely due to resistance from the TUC. The minimum wage does not appear at all in Labour Party election manifestos until 1983 and even here, the Party only goes so far as to declare "We will also discuss with the TUC the possibility of introducing a minimum wage." They remain committed to wage bargaining autonomy, noting that "We will work together with the unions to tackle low pay and extend the concept of fair wages and arbitration...and will ensure machinery is available for the trade unions to establish these principles."[38] It is not until the 1987 election, after the TUC has officially begun to support the minimum wage that the Labour Party supports it as well, declaring that "we will implement a comprehensive strategy for ending low pay, notably by the introduction of a statutory national minimum wage."[39] Labour made the minimum wage a central part of its 1992 and 1997 election platforms and after its victory in 1997, established the Low Pay Commission in 1998.

In Germany, the SPD did not begin to officially express support for the minimum wage until March 2007, when it started a petition to rally public support for introducing a minimum wage.[40] This was almost one year after the DGB voted to support the minimum wage at its May 2006 congress. Interestingly, although the SPD did not support the minimum wage until after the DGB supported it, the Left Party (*Die Linke*), a decendent of the former East German ruling Communist Party, had already introduced proposals for a minimum wage in the Bundestag on several occasions, first in 2002 when it was still

[38] *1983 Labour Party Manifesto.* At http://www.labour-party.org.uk/manifestos/1983/1983-labour-manifesto.shtml

[39] *1987 Labour Party Manifesto.* At http://www.labour-party.org.uk/manifestos/1987/1987-labour-manifesto.shtml

[40] The SPD first tried to deal with low-wages by taking more active measures to identify opportunities to extend collective agreements. In their 2005 election manifesto, the party does declare that *"The social partners are called upon to agree on common collective agreement minimum wages in all sectors. If this does not or cannot happen, we will take measures for a legal minimum wage." Trust in Germany. The Election Manifesto of the SPD.* [in German.] At http://library.fes.de/pdf-files/bibliothek/downl/wahlmanifest2005.pdf

known as the Party of Democratic Socialism (PDS, *Partei des Demokratischen Sozialismus*), then subsequently in May 2004 and January 2006.[41] The Green Party also introduced a proposal for an 8 €/hr. minimum wage in February 2006. All of these were rejected by the SPD. Interestingly, the SPD also rejected further Left Party minimum wage proposals in June 2006 and March 2007, after the DGB had expressed its support.[42] This was however likely intended to prevent the Left Party from taking issue ownership of the minimum wage, as the wording of the latter proposal was exactly the same as in the SPD's March petition. The SPD called for a legal minimum wage of 7.50 €per hour in their 2009 election manifesto, the same rate as that demanded by the DGB.[43]

4.6 Discussion and Conclusion

There are several important lessons from this study: a theoretical lesson regarding interest group preferences for bargaining institutions and more substantive lessons regarding sources of labor market dualism in social market economies and the future of wage-setting for low-wage workers. The first lesson is that interest groups' preferences for mediating institutions are affected by their market power. Oligopolies and monopolies, such as all-encompassing unions would rather have no institutional mediation, even if this mediation would provide certain benefits. They fear that this would diminish their role in the policy setting process, as loss of unique control would enable opponents to go around them in negotiations, leading to greater outcome uncertainty. Although there is often good reason to be skeptical of such slippery slope arguments, as the steps by which

[41]"On the Way to a Comprehensive Legal Minimum Wage." March 4, 2013. [in German.] At http://www.linksfraktion.de/nachrichten/weg-flaechendeckenden-gesetzlichen-mindestlohn/

[42]"Left Party Wants to Make Example of the Social Democrats" October 17, 2010. *Süddeutsche.de* [in German.] At http://www.sueddeutsche.de/politik/mindestlohn-linkspartei-will-spd-vorfuehren-1.802672.

[43]*Social and Democratic. Pitch in. For Germany.* [in German.] At http://library.fes.de/prodok/ip-02016/regierungsprogramm2009_lf_navi.pdf.

the negative outcome will occur are underspecified or unclear, that interest groups are concerned about the establishment of control-diminishing precedents is real. If the government rather than unions set wages for low-wage workers, why would these worker ever fight for union representation, let alone pay union dues? Employers can point to the minimum wage as reason why laws strengthening collective bargaining are unnecessary for the protection of low-wage workers.

The debate over the minimum wage in Germany can be see as part of the trend toward dualization that has received a great deal of recent attention. This work has argued that Germany has become an increasingly 'dualized' labor market, with strong manufacturing industries retaining coordinating institutions, while low-skills service sectors face a situation more like that in liberal market economies (Palier and Thelen 2010; Thelen 2014). The demand for a legal minimum wage is a direct response to the growth of a low-wage service sector in Germany in the last 20 years and the inability of unions to organize workers and set societally acceptable wages through autonomous wage bargaining. In countries without or with only weak trends toward dualization, such as Sweden and Denmark, the demand for a legal minimum wage has been almost non-existent.

But while this work has done a good job highlighting divergent trends between CME countries, it has been less thorough in its explanation of the sources of this divergence. The legal framework in Scandinavian countries enables unions in typically lower-wage sectors to collectively act to pressure employers into signing collective agreements. Although recent work on collective bargaining in Sweden finds that sectoral collective agreements have become minimal frameworks for local and firm-level bargaining, usually setting only minimum wages, the threat of industrial action still makes them very effective tools for setting these (Ahlberg and Brunn 2005). German labor law does not allow blockades and sympathy strikes are greatly limited, preventing unions from using

solidaristic collective action to set and uphold desirable contractual minima.[44] It is likely that unless the legal structure changes, giving unions greater capacity for solidaristic industrial action or to extend collective agreements to non-signatory firms, unions in low-wage sectors will become increasingly vestigial actors.

The minimum wage is also an increasingly important issue in advanced democracies where it has long been established. Technological change, offshoring, and financialization have conspired to eliminate many of the middle-wage jobs which were performed by lower education workers.[45] Elimination of mass employment industrial occupations has increased competition for service sector jobs and management can suppress wages without serious concerns about triggering worker exit. These have both directly impacted the strength of unions and in doing so, have also removed the foremost organized base of support and advocacy for middle and lower-income working class citizens. Rates of working poverty have been increasing in several advanced democracies (Gautie and Schmitt 2010). Yet Sweden appears not to have little if any issue with working poverty. Only about 15% of workers fall below 2/3 of the average monthly wage and only about 6-9% below the average monthly median wage (Skedinger 2010). It is clear that while there are common pressures on unions and workers everywhere, national institutions still play an important mediatory role and comprehensive union coverage can still help avoid the pitfall of working poverty.

[44] As one of the respondents in the union debate notes: *"If unions in Germany could engage in solidarity strikes as the unions in Scandinavia, then the issue of the minimum wage would be moot."* (Sterkel et al 2006, 266).

[45] Autor et al (2003) and Goos et al (2014) provide evidence for the United States and Europe respectively that the declining cost of computing power has allowed for the replacement of workers in middle-wage 'routine task' occupations by automated processes. Lin and Tomaskovic-Devey (2013) find that industry-level financialization is positively associated with wage inequality in the United States.

Chapter 5

The Space Between: Labor Market Regimes and Political Attitudes

5.1 Introduction

In recent years, scholars in comparative political economy have focused increasingly on labor market dualization, an increase in the percentage of workers unable to move beyond part-time or fixed-term employment into standard full-time employment (Emmenegger et al 2012). These 'marginal' forms of employment often feature lower wages, less predictable work schedules, and lack of entitlement to various job protections and social benefits of standard full-time jobs. This increase has been due to a variety of factors, including structural changes in labor demand, caused by technological change and globalization, and liberalization of labor markets. Although there are cross-national differences in marginal employment demographics, this trend has affected individuals across western democracies (King and Rueda 2008).

Among comparative political economists, labor market dualization has generated interest in a new cleavage within the working class–an 'insider-outsider' cleavage between those in full-time, stable employment ('insiders') and the underemployed, those who are

either unemployed or in part-time or fixed-term employment contracts ('outsiders').[1] These authors argue that insiders and outsiders may have very different preferences regarding various government policies, especially welfare state programs. Insiders will be less interested in job search and training programs, which help reintegrate outsiders into the regular workforce, both because they will have to pay taxes to fund these and because these increase labor market competition (Rueda 2005). But they will also want protection from job loss, which will likely exacerbate the incidence and duration of underemployment among outsiders. Cross-national variation in the insider-outsider divide is widely acknowledged and is seen at least in part as a function of labor market policies such as employment protection (Rueda 2014) and spending on programs providing income support and helping integrate outsiders into the regular labor force. (Häusermann and Schwander 2012).

While there has been work on how the insider-outsider divide varies by institutional regimes and how it affects individual policy preferences and party positions, a further range of implications of such a cleavage has been under-explored, namely how this cleavage may affect group-directed attitudes. Work in comparative politics has shown that egalitarian economic institutions are associated with higher levels of general trust (Rothstein and Uslaner 2005), but this work has not examined the implications of such institutions for specific group-directed attitudes. Insider-insulating labor market institutions may stoke outsider resentment toward left-oriented insiders such as trade unions, who would otherwise be political allies, but may be seen as unfairly benefitting from scarce labor market security in a dualized labor market regime. Labor market and economic insecurity also generate political disaffection and anxiety, which can result in increased hostility toward economically and culturally threatening out-groups (Brader

[1]See, for example Rueda (2005) and the papers collected in Emmenegger et al (2012).

et al 2008) and greater attraction to far-right politics.

In this paper, I argue that institutional variation in employment protection and spending on labor market policies should result in variation in outsider attitudes along a spectrum from working class-solidarity to far-right attraction. I study outsider attitudes toward trade unions and preferences for far-right parties, arguing that as the difference between employment protection and spending on various types of labor market policies increases, outsiders should, relative to non-outsiders, be less likely to have favorable attitudes toward trade unions and more likely to prefer far-right parties. Higher employment protection makes it more difficult for outsiders to enter the regular labor force, which should result in greater hostility toward trade unions, who might be political allies in a less dualized regime. The heightened political disaffection and anxiety resulting from labor market insecurity attracts outsiders to far-right parties, which emphasize the labor market threat of immigration and how citizens are sold out by elite politicians. But these attitudinal effects can be offset by spending on labor market programs, which reduce economic hardship and promote integration either by providing income support for outsiders or providing them with job search and skills-development services.

Bringing together work on labor market institutions with that on emotions and political attitudes, this paper contributes to our understanding of how these institutions and their distributional outcomes are important for group-directed political attitudes. These attitudes in turn are very important for policy preferences. There is ample evidence that attitudes toward concepts like redistribution and specific welfare programs are affected not just by our perceptions of how they impact our material interests, but also our perceptions of how they affect the material interests of others and the fairness of distribution of the costs and benefits. This has been a particularly important theme in American politics. Researchers have long argued that the belief that benefits go mostly to the 'undeserving' poor–often code for racial minorities–has led to lower

broad-based support for welfare programs than in other western democracies (Gilens 1999; Alesina and Glaeser 2004). Additionally, my results have troubling implications for the possibility of working class solidarity in countries with high labor market institutional rigidity. Although working class insiders and outsiders share many political interests, institutionally-driven dualization drives a wedge between these and may make it more difficult for these groups to join together to pursue otherwise common interests, such as increased spending on social insurance or resisting austerity politics.

5.2 Background

Recent work on the insider-outsider divide argues that labor markets in advanced democracies fundamentally changed after the oil crisis in the 1970s (Rueda 2005). The expectation of full-employment was shattered and labor market demographics began to change, most notably with increased female labor market participation. Much of the work on the insider-outsider divide posits that insiders and outsiders should have diverging welfare state policy interests and has focused on developing schema for identifying insiders and outsiders, their policy preferences, and their relationships with different political parties (Rueda 2005, Schwander and Häusermann 2013). David Rueda (2005) argues that Social Democratic Parties in advanced democracies face a dilemma as their natural working class base becomes divided into insiders and outsiders. He finds that Social Democratic Parties are more likely to support passive labor market policies, which are favored by insiders as they provide previous-income-based benefits during unemployment over active labor market policies, which include spending on job search and job training programs and primarily benefit outsiders.

The importance of focusing on division of the labor market into secure insiders and insecure outsiders receives support from recent work in labor economics, which has

shown that labor markets across advanced democracies have become more polarized due to a decline in the cost of computing power, which has led to a marked decline in demand for individuals to perform mechanizable, formerly middle-wage routine task jobs, but increased demand for both high and low skill/wage jobs (Autor et al 2003; Goos et al 2014). As most individuals are unable to compete for high-skills jobs, there has been an increase in competition for lower-skills jobs, which has led to minimal wage growth in these areas, as well as widespread usage of part-time employment and temporary employment contracts.

Although technological change and the rise of part-time and temporary employment have increased across advanced democracies, they have done so at different rates. This is in large part a function of the regulation of labor markets. Two types of labor market institutions in particular have been the focus of recent work: employment protection legislation (EPL), which regulates the conditions for hiring and firing workers, and labor market policy spending (LMP), which includes 'passive' income support programs, such as unemployment benefits (PLMP) as well as 'active' programs (ALMP) that seek to provide new skills and job search assistance for those outside of the regular labor force. EPL and ALMP in particular should affect the presence and size of the insider-outsider divide as they respectively shield insiders from outsider labor market competition and provide labor market integration programs for outsiders. Figure D.1 plots EPL and ALMP for 27 OECD countries. As we can see, ALMP is highest in Scandinavian countries while EPL is lowest in liberal market economies and highest in southern European countries.

These institutions have been shown both to affect the incidence and demographics of outsiders, as well as welfare state development and individuals' policy preferences. Using a coding of outsiders based on occupational unemployment rates, Häusermann and Schwander (2012) show that there is a close relationship between types of labor market and welfare state institutions and outsider demographics. In continental and es-

pecially southern welfare regimes, taxes and transfers provide benefits disproportionally to insiders, enhancing labor market dualism. These programs, however reduce market inequalities in Scandinavian countries, with a greater percentage of benefits helping reintegrate displaced workers. Rueda (2014) argues that employment protection contributes to the maintenance of the insider-outsider divide and finds that where it is high, government spending on income support is less responsive to economic downturns. Gingrich and Ansell (2012) find that employment protection conditions the relationship between personal unemployment risk and support for welfare state programs, with the positive effect of unemployment risk for the employed decreasing as employment protection increases.

This work has not, however explored how institutional variation may affect more fundamental political and inter-group attitudes, such as trust or perception of economic and social threats. One might expect social and group-directed attitudes among outsiders to vary by how difficult it will be for them to integrate themselves into the regular labor force. Work on generalized trust, individuals' belief that they can trust others in their society, has found that this is higher in countries with institutions promoting greater economic and political equality (Rothstein and Uslaner 2005; Freitag and Bühlmann 2009). This should similarly be true for employment protection, labor market policy spending, and outsider social attitudes. Where employment protection is high, outsiders will have weaker prospects for integration into the regular labor force and may feel a greater sense of social alienation and anxiety. This may, however be partially offset by labor market policy spending, which provides a range of benefits and services for the underemployed, promoting income support and regular workforce integration.

But in addition to generalized attitudes such as trust, institutions may have attitudinal effects regarding groups closely associated with these institutions' distributional outcomes. If labor market institutions skew the distribution of employment security, the

losers of such a scheme may develop resentment toward groups they see either as benefitting from labor market rigidity or more threatening than usual because of it. Work in social psychology has shown that humans are very good at scanning the social environment and categorizing individuals into group coalitions (Taylor et al 1978). Kurzban et al (2001) argue that group categorization is a "byproduct of cognitive machinery that evolved to detect coalitional alliances" and that this can be affected by cues priming attitudes toward these groups (15387). Furthermore, group attitudes are a function of the type of stimulus/threat faced by the respondent and labor market threats may result in greater hostility toward groups associated with labor market outcomes (Cottrell and Neuberg 2005).

Citizens are thus likely to be attuned to distributional unfairness and have ideas about the beneficiaries of such a scheme. Outsiders in high-insider-protection countries may become more hostile toward working class insiders, whom they regard as being unfairly protected by such institutions. At the same time, attitudes toward disadvantaged out-groups may also be affected. Recent work in political psychology has provided substantial evidence that individuals react to threats with increased hostility toward and discrimination against out-groups (Sniderman et al 2004; Brader et al 2008). When the labor market is more restrictive, additional 'external' threats to labor market security, such as globalization or immigration should be more likely to provoke negative reactions amongst outsiders than in countries where the labor market is less restrictive.

5.3 Employment Protection and Outsider Attitudes Toward Trade Unions and Far-Right Parties

In the next two sections, I briefly review existing literature on attitudes toward trade unions and far-right party preferences and explain how employment protection and labor market policy spending affect outsider attitudes toward trade unions and far-right parties, including why I think these two dependent variables should be the subject of simultaneous study. First, I explain the different mechanisms through which I believe employment protection affects outsider attitudes toward these respective groups. After this, I explain how spending on labor market policy can offset the attitudinal effects of employment protection.

The OECD defines employment protection as "the rules governing the firing of workers and the use of temporary contracts" (Venn 2009, 5).[2] Its measure is compiled from 21 items quantifying costs and procedures involved in dismissing individuals or groups of workers or hiring workers on fixed-term or temporary contracts and contains three sub-indicators 1) Individual dismissal of workers with regular contracts 2) Additional costs for collective dismissals 3) Regulation of temporary contracts. Although scholars disagree about the equilibrium employment effects of employment protection, it is generally agreed that there are strong distributional conflicts, with employment protection reducing flows into and out of unemployment, in particular affecting 'outsider' groups, such as women and youth (Autor et al 2006; Nickell 1997).

Toward which types of groups should we expect attitudes to be affected? Because of the conflict of interest between insiders and outsiders generated by employment protection, one likely outcome is that outsiders will be more likely to have negative attitudes toward working class insiders. This 'space' between working class insiders and outsiders

[2]The OECD definition is the basis for my understanding of employment protection and their data will serve as the basis for my analysis.

is particularly interesting and important because solidarity between outsiders and non-upscale insiders is critical for the viability of universalistic welfare state programs and for resisting common threats, such as employment outsourcing and austerity politics.[3] But we might also expect that because high employment protection reduces available insider positions, outsiders should also be more attracted toward groups seeking scapegoats for economic hardship in various 'external' threats, such as globalization and immigration.

Concretely, I examine how employment protection affects attitudes toward working class insiders and groups blaming immigration and political and economic integration for domestic hardship by studying attitudes toward trade unions and far-right political parties. I argue that these groups constitute opposite ends of a spectrum of possible outsider coalitions. Trade unions are typically seen as classic insider-oriented organizations, protecting and promoting the interests of members, even when this might harm employment prospects for non-members, many of whom may be in similar types of employment and otherwise sympathetic to unions and their political causes (Lindbeck and Snower 2001). But when labor market dualization is minimal, there will be greater possibility of a working-class coalition between unions and the non-unionized working class, given their otherwise common political interests. Far-right parties, which are common across Europe, are the most notable groups seeking to blame domestic economic hardship on immigrants and integration. They typically court disaffected citizens and place blame for their plight on the influx of immigrants and elite, bureaucratic organizations, such as the EU. When dualization is high, there should be a greater within-working class cleavage and outsiders should find the messaging of far-right parties more attractive. I

[3]I follow Rueda (2005) in making a distinction between 'insiders' and 'upscale' workers because the distributional consequences of employment protection are largely between insiders and outsiders. Although employment protection might also lead to outsiders being more likely to have negative attitudes toward upscale workers (such as management), these institutions should just reinforce the existing economic cleavage between these groups. Additionally, outsiders are likely less to be competitive for 'upscale' jobs.

elaborate below on the mechanisms through which I believe employment protection to be generating such variation among outsider attitudes toward trade unions and far-right parties.

5.4 Outsider Attitudes toward Trade Unions and Far-Right Parties: Literature Review and Mechanisms

As mentioned above, trade unions are typically seen as 'insider' working class organizations. Although there has not been work on labor market dualization and attitudes toward trade unions, previous work on attitudes toward trade unions finds that these tend to be most negative during periods of high unemployment (Lipset and Schneider 1983) and that high income and highly educated individuals are less likely to have positive attitudes toward them (Turner and D'Art 2012). Higher employment protection should be relevant for outsider attitudes, as they stand to lose from the gains to protection for union members. In a country with high employment protection, trade unions and their members are in more of an 'insider' position; because unionized workers cannot be easily released, unions face less pressure to accept wage concessions. When employment protection is high, there will be less wage restraint among unions, which will in turn lead to a reluctance to hire new workers and make it more difficult for outsiders to find regular employment. The same may also lead to increased employer usage of temporary employment agencies, which hire workers for fixed-term contracts, typically at much lower wages and with fewer benefits than workers performing similar jobs in the regular workforce.

Where employment protection is minimal however, there are grounds for political agreement between unions and outsiders. The two groups have many shared political

preferences. Both should favor higher taxes on the wealthy and more spending on redistributive social insurance programs. Both should favor greater government spending to boost employment, especially during recessions. Where employment protection is low, the insider-outsider divide should be only minimally present. The distribution of unemployment risk will be more homogeneous across workers, which removes the conflict of interest between the regularly employed and those seeking regular employment. The underemployed may have difficulty finding regular employment, but this will be due more to lack of skills or experience than protections for those in regular employment.

The mechanism I posit linking labor market rigidity and outsider attitudes toward unions is resentment, specifically resentment toward others for receiving a benefit, which you perceive to be unfair and coming at your expense. Resentment has been a central mechanism in work on symbolic racism in American politics, which argues that many whites are no longer 'overtly' racist (they no longer perceive blacks as inherently inferior), but rather perceive blacks as overly demanding and disproportionately benefitting from welfare programs.[4] This perception that blacks receive 'unfair' benefits from the welfare state in turn fuels racial resentment and affects whites' attitudes toward the welfare state, in particular programs seen as primarily benefitting blacks.[5] Although work in comparative politics on how institutional protection can induce inter-group resentment is scant, van der Windt (2013) finds in a lab-in-the-field experiment in Congo that individuals playing the dictator game donated less to immigrants from ethnic groups known to disproportionately benefit from aid programs, which he interprets as evidence of a resentment mechanism on the basis of subject interviews.

In contrast to the literature on attitudes toward trade unions, the literature on prefer-

[4]For a recent review of this extensive literature, see Heddy and Feldman (2009).

[5]Winters (2006), for example, finds that whites are much more favorable toward programs seen as primarily benefitting other whites, like social security than those seen as primarily benefitting blacks, like food stamps or housing assistance.

ences and voting for far-right parties is vast, with various articles and books examining the importance of individual factors, party system factors, and contextual political and economic factors. Although scholars tend to agree that immigration is the central issue uniting these parties (Ivarsflaten 2008), they are also centrally opposed to political and economic internationalism, especially to cession of domestic competencies to the European Union. Among individual-level attitudinal and demographic determinants, men exhibit higher levels of far-right support across studies while both the old and the young are more likely to support them than those of middle age (Arzheimer and Carter 2006). Attitudes toward immigrants and euro-skepticism are shown to be among the strongest individual-level predictors of support (Ivarsflaten 2008; Arzheimer 2009). Among contextual factors, individuals are more likely to vote for far-right parties when these parties' issues are most politically salient (Arzheimer 2009). Results for party system factors are more inconsistent.[6] Findings for the effect of the unemployment level and the immigration rate have also been inconsistent.[7] While higher levels of welfare spending have been shown to be associated with weaker far-right party performance (Swank and Betz 2003), Arzheimer (2009) has shown that this effect is contingent on the number of asylum-seekers in individual-level data.

Two individual-level factors receiving a great deal of recent attention are employment status/risk and perception of personal/general economic and cultural threats. Perception of both personal economic threat and broader cultural threats have been shown to increase both resistance to immigration (Sniderman et al 2004; Hopkins 2010) and the

[6]Jackman and Volpert (1996) find that higher electoral proportionality is associated with better far-right party performance while Arzheimer and Carter (2006) find the opposite relationship in individual-level data.

[7]Arzheimer and Carter (2006) find a (counter-intuitive) negative and significant relationship between unemployment and far-right party vote and no relationship between rate of asylum-seekers (a measure of immigration threat) and far-right party vote in individual-level data while Arzheimer (2009) finds a positive and significant relationship between both variables and far-right party vote in individual-level data.

probability of voting for far-right parties (Lucassen and Lubbers 2012).[8] One of the most consistent findings is that individuals in low-skills/manual labor jobs are more likely to favor far-right parties, even controlling for income and education levels (Arzheimer 2009; Kitschelt 2007; Lucassen and Lubbers 2012). Personal unemployment is also associated with higher propensity to vote for far-right parties (Arzheimer 2009).

But while there has been a great deal of focus on employment status/risk and the importance of perceived threats, there has been no work focusing on how these factors vary by employment protection. Where employment protection is high, the probability of entering regular employment will be lower and both competition from immigrants and economic and political integration will be more threatening. Outsiders' situation will be worse, which will lead to an increased perception of threat and to social anxiety. It has long been recognized that in response to hardship, members of in-groups will 'scapegoat' lower-status groups in order to help preserve their social identity and status (Tajfel 1982). Recent work in social and political psychology finds that threat-induced anxiety provokes hostile reactions to out-groups as a protective measure (Cottrell and Neuberg 2005; Brader et al 2008). Furthermore, experimentally-induced anxiety has been shown to reduce support for programs seen as largely benefitting out-groups, while increasing support for those seen as benefitting in-groups (Arceneaux 2013). More generally, when faced with hardship, both voters and parties may be expected to more fully embrace familiar traditions and reject greater international integration.

[8]Both Sniderman et al and Lucassen and Lubbers find that perceived cultural threat is a stronger predictor than perceived economic threat for opposition to immigration and far-right party preference respectively, but that relationships between both types of threats and the dependent variables are statistically significant. In the context of this study, it is important to note that higher employment protection may increase perception of both economic *and* cultural threats among outsiders.

5.4.1 Labor Market Policy

But not all government policies create social divisions. Inequality-reducing institutions can also help "reduce the political and social distance between winners and losers" (Freitag and Bühlmann 2009, 1546), which should help reduce overall life hardship for outsiders. This in turn should reduce the associated emotions of anxiety and resentment and weaken negative group-directed attitudes associated with them. Labor market policy spending should thus have a similar moderating effect on outsider attitudes toward both trade unions and far-right parties.

The OECD separates labor market policy into 'passive' and 'active' categories, the former concerning income maintenance during unemployment and the latter integration of the underemployed into the regular labor force (Grubb and Puymonen 2008). Both types of labor market policy should help reduce overall life hardship and associated anxiety. In turn, this should help moderate attitudes triggered by the bleaker labor market outlook for outsiders in high employment protection regimes.

But it is also possible that these different types of labor market policies will have differential effects on emotions and attitudes. The attitudinal effects would likely work through different mechanisms. Passive labor market policies, like unemployment benefits provide income maintenance, but do little to help integrate outsiders into the regular labor force. If attitudes were based strictly on anxiety due to difficulty in providing for self and family, we might expect the effect to be primarily driven by spending on these policies. Passive labor market policies, however do little to promote labor market integration. If attitudes are driven by the possibility of labor market integration, we might expect passive labor market policies to have less of an effect on attitudes, regardless of any benefit in anxiety-reduction. They may even have the opposite effect, as non-integration could lead to emotions like apathy, which might cause individuals to have

negative social attitudes.

Active labor market policy, however does help integrate individuals into the regular labor force. If inclusion is the primary determinant of attitudes, spending on active labor market policy may be primarily responsible for the attitudinal effect. When active labor market policy spending is low, there is little assistance to help integrate outsiders into the labor market and if they do not have the financial resources to seek further education, it may be very difficult for them to move from marginal to regular employment. Aspects of active labor market programs, such as assistance with job search and skill upgrading can both reduce the probability of long-term unemployment and help individuals at high-risk of long-term unemployment develop new skills. This should help more quickly reintegrate outsiders into the regular labor force,[9] which in turn should lessen outsiders' negative attitudes toward unions as the latter are less shielded from labor market competition and the marginally employed will be less likely to see them as benefitting at their own expense.[10] A similar logic applies for far-right party preferences, as these programs will reduce concern associated with economic threats from outsiders and economic and political integration.

As I conceive of employment protection and labor market policy having offsetting effects on outsider attitudes toward trade unions and far-right parties, my primary measure of institutions is the difference between (standardized) employment protection and labor market policy spending. As this value increases, outsiders should, with respect to non-outsiders, become less likely to have favorable attitudes toward trade unions and

[9] A meta-analysis of studies on the effects of active labor market policy by Card et al (2010) finds that job search and training programs have consistently been shown to have a positive effect on time to reemployment, although the effects of the latter appear more in the long-term (3-5 years) than the short-term.

[10] Margalit (2011) finds similarly that while local trade-related job losses decreased probability of voting for the incumbent presidential candidate in the United States, this effect was smaller in areas where more harmed workers were certified to receive a government-funded job training program.

more likely to prefer a far-right party. My primary predictions are:

H1: *As the difference between employment protection and spending on labor market policy increases, outsiders will become less likely with respect to non-outsiders to have favorable attitudes toward trade unions.*

H2: *As the difference between employment protection and spending on labor market policy increases, outsiders will become more likely with respect to non-outsiders to prefer a far-right party.*[11]

5.5 Data

I test my hypotheses using data for 27 OECD countries from the European and World Values Surveys, administered respectively in 1981, 1990, 1999, and 2008 and 1990, 1995, 2000, 2005, and 2010.[12] Unfortunately, each country did not participate in each wave of the surveys and the number of available years differs per country, ranging from two for Greece to seven for Spain. As both sets of surveys contain the same key demographic variables and survey question wordings, I merged them into a single data file in order to maximize country-year observations.[13]

Each wave of both the European and World Values Surveys asks the questions: "How much confidence do you have in the following institutions: Trade Unions" (4 categories) and "Which political party would you vote for: first choice." These serve as my dependent variables. I merged data from the Comparative Manifestos Project on party man-

[11]I present here only the hypotheses for the difference of EPL and LMP. I will split these up in the regressions, where they should have the opposite signs. I will also include models where I split active and passive labor market policy.

[12]I chose these countries on the basis of OECD labor market program data availability for multiple survey waves. I did not use European Social Survey data as it only asks a question on union attitudes in the 2002 wave.

[13]Unfortunately, many of the key control variables are not available in all years and thus the number of country-years in the analyses is substantially lower than the number of country years in the original data. A full listing of country-years in the data and in my regressions can be found in Appendix section D.3.

ifesto positions across democracies (Volkens et al 2013) into the combined EVS/WVS and created an index for each party's degree of social conservatism following the coding and logit rescaling scheme in Lowe et al (2011).[14] I coded parties which fall in the top 10% of this measure as far right parties. I opted to use this manifestos-generated coding of far-right parties as opposed to using an existing coding because previous studies are focused largely on Western Europe and my data include several countries from Eastern Europe, for which there is less consensus on which parties should be included.[15]

The institutional data, including employment protection, active, and passive labor market policy, as well as additional national-level data on immigration inflows, unemployment, GDP, and GDP growth all come from the OECD's *Stat Extracts.*[16] The employment protection measure consists of a 0-6 scale based upon 21 sub-indicators, with 6 indicating the highest level of protection while active and passive labor market policies are spending on these programs as a percentage of GDP.[17] Data on union density used in the union attitude models comes from Visser (2011) and data on effective number of electoral parties used in models of support for far-right parties comes from Gallagher (2012).

[14]This index includes party positions on internationalism, human rights, national way of life, traditional morality, law and order, and other social issues. A more precise description of the coding can be found in Appendix section D.1.

[15]Another matter of concern is the reliability of single-coder codings of party positions in the CMP data. Laver et al (2009) generate a version of the data with bootstrapped standard errors for each issue score to account for the fact that some issues are seldom mentioned while others appear numerous times and that this frequency should be accounted for in the reliability of the issue scores. I see the issue of precision of the point estimates as less of a concern for my project as I am concerned with an ordinal ranking of parties rather than specific issue scores.

[16]http://stats.oecd.org/

[17]I standardize both of these variables and subtract the latter from the former for my main measure.

5.5.1 Coding Outsiders

One difficulty concerns the coding of outsiders. This is a contestable concept. Ideally, it would include employment status (part-time, temporary status, etc.), wages, benefits, job security, and future prospect of career advancement. Without a survey designed to specifically capture all of these, the best we can do is to use a proxy based on employment status or risk of unemployment. The most rigorous available classification, that of Schwander and Häusermann (2013) uses a measure of employment risk based on the level of unemployment for occupation-country-year. Outsiders in this scheme are those who work in occupations with a relatively high unemployment rate. A virtue of this scheme is that it allows us to detect demographic and occupational differences in outsiders by country.

But this measure also has drawbacks. Occupational unemployment rates may be misleading for individuals in occupations and countries that have high levels of insider protection. Additionally, many individuals in high unemployment occupations live in families in which they are not the chief wage earner and the chief wage earner is securely employed. Life security and the prospect of future loss of security are what ultimately drive scholars' conceptions of risk and considering only personal employment security may give a misleading picture of the actual level of relevant security experienced by the respondent.

I believe it is preferable for my purpose to use a definition of outsider based on both the employment status of the respondent and other members of her household. Each wave of the EVS and WVS contains a question asking the respondent if he or she is employed full-time, employed part-time, self-employed, retired, a student, a housewife, or unemployed. The first three waves of the EVS and first four waves of the WVS also contain a question on whether the respondent is the chief wage earner and whether the

chief wage earner is employed. The 2008/2009 waves of the EVS and WVS replace these questions with a question about the employment status of the respondent's partner. I create a coding in which the individual is considered to be an outsider if he or she is employed less than full-time with no other individual in the house being employed full-time and a non-outsider otherwise.[18] Although this may give less information about future unemployment risk than a measure using occupational unemployment rates, I believe it will be a more accurate representation at the individual level of current labor market integration difficulty.

5.6 Methods and Results

The resulting dataset has a hierarchical structure, with individuals nested in one of 27 countries for one of 9 year waves. Typical approaches when using hierarchical data are to either cluster standard errors by the level-II variable (to account for the non-independent nature of individual-level errors) and use cluster fixed effects, or to use multi-level models, specifying the nested structure of the data (individuals within countries, individuals within countries within years, etc.). The advantage of the former approach is that it allows the researcher to control for unobserved fixed country characteristics, reducing the possibility of omitted variable bias. This is particularly important here as unobserved country characteristics, such as differences in countries' social norms or peculiarities regarding the trade union movement or political parties may affect attitudes toward these. The advantage of the latter is that it allows the inclusion of either time-invariant or slow-moving covariates, which in a fixed effects model will be collinear with the group-level fixed effect and dropped or underestimated (Gelman and Hill 2007). I present estimates from models with clustered standard errors and fixed effects for country and year as

[18]The coding is presented in full detail in Appendix section D.1.

well as multi-level models. In both sets of regressions, observations are grouped at the country-survey level, which seems reasonable given that there are often several years between country surveys.

Table D.4 presents regression results for outsider attitudes toward unions. The primary models (1) and (2) consider the difference between employment protection and total labor market policy spending and its interaction with the outsider variable in multilevel and fixed effects specifications respectively.[19] Per Hypothesis 1, this interaction (Out X EPL-LMP) should be negative; as the difference between employment protection and labor market policy spending increases, outsiders should be less likely to have favorable attitudes toward unions with respect to non-outsiders. This is what we see. Models (3) and (4) consider the difference between employment protection and active labor market policy (Out X EPL-ALMP), with passive labor market policy included separately. Out X EPL-ALMP is negative and highly significant, while Out X PLMP is negative and insignificant, suggesting that the result is driven by active labor market policy.

Table D.5 presents several robustness checks. Models (1) and (2) consider employment protection, active labor market policy, passive labor market policy, and their interactions with outsider separately. Out X EPL should have a negative sign while Out X ALMP should have a positive one. These predictions are born out, while Out X PLMP is negative but insignificant, reinforcing the results in Table 4. Models (3) and (4) substitute the subcategory 'employment protection for regular employment' for overall employment protection. This has little effect on the results. Model (5) uses a clustered block bootstrap as suggested by Harden (2011)[20] on a random effects version Model 2 in Table

[19] All models include individual-level controls for political ideology, union membership, age, sex, income, and education as well as group-level controls for inequality (GINI), GDP, GDP growth, Unemployment, and Union Density.

[20] Using Monte Carlo simulations, Harden (2011) shows that clustered standard errors can severely underestimate standard errors in hierarchical data with a level-II sample size below 50.

4.[21] The result remains robust.

There are also some interesting results among the group-level control variables. GINI, a measure of economic inequality, consistently has a negative sign and is significant in 8 of the 9 models, showing that individuals generally are more likely to have negative attitudes toward unions at high levels of inequality. This complements previous work, which shows that inequality has an adverse effect on generalized trust (Rothstein and Uslaner 2005). Previous work on attitudes toward unions has shown that individuals are more likely to have negative attitudes toward unions during periods of high unemployment (Lipset and Schneider 1983). This variable is negative and highly significant in the multi-level and bootstrapped models, but is insignificant in the fixed effects models, suggesting that this result is driven by cross-country, rather than within-country differences in unemployment.

Table D.6 presents regression results for preferences for far-right parties. The dependent variable is dichotomous, taking a value of 0 if the individual has either no party preference or would vote for a non-far-right party as a first choice and a value of 1 if the individual would vote for a far-right party as a first choice. Models (1) and (2) include the difference between overall employment protection and total labor market policy spending while models (3) and (4) include the difference of overall employment protection and active labor market policy, with passive labor market policy separate.[22] Per Hypothesis 2, these interactions should have a positive sign. The inclusion of passive labor market policy in the labor market policy measure, however makes a big difference

[21]The clustered block bootstrap replications failed for models with fixed effects.

[22]I grouped countries into six groups, Anglo, Scandinavia, Continental, South Europe, East Europe, and Asia and included fixed effects for these clusters rather than for each individual country as these models with country fixed effects either failed to converge or dropped most of the usable observations. I dropped Union Density at the country level and included variables for effective number of political parties, which should affect the supply of far-right parties and the immigration rate, which serves as a proxy for 'immigrant threat'.

for the results; Out X EPL-LMP is positive but insignificant (Models (1) and (2)). When active and passive labor market policy are split however, Out X EPL-ALMP is positive and significant as predicted while Out X PLMP is actually *positive* and significant, indicating that outsiders are *more likely* to support far-right parties at higher rather than lower levels of passive labor market policy (Models (3) and (4)).

Table D.7 presents the same robustness checks as in Table D.5. The support for the theory is a bit more mixed. Out X EPL in models (1) and (2) is positive as predicted, but while Out X ALMP has a negative sign in both, it is only significant in the fixed effects model. Regarding the substitution of regular employment for overall employment protection, Out X EPL-ALMP is positive in both models, but is only significant in the fixed effect model. The main specification from Table D.4 model (3), however is robust to the usage of the clustered block bootstrapped standard errors, albeit at the $p < .1$ level.

5.6.1 Marginal Effects

In order to help with interpretation of the results, I present two graphs (Figures D.2 and D.3) of the marginal effect of the difference between being an outsider and a non-outsider for trade union attitudes and far-right party preferences.[23] Graphs are important for interpreting interaction effects, because the slope of the effect of one of the terms may change across values of the other, which will not be picked up by the interaction coefficient in the regression (Brambor et al 2006).

Looking at Figure D.2, which presents the marginal effect of switching from being a non-outsider to an outsider across values of EPL-ALMP, we see that in accordance with Hypothesis 1, the marginal effect is declining across all values of the policy difference.

[23]Both graphs are based on the fixed effects model for Out X EPL-ALMP. I re-ran model (4) in Table D.4 using a dichotomized version of the attitudes toward unions dependent variable to ease graphical presentation (results are substantively similar to the original ordered logit).

Importantly, the value is positive and bounded away from zero at low values. This can be interpreted as showing that when there is little institutionally-induced rigidity in the labor market, outsiders will actually be *more likely* than others to have favorable views toward unions, which is sensible considering the similarity of their other political preferences. Labor market rigidity, however drives a wedge between the interests of unions and outsiders, with unions benefitting from labor market rigidity and outsiders finding greater difficulty integrating into regular employment. As we can see, at high values of the policy difference, outsiders are *less likely* than others to have favorable attitudes toward trade unions.

Figure D.3 presents the same graph for attitudes toward far-right parties. In accordance with Hypothesis 2, the marginal effect of being an outsider on far-right party preference is increasing across values of the policy difference. At low values, outsiders are less likely to support far-right parties than non-outsiders. The marginal effect is both precisely estimated and rapidly increases, such that by the mean value of the policy difference, outsiders are more likely than non-outsiders to prefer a far-right party. Outsiders continue to become more likely to prefer a far-right party, although the point estimates are less precise at the highest values of the policy difference. These results thus present an important caveat to recent work showing that those in marginal employment are especially likely to favor far-right parties. I find that outsiders are only more likely to favor far-right parties in countries with high values of the difference between employment protection and active labor market policy. In countries with low-values of this policy difference, outsiders are *less likely* than others to favor far-right parties. These results suggest that future research on support for far-right parties should attempt to determine not just cross-national similarities in the supporters of far-right parties, but also cross-national differences.

5.7 Conclusion

These results have a variety of implications. Labor market rigidity may adversely impact social cohesion, both during hard times and in the long-term given what appear to be long-term shifts in the structural demand for different types of labor. Recent work in labor economics has shown that demand for skills across advanced economies is becoming more 'polarized,' with the elimination of many formerly middle-class-wage-paying jobs, but an increase in demand for low- and high-wage/skill jobs (Autor et al 2003, Goos et al 2014). Although this shift appears to be relatively unaffected by national labor market institutions, the outcomes for wages in typically lower-wage sectors differ greatly. As workers drift apart in their abilities to make wage demands on employers, they may also drift further apart in both their political preferences and in their attitudes toward each other. Häusermann and Schwander (2012) note that labor market status and the insider-outsider divide may go beyond being an explanation for differential policy preferences to structuring political identity itself. As attitudes toward the welfare state in the United States are intertwined with racial attitudes, the preferences associated with being a labor market insider or outsider could begin to affect individual attitudes on less-related issues in addition to attitudes toward other groups.

Additionally, countries with less rigid labor markets will be more easily able to reintegrate those who lose their jobs due to technological change into the regular workforce. A core premise of Sweden's famous Rehn-Meidner model is that both unions and employers should adapt to technological change (so as to remain globally competitive) and help workers develop new skills, both to help them find new jobs and to maximize the country's productivity. Countries with rigid labor markets will have a more difficult time reintegrating these workers into the normal workforce, which could result in greater backlash toward both labor market insiders and immigrants. Potential for both

political gridlock and social unrest may be higher in these countries.

The results for outsider far-right party preference also suggest the need for more research on how social inclusion may impact individuals' policy and party preferences as well as how this degree of social inclusion is shaped by political institutions. Previous work on preferences for far-right parties has shown that the socially excluded are more likely to favor these parties but that the effect of unemployment benefits on preferences is mixed (Arzheimer 2009). My results suggest that it is important to make a distinction between active and passive labor market policies in determining the effect of labor market policy spending on outsider support for far-right parties. This may be because the former promote social inclusion, which in turn weakens individual preference for extreme politics while the latter only reduce life risk, doing less to help reintegrate individuals into the regular workforce and potentially fostering social alienation. Further examination of these mechanisms is an important task for future research on far-right party preferences.

Finally, while there has been a great deal of recent work on emotions and attitudes toward out-groups, there has been less on emotions and attitudes toward higher status groups. It would therefore be worthwhile to further examine the idea that institutions affect individuals' perceptions of fairness of distribution in an experimental setting. Especially interesting would be to see whether an institution perceived by individuals at the outset as fair, but ultimately resulting in a very unequal distribution of resources is associated with the losers of the game being less likely to have negative attitudes toward beneficiaries than under institutional rules perceived at the outset as being unfair, but resulting in a similar distribution of resources. Such work would help provide an empirical counterpart to a rich literature in political philosophy and political theory on distributive justice.

Part III

Conclusions

Chapter 6

Conclusion

The purpose of this dissertation has been to examine shifting social cleavages in the labor market and how these have affected the development of labor market institutions, including trade unions and the minimum wage. I have argued that labor market institutional change is a function of underlying structural economic changes, which have reshaped social coalitions of support in favor of existing labor market institutions. In this conclusion, I briefly review and critique some recent literature on redistribution and inequality in political science and economics and argue that in this work, there has been too little focus on how wage outcomes and developments in inequality are a function of the shifting balance of power between labor groups on one hand and employers/investors on the other. These have, to be sure, been assisted by political intervention in many cases, but much of the shift in the balance of social power can be attributed to underlying economic changes, which impart greater power resources on employers and investors. Political institutions have in several, but not all western democracies have failed to adapt enough to slow the growth of inequality and ensure that wage developments in the lower and middle portions of the wage spectrum have kept up to those at the top.

As a way to address wage and inequality developments, I suggest greater focus on establishing an institutional balance of power between labor groups and employers/investors. The reason why I think that there should be a renewed focus on trade unions is that I see them as an essential part of autonomous societal adaptation to structural changes, which have very heterogeneous effects across skill groups and have favored employers/investors in terms of power resources. I contrast this with a more traditional top-down welfare state approach, focusing entirely on government-funded social insurance and training. I argue for a continual adjustment and support approach, a combination of stronger unions to ensure that less desirable jobs (which will always exist) will be well-paid and continual vocational education and training programs to help lower-skills workers adjust to technological change. Some public funding for retraining programs and perhaps subsidies for low-wage workers through the tax code are necessary compliments to an enhanced role for trade unions, but I argue that these policies are likely insufficient for dealing with issues of low-wage work without simultaneous strengthening of the environment for trade unions and union-employer wage bargaining.

In doing this, I first briefly comment on two very prominent strands of literature in comparative political economy and economics respectively: those on individual preferences for redistribution and on the economics of inequality and capital/labor share. Then I sketch a basic Rawlsian normative vision of social protection as being oriented toward improving the labor market conditions of the least well-off and use this to motivate a conception of 'Social Protection as Social Balance,' which I believe to be well-tailored to addressing the issues of the skewed benefits of technological change and financialization across different skill groups of workers and the shifting economic balance of power. This consists in part of enhanced continual vocational training, in discussion of which I draw on Kathleen Thelen's (2014) recent work, and strengthening labor unions' abilities

to engage in solidaristic industrial action, in which I draw on ideas from paper 3 of this dissertation.

6.1 On Preferences for Redistribution, Inequality, and the Evolution of Income Shares

Much recent work in comparative political economy has been devoted to explaining between-country variation in redistribution as well as individual sources of labor market risk and preferences for redistribution. A number of interesting determinants of individual preferences for redistribution have been introduced, including the role of employment risk (Rehm 2009), the differential effects of income and employment risk (Rehm et al 2012), the role of local crime levels (Rueda and Stegmueller 2014), the role of trust in government and beliefs about income inequality (Kuziemko et al 2014b), the roles of social status and national identification (Shayo 2009), and, most interestingly, the role of last-place aversion (Kuziemko et al 2014a). Regarding more basic demographics and preferences for redistribution, Rueda and Stegmueller (2014) and Rueda et al (2014) find that level of support for redistribution is relatively similar among the poor and that variation in preferences for redistribution is largely among the wealthy across western democracies and between American states while Kuziemko et al (2015) find that in the United States, the major change over time is that older individuals have become less supportive of redistribution. Preferences for redistribution among older individuals have been relatively stable in other western democracies.

While we learned a great deal from this work about how economic and social conditions affect individual preferences and theories have been increasingly novel in their incorporation of insights from social psychology, it is ultimately not clear how far understanding individual preferences for redistribution takes us in understanding bigger

political-economic phenomena, like inequality, lack of economic opportunity, and wage stagnation. These have deep structural and institutional causes and there has been little attempt to show that individual preferences for redistribution affect policy. Recent macro-level work by Lupu and Pontusson (2011) finds that redistribution among western democracies is positively correlated with income skew, where the difference between middle and top incomes is greater than the difference between middle and low incomes. But skew is likely endogenous to other socio-historical and economic factors, which also explain institutions and patterns of redistribution.

Another important strain in recent work is that on the growth of economic inequality and the evolution of wealth-income/capital-labor shares of income in economics. The former is most associated with Thomas Piketty and Emanuelle Saez[1] while the latter has been the subject of some very recent articles in economic sociology and economics.[2] The concerns here are growth in the share of top incomes and in the ratios of wealth to income and capital income to labor income respectively over time. Piketty and Zucman (2014) examine the development of wealth-income for eight developed countries 1970-2010 and for the US, UK, France, and Germany 1700-2010. They find that wealth has roughly doubled in all countries since 1970 and that it has returned to 18th and 19th century levels in the four country sample. They argue that these trends can be explained by taxation and a slowdown in productivity and population growth. Karabarbounis and Neiman (2012; 2014a,b) investigate trends in the capital-labor share of income for 59 developed and developing countries 1975-2012 and find that global labor share has significantly declined in 42 of these, both developed and developing since the early 1980s. They argue that this trend can be explained by the decline in the relative price of

[1]The most celebrated work is, of course Piketty's book *Capital in the Twenty-First Century*, but see also Piketty (2003), Piketty and Saez (2006).

[2]Work in economic sociology includes that of Kristal (2010, 2013). In economics, see Piketty and Zucman (2014); Karabarbounis and Neiman (2012; 2014a,b).

investment goods, which is itself largely explained by technological change.

But, as this is a fairly new area of research, there has been controversy over whether the data which the authors use captures that which they claim and whether the explanations given are correct. Several authors have criticized interpretation of both wealth-income and capital-labor income ratios on the grounds that they fail to appropriately account for capital depreciation, which more directly affects income from capital. Bonnet et al (2014) and Rognlie (2015) argue that almost the entire growth in capital share in western democracies in recent decades is due to the growth in housing income.[3] Within the corporate sector, Rognlie finds, consistent with Karabarbounis and Neiman, that the capital-labor income ratio has been increasing since the mid-70s, but that this appears to be driven almost entirely by increases in corporate profitability, rather than by the declining price of investment goods, which is inconsistent with the latter's explanation. This suggests that corporate power, such as increased market power or increased bargaining power with respect to workers is the main driving force the increasing capital-labor ratio in the corporate sector.

While Piketty has done a great service to social science by bringing attention to economic inequality and issues of distribution generally, others have criticized him and work focusing to top inequality generally as missing important developments in the rest of the labor market, which are really more concerning as they strike right at issues of opportunity and the ability to maintain a good living standard through work.[4] While it may be true that inequality is overwhelmingly driven by gains among the top 1%, wages have been stagnating for low, middle, and more recently high-wage (up to the 90th per-

[3]Interestingly, Rognlie finds that for G7 countries, the increase in housing ownership rates explains only a small percentage in the growth of housing income, suggesting that the increase in housing income is very heterogeneous across homeowners. Inequality in the distribution and the development of housing income is a very important area for future research.

[4]See on this point especially Autor (2014).

centile) workers in the United States as well as several other advanced democracies. For the past few years, when the Bureau of Labor Statistics releases quarterly unemployment statistics, we often hear that unemployment is declining, but that this is not sufficient to declare that the economy is truly recovering, as wages for so many workers are either stagnant or falling.[5] These trends are concerning, regardless of what is happening with top 1% income.

Of course, it is also very likely that income growth for the top 1% and wage stagnation for the bottom 90% are related. They are both likely a function of issues of the distribution of power between different groups in the economy. As I have emphasized and as is suggested by the above work, the costs/benefits of structural economic changes are heterogenous across different skill groups of workers and different classes (labor, management, investors). Economic sociologists have been at the forefront of addressing issues power concentration and between-class inequality. They have shown that financial, technological, and supply chain innovations, often by intention, have conspired to increase the incomes of management and investors, while reducing the incomes of workers. Deregulation of foreign capital flows and interest rates as well as changes in monetary policy in the 70s and 80s lead to a massive shift into financial instruments and services (Krippner 2012). Companies have grown 'fat and mean,' with the both the ratio of management positions to non-management positions and between-group wage inequality growing (Goldstein 2012). The ratio of financial receipts to sales of goods and services has grown and is associated with higher industry-level inequality (Lin and Tomaskovic-Devey 2013). Increased use of computing technology and the decline of unions at the industry-level is associated with higher industry-level capital-labor income ratios (Kristal 2013). Globalization and the opening of developing countries as

[5]See, for example Dionne Searcey "Job Growth Fails to Help Paychecks of Workers" *The New York Times* http://www.nytimes.com/2015/01/10/business/economy/jobs-unemployment-figures-december.html

sites of production has corporations to become oligopsonists, squeezing suppliers and funneling savings into finance, largely to the benefit of investors (Milberg 2008). Increased emphasis on generating value for shareholders has led to an increase in firms' repurchase of their own stock in order to boost the stock price to satisfy shareholders (Lazonick and O'Sullivan 2000). Financial deregulation has empowered investors over management, while technological change and globalization (plus investor pressure) enabled management to cut costs throughout the production chain.

What are some ways of regulating the economic balance of power? In the next section, I address two conceptions of social protection, the first a 'top-down' welfare state-based approach, where social policy is primary through government policy and the second, a bottom-up 'corporatist' approach, where primarily labor unions provide social protection by ensuring relatively high wages for all workers. I argue that these two approaches, which are combined in practice in the Nordic countries, should be viewed as complimentary parts of a 'Rawlsian' vision of social protection as taking particular concern for the labor market fortunes of the least well-off. While there has been much emphasis protecting the least well-off with social policy via taxes and transfers, I argue that the role of trade unions is also of great importance because social policy cannot adequately address issues of wage distribution. Even if everyone's skills are continually improved, an increase in the supply of skilled workers will allow employers to pay lower wages, outside of some countervailing force pressing for higher wages. Given both the difficulties in and enormous drawbacks to trying to limit technological change, what is to be done to ensure that the costs don't continually fall on those in the low and middle parts of the education/skills spectrum?

6.2 ...For the Greatest Benefit of the Least Well-Off

Before I discuss my conception of Social Protection as Social Balance, I think it is important to layout a basic normative framework for assessing social policy. I use as a normative base John Rawls' Second Principle of Justice in his conception of Justice as Fairness, more specifically the second part, known as the *Difference Principle.* According to the Second Principle of Justice, social and economic inequalities are "to be attached to positions and offices open to all under conditions of fair equality of opportunity" and should meet the Difference Principle, that "they are to be to the greatest benefit of the least advantaged members of society" (Rawls 2005, p.5-6). Rawls' Theory of Justice is concerned with the basic institutional structure of society and the principles of justice apply to what Rawls calls 'The Index of Primary Goods,' which is much broader than income or employment opportunities.[6]

I restrict myself here to discussion of the least well-off in terms of the labor market. I see as the least well-off in the labor market lower-skills individuals with little individual labor market power.[7] While Rawls does have some discussion of political institutions in a society regulated by the principles of Justice as Fairness,[8] he does not say much about specific market or welfare state institutions and says nothing about trade unions.[9]

[6]The Index of Primary Goods includes 1) "The basic rights and liberties", 2) "Freedom of movement, and free choice among a wide range of occupations", 3) "The powers of offices and positions of responsibility", 4) "Income and wealth", and 5) "The social bases of self-respect: the recognition by social institutions that gives citizens a sense of self-worth and the confidence to carry out their plans" (Rawls 2001, 58-59). The primary goods are what Rawls believes is necessary for citizens to develop and exercise their "Two Moral Powers," a "capacity for justice" and a "conception of the good."

[7]As does Rawls in all but his book *The Law of Peoples*, I confine my discussion to the domestic labor market in a closed economy setting. I also confine my conception to those legally entitled to work in the domestic labor market. Thus while one way to address the plight of the least well-off in labor markets globally might be to reduce barriers to immigration, I do not consider such a possibility here.

[8]See, for example Rawls' discussion of the public financing of campaigns and elections. See Rawls (2005), Lecture VIII, §10 "Free Political Speech".

[9]For an interesting, but far too brief discussion of the role of markets and property ownership in Justice as Fairness, see Rawls (2001) Part IV, §49 "Economic Institutions of a Property-Owning Democracy."

Although the difference principle has been the subject of intense debate regarding principles of justice, it has a core of reasonability which is especially apparent in light of what I have discussed in the preceding papers: structural changes in recent decades have largely benefitted those at the top of the distribution of skills, management, and investors. We should have particular concern for the position of the least well-off in the labor market is that recent trends have been largely to their detriment. Furthermore, recent simulations based on the types of tasks which technology will be able to replace in the coming decades predict that 47% of current U.S. occupations are susceptible to replacement by machines, heavily skewed toward those having only low education requirements (Frey and Osborne 2013). Innovations, to be sure, have broad benefits across society, but some of the greatest benefits go to the managers who, in implementing these technologies, reap the benefit of long-term savings, attaining higher salaries and bonuses as rewards and the investors, who demand an ever-greater share of the profits, which they can attain through their increasingly strong hand in corporate control (at least in the US).

The first conception of social protection is one based on a strong welfare state, which focuses on government taxes and transfers for maintenance of well-being and adjustment. Think of this as the 'top-down' approach. This approach focuses heavily on income support for the unemployed/underemployed, in addition to public health care and child care. The canonical example of this is the 'decommodifying' social democratic welfare state, where the purpose of the welfare state is to provide individuals with the means to support themselves regardless of their ability to earn a living in the labor market.[10] Commodification here refers to human labor as a commodity and decommod-

[10]Neither decommodification nor a strong emphasis on a largely government-run welfare state imply that there cannot also be very strong labor unions which either have a hand in the administration of social insurance or directly administer it themselves. In Sweden, perhaps the canonical example of a decommodifying welfare state in the postwar period, unemployment insurance is administered by trade

ification is the the elimination of the commodity element of human labor; individuals in a 'decommodified' system work because they want to, rather than because they need to work to survive (Marshall 2006, Esping-Andersen 1990). Individuals should have a citizenship right to social assistance. There is minimal private provision of social protection and benefits are not means-tested, which is intended to remove the stigma attached to receiving benefits.

According to the approach I develop here, decommodification is not the best approach to social protection because it is not narrowly tailored to meet the needs of those least well-off in the labor market. It encourages non-participation in the labor market even for those who would be able to find jobs. Decommodification is also extremely costly because it explicitly does not target based on need. The purpose of this was to remove the stigma attached to drawing welfare benefits. It is not clear, however that just because benefits are not means-tested that stigma doesn't attach to those who receive benefits. People are often quick to detect or make up stories about how others are free riding on the efforts of others. I believe that a better, more narrowly targeted approach is to focus on those who want to work, but have a difficult time finding good-paying work given their skills. The point of social protection should be to help individuals find work and ensure that this work pays well, with non-means-tested benefits being for those who really cannot work.

While Nordic welfare states may have aimed for and to some extent achieved decommodification in the 70s and 80s, they have changed greatly since the economic crisis in the early 1990s. These countries had very generous benefits, but also relied heavily on public employment to loosen the labor market, putting an enormous strain on their budgets. As a result of this, they had to shift the aim of the welfare state to reduce costs.

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unions and requires membership in a trade union.

There has been increased emphasis on tieing benefits to work and increased emphasis on continuing education and training. Nordic countries have historically placed relatively greater emphasis on active as opposed to passive labor market policy. But now the emphasis is more on continual training rather than training upon job loss, as technological change allows for the continual replacement of those in largely lower skills jobs. This has been particularly the case in Denmark, which has the highest participation rate in training among both the employed and the unemployed and The Netherlands, although these countries differ in the degree of state funding for training, with training begin financed largely by the state in Denmark but by firms as specified in collective agreements in The Netherlands (Thelen 2014).

6.3 Social Protection as Social Balance

While continual training is certainly important to help those with lower skills adapt to technological change, an approach focused entirely on this leaves the issues of wage setting under-addressed. It is still important to address wage setting for a few reasons. Even with extensive continual training, not everyone will be able to find work in a multi-skill/high-skill occupation. There will still be lower-skills jobs for which employers will not be inclined to pay higher wages.[11] This is particularly an issue given inflows of immigrants in recent decades, an issue which is likely to increase in importance as northern European countries take on increasing numbers of immigrants, who provide competition for lower-skills jobs. There may also be an issue of increased competition for higher skills jobs, potentially creating 'skill inflation' and reducing the bargaining power of workers in these jobs.

[11]Continual training will, however likely reduce the problem of skill mismatch for higher skills jobs, which will enable a greater percentage of workers to take these jobs and reduce both competition for jobs and employers' leverage over workers in low-wage jobs.

Because of this, it is still very important for discussions of social protection and inequality to focus on labor market institutions and the deeper structural factors which drive change here. This can help simultaneously achieve two objectives, both of which are critical elements to protecting the least well-off in the labor market: 1) it will ensure that individuals can support themselves and their families from working income 2) it will ensure that the response to major structural changes is negotiated, distributing both the costs and benefits more equally across the skill distribution and bringing a balance of power to the labor market, rather than primarily benefitting those of the greatest wealth and talent.

While a 'top-down', welfare state-based approach of government funding of training, unemployment benefits, and health care is an essential component of a comprehensive program to reduce social risk for the least well-off, a 'bottom-up' approach of strengthening the bargaining power of workers by strengthening unions can help ensure that individuals are able to live from their wages and will be less dependent on government benefits. Of equally great importance, it can help balance economic and political power between workers, employers/investors and ensure that losses due to technological change or other economic innovations are not concentrated on those who are likely to be least able to adapt to them. What I propose is to adapt labor law to make it easier for unions to organize low-wage workers, with the purpose of creating an organized class that can defend the interests of the least well-off and better ensure that economic changes work more to their benefit.

This is what we still see in Scandinavian countries. Labor unions have been weakening, but what they can still do is secure collective agreements with high wages for low-wage workers. They can do this, I argue because labor law allows them to engage in broad-based collective action to defend their positions. The labor law is very permissive in that it allows for solidarity strikes. On the other hand, it is very strict in that the

timing of strikes is heavily regulated. They can only occur in negotiation of a new labor contract. This shows that, at least in practice, labor law giving unions greater ability to strike in solidarity may be properly tailored to achieving the Rawlsian distribution goal of improving specifically the position of the least well-off.[12] Strengthening the ability of representatives of the least well-off to act in solidarity and to build alliances across workers of different occupations and skill levels allows for a defense of the labor market interests of the least well-off, without government action.

One can see the difference in the wage distribution. 'Low-wage work' is an issue in the United States and Germany, but are not in the Nordic countries, while middle class wages have stagnated in the last decade in the United States and to some extent Germany, but not in other western democracies.[13] Collective agreements in Nordic countries are primarily concerned with supporting the wages of low-wage workers, leaving wages above the minimum and wages in higher-wage industries to local level and individual bargaining. As a result, these countries have the lowest levels of working poverty among western democracies (Skedinger 2010). This approach shares the responsibility for social protection between the government and employers, boosting the wages of low-wage workers. The concern with social protection being entirely the purview of the government is that if there is too much reliance on benefits among the least well-off in the labor market, this essentially subsidizes low-wage employers.[14]

[12]Think of this as the economy analogue to the institutions of the American federal government. Giving groups legal permissions will enable them to shore up their own positions and to check faction against faction. If with think of small states as the least well-off, American political institutions, specifically the Senate (equal representation) and the Electoral College (where the number of senate members counts towards electoral college votes) embody the difference principle in the sense that they over-represent these smallest states.

[13]'Low-wage work' is typically defined as full-time work for which a person's income is less than 50% of the country's mean income for full-time work. See Vaughn-Whitehead (2012). On wage stagnation in the United States vs. European countries, see David Leonhardt and Kevin Quealy "The American Middle Class is No Longer the World's Richest" http://www.nytimes.com/2014/04/23/upshot/the-american-middle-class-is-no-longer-the-worlds-richest.html?abt=0002&abg=0

[14]This is one of the primary arguments in support of increasing the minimum wage. Low-wage em-

Beyond securing livable wages, strong unions can help ensure that structural economic changes like technological change can either be shaped to greater benefit those who would otherwise be most likely to lose from them, or can ensure that when workers lose their jobs, they are given training and supported in their transition to a new line of work.[15] When unions have legal permission for sympathy action and blockades, they can use this leverage to negotiate adjustment plans in addition to wages. In addition to government supported retraining, unions could demand the broadening of tasks performed by workers, such that individual positions do not become obsolete.[16] Furthermore, if employers are locked into participation in collective agreements, they may be more likely to support public funding of training programs, which will better ensure that their workers' skills are continually adapted to market standards (Martin and Swank 2004).

One concern is that the only way this system can work in the long-run is if there is solidaristic support for lower-wage workers in setting collective agreements from higher-wage workers. The cleavage between high- and low-skills workers over the distribution of wage increases was one of the major reasons for the breakdown in centralized wage bargaining in several countries in the 1980s (Iversen 1996). That coordinated wage bargaining does not set wages for high-wage workers or demand from them solidaristic wage restraint should help enable downward-oriented solidarity. Another is that this approach still requires government-financed training both to help loosen the low-end

ployers benefit when low-wage workers are supported by social benefits (such as income supplements and income tax breaks), but not to the extent that they do not have to work. Excess workers are competing for scarce jobs, giving employers greater leverage to pay lower wages.

[15]Swedish unions have typically not fought technological change, preferring to rely on government-sponsored training to help with adjustment (Thelen 1991; Ahlberg and Brunn 2005.)

[16]This is the recommendation of Autor (2014) for how we should think of employment in response to technological change. Rather than train individuals for specific tasks, they should be trained to perform a wide variety of tasks, making them more flexible if human labor in one of some of them becomes obsolete.

of the labor market and to ensure that those whose jobs are threatened by technological change are able to develop new skills which can make them assets to employers in the future. The system would be vulnerable to reduced support for continued training programs. Stronger unions will, however not just have a direct impact on the labor market through their effect on wages, they will also have greater influence on politics and will support increased spending on continued training programs.[17] Given this, a system of continual vocational training combined with unions working actively to boost wages in low-wage occupations can work well to ensure continual improvements for the least well-off.

Of course it is not possible to improve the bargaining power of lower-wage workers just by implementing Swedish strike laws. These allow Swedish unions to successfully defend their collective agreements, but only because they already have high membership and are well established at the local level across the country. In countries where this is not the case, other labor law changes would be necessary to increase union membership such that solidaristic action would be effective. To take the United States as an example, the union election process could be simplified. One way would be to require collective bargaining with a union within a certain period of time if a sufficient number of workers sign cards in support of union representation.[18] The current process under the National Labor Relations Act requires a second, formal vote when a majority of workers have expressed their support through petition signatures. Employers are often able to delay these votes for years and even when a vote is held and there is majority support for a union, if no contract is signed within one year, the union vote must be re-held. This gives employers incentive to stall signing collective agreements.

[17]This has been a common demand of unions across countries (Thelen 2014).

[18]This is essentially the idea behind the Employee Free Choice Act, a piece of labor legislation which unions have been trying to pass in some form for several decades.

There are, of course some potential concerns with the ideas I have laid out here. One of the concern with strong unions is that in boosting their members wages and shielding them from job loss, they harm those seeking to enter the labor market. This insider-outsider conflict has been an important theme in recent comparative political economy literature and is particularly pronounced when labor markets are tight.[19] Government-funded training can help with this. As I found in chapter 5, labor market outsiders' tendency toward supporting the far-right is lower in countries with higher active market policy spending, giving us some reason to believe that assistance with labor market reintegration can help reduce the insider-outsider conflict. This may, however be insufficient if competition in the low-wage labor pool is too high (ie. due to immigration) or if the necessary level of training is too expensive for voters generally to support. But strong unions can affect immigration politics, pressing government to only let in workers with skills for which there is a shortage.

Another concern is that strengthening unions may not always work for the benefit of the least well-off. If higher-wage workers aren't willing to block uncooperative employers or strike in support of others, then there may not be enough leverage. An important point here however is that union bargains will not attempt to level wages between higher and lower-wage workers, other than to the extent that increasing minimum wages levels wages. The 'cost' of solidarity for higher-skills workers is lower where centralized wage bargains do not set wage scales, which they haven't done in these countries since the 90s. This should increase their willingness to support such solidaristic arrangements.

The emphasis here has been on strengthening unions as a way of giving the least well-off a greater share of labor market power so that they can work to boost their own wages. But our concerns should also reach beyond social minima. Not just working

[19]This is even starting to be a problem in Sweden, where low-end jobs have become scarce, leading to relatively high youth and immigrant unemployment (Lindvall and Rueda 2012).

poverty, but wage stagnation in both middle and, more recently high-wage occupations are of concern, particularly in the United States. Strengthening unions could also potentially help those many white-collar workers in middle-wage occupations. But in addition to strengthening unions, other measures could help shift the economic balance of power between management/investors and these workers. There could be stronger requirements for disclosure in management compensation. This could help both unions in formulating collective agreements and professionals pushing for higher wages. Recently, there has been a great deal of enthusiasm for German-style Works Councils, bodies of employees who help develop and have veto over firm policies, including hiring and firing of workers.[20] Relaxing legal requirements on works council formation could result in workers having a stronger voice in firm practices, even where they aren't unionized.

Regarding corporate governance, one way to address the issue of overly powerful management and investors is to give labor representation on corporate boards. This is what currently happens in Germany and 13 other EU countries and could counteract the increasing power of investors and managers, delivering corporate decisions which are more to the benefit of all stakeholders.[21] Perhaps the most important policy however is public funding of elections. It is much more difficult to realize any of these possibilities without this as, at least in the United States, all of policies would shift power away from those who are most powerful today.

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[20]In Germany, there is separation between unions and works councils, although union members are often also members of works councils. Works councils do not participate in collective agreements and have less of a role in wage setting, although may have input on the distribution of bonuses. Unlike Germany, the United States under the National Labor Relations Act requires the establishment to be unionized before such a council can be established, due originally to the concern that such councils would be captured by management.

[21]Conditions for labor representation on corporate boards differ between countries. There is usually a minimum company size of 100-500 workers, with labor being entitled to a third of board seats in most cases. See "Board-level Representation" http://www.worker-participation.eu/National-Industrial-Relations/Across-Europe/Board-level-Representation2.

6.4 War, Society, and Inequality

While the focus of this conclusion has been on social protection for the least well-off in the labor market rather that inequality more broadly, there is clearly a relationship between these and it is important to both situate this work within the broader work on inequality and assess what these authors' arguments and conclusions might mean for the conception of social protection I have developed here. In his earlier work on inequality trends in France, Thomas Piketty noted the decline of inequality in response to two 'historical accidents,' the two World Wars (Piketty 2003). Kenneth Scheve and David Stasavage investigate systematically the hypothesis that war, specifically wars of mass mobilization explain the implementation high top income and estate tax rates and that such wars were also associated with the greatest reductions in inequality. In a series of papers, they find that wars of mass mobilization[22] were associated with increases in top tax rates and inheritance taxes, but not with tax rates across the rest of the income spectrum.[23] They find, contrary to numerous existing studies, that extension of the franchise, left partisanship, and centralized wage bargaining institutions do not have on top tax rates or the share of wealth held by the top 1% (Scheve and Stasavage 2009).

On one hand, Scheve and Stasavage's results should give us pause as to the effectiveness of one of the central ideas proposed here: that in the long-run, centralized wage bargaining is not associated with lower income inequality. They find that this relationship only holds since the 1970s. Before then, inequality did decrease after key moments of centralization of wage bargaining, but it had also been declining before these (Scheve and Stasavage 2009). I would not say, however that their results are particularly problem-

[22]The authors code mass mobilization in a variety of ways, but their base specification is >2% of the population mobilized for war.

[23]They argue that this has to do with perceptions of fairness; the poor and young were always conscripted into war and debates were about how it was only fair that the wealth of the older and richer be conscripted so that the did their part for the war effort as well.

atic for what I have proposed here as they focus on top incomes rather than inequality ratios or wage trends and I focus on the position of the least well off.[24] Consistent with an even larger body of work on unions and inequality however, they find that union membership is consistently negatively correlated with top income inequality.

This raises some big questions: Is there a way to achieve a stable long-term social balance and manage inequality short of war? Piketty, Scheve and Stasavage may have discovered a general 'law' relationship between top income inequality and war; it might take a massive critical juncture like a mass mobilization war to dislodge entrenched social structures benefitting the rich, as neither franchise extension nor parties, nor depression were able to do so. Neither claims that this is the only way to reduce extreme wealth inequality, but for at least the last 200 years, this has been the only thing which has been able to reduce such inequality.[25] Piketty does give considerable space at the end of his book to developing a proposal for a global wealth tax.[26] Contrary to recent critics, Piketty clearly believes that institutions can counteract increasing inequality, but that this will have to come in the form of greatly increased redistributive taxation by the state. But that immediately raises the question: how would these be implemented, given the ease in hiding wealth and the number of countries willing to help individuals do this?

Piketty may be right that massive wealth taxes are the only way to tackle massive inequalities of wealth. I don't know. But I believe that we can achieve something very worthwhile, something which can improve the lives of millions of low-wage workers if we shift the balance of power in the labor market back in favor of labor. I believe that this

[24]It also provides additional evidence for my claims in chapters 2 and 3 that wage setting institutions themselves are endogenous to long run structural economic factors.

[25]Piketty notes that even the French Revolution, with its radically egalitarian ideology, had very little effect on wealth inequality (Piketty 2014, ch. 10).

[26]See also Piketty and Saez (2013).

can be done by strengthening countervailing actors in the labor market. This is likely also a necessary condition (short of war) to achieve the massive redistribution which Piketty seeks as his solution. Without a central, politically powerful representative of working class individuals, this is unlikely to happen. In western democracies, unions been the key institution representing the working class for more than a century.

But the problem with the working 'class' is that it really isn't a self-identified 'class' at all. It is a relatively amorphous group with some common interests, but many diverging interests, especially when accounting for additional factors such as age, region, and religion. Across sub-groups of the working class, divergent concerns are likely to take precedent over common interests at any given time, making it difficult to represent the common interests of this 'class.' Stronger, more centralized unions with clearly defined powers and responsibilities can help express and fight for the common interests among the divergent. Surely there are problems with very strong unions and there will need to be substantial assistance in terms of government programs, but unions with greater capacity for solidarity, as in the Nordic countries, are very likely a critical part of economic balance and a peaceful bulwark against extreme inequality.

Part IV

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Part V

Appendices

Appendix A

Appendix to Chapter 2

A.1 Tables

Table A.1: **Cross-National Union Density**

Covariates	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	31.67(7.70)***	25.77(6.12)***	30.35(7.47)***	18.57(2.84)***	14.63(2.27)**	17.88(2.76)***	14.25(2.15)**
RTE	16.80(4.22)***		19.16(3.87)***	10.88(2.59)***		12.64(2.41)**	12.01(2.23)**
Off		6.05(1.16)	-7.51(-1.20)		4.44(0.90)	-4.81(-0.78)	-4.09(-0.64)
IndPerc	.20(1.61)	.45(3.77)***	.23(1.88)*	.40(2.67)***	.57(4.36)***	.42(2.83)***	.18(1.07)
PubEmp				.72(2.69)***	.83(3.01)***	.73(2.68)***	1.14(4.18)***
FDI				-.57(-0.35)	-.74(-0.44)	-.54(-0.32)	.18(0.08)
Kmob				-.84(-1.48)	-1.12(-1.94)*	-.87(-1.53)	-.73(-1.34)
Trade				-.04(-1.96)**	-.06(-2.58)***	-.04(-1.93)*	-.01(-0.22)
Ghent				18.15(4.63)***	18.98(4.93)***	32.30(8.02)***	15.38(4.18)***
Coor				.09(0.52)	.10(0.56)	.10(0.59)	.06(0.35)
WrkCn				-.39(-0.57)	-.22(-0.30)	-.40(-0.58)	-.36(-0.47)
Party				.06(0.45)	.08(0.55)	.06(0.44)	.11(0.78)
Fed				1.04(1.46)	.76(1.09)	1.10(1.52)	1.60(2.10)**
Imm				-.00(-0.26)	-.00(0.31)	-.00(-0.33)	.00(0.78)
Emp				.00(0.57)	.00(0.31)	.00(0.45)	.00(0.42)
GDP				-.00(-1.97)**	-.00(-1.77)*	-.00(-1.90)*	-.00(-1.16)
Unemp				.45(2.91)***	.50(3.33)***	.44(2.87)***	.43(2.84)***
N	588	588	588	524	524	524	524
R^2	.80	.80	.80	.84	.86	.85	.88

Note: All models with Country Fixed Effects, Prais-Winsten Transformation, and Panel Corrected Standard Errors. Model 7 with five-year period fixed effects. z-statistics in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.2: **Cross-National Union Density: Lagged Covariates**

Covariates	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	28.79(7.34)***	25.32(6.21)***	28.97(7.30)***	23.50(3.84)***	20.07(3.31)***	23.25(3.81)***	22.49(3.70)***
RTE_{t-1}	15.93(3.96)***		15.62(3.15)***	11.87(3.02)***		12.04(2.63)***	10.35(2.30)**
Off_{t-1}		12.13(2.34)**	1.01(0.16)		8.80(1.70)*	.15(0.03)	1.91(0.32)
$IndPerc_{t-1}$	.29(2.44)**	.47(3.99)***	.29(2.42)**	.35(2.51)**	.50(4.00)***	.35(2.54)**	.08(0.54)
$PubEmp_{t-1}$				.66(2.73)***	.77(3.16)***	.68(2.81)***	.96(4.01)***
FDI_{t-1}				-2.77(-1.49)	-2.92(-1.50)	-2.74(-1.45)	-1.26(-0.59)
$Kmob_{t-1}$				-1.25(-2.87)***	-1.49(-3.38)***	-1.27(-2.91)***	-1.02(-2.54)**
$Trade_{t-1}$				-.06(-2.59)***	-.08(-3.32)***	-.06(-2.60)***	-.02(-0.93)
$Ghent_{t-1}$				32.03(8.57)***	30.82(8.21)***	19.56(5.23)***	28.52(7.90)***
$Coor_{t-1}$				.24(1.43)	.24(1.39)	.24(1.45)	.22(1.22)
$WrkCn_{t-1}$				.48(0.63)	.66(0.84)	.48(0.62)	.22(0.27)
$Party_{t-1}$				.12(0.90)	.13(1.00)	.12(0.91)	.14(1.11)
Fed_{t-1}				1.03(1.33)	.72(0.95)	1.08(1.40)	1.51(1.93)*
Imm_{t-1}				-.00(-1.08)	-.00(-0.87)	-.00(-1.08)	-.00(0.00)
Emp_{t-1}				.00(0.20)	.00(0.03)	.00(0.17)	-.00(-0.56)
GDP_{t-1}				-.00(-1.97)**	-.00(-1.79)*	-.00(-1.97)**	-.00(-0.38)
$Unemp_{t-1}$				.13(1.01)	.19(1.48)	.13(1.03)	.08(0.62)
N	590	590	590	524	524	524	524
R^2	.82	.82	.82	.89	.90	.89	.91

Note: All models with explanatory variables lagged by one-year, Country Fixed Effects, Prais-Winsten Transformation, and Panel Corrected Standard Errors. Model 7 with five-year period fixed effects. z-statistics in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.3: **German Firm Participation in Industry-Level Collective Agreements**

Covariates	(1)	(2)	(3)	(4)
SDQual	1.04(2.57)***	1.07(3.37)***	1.02(2.33)**	1.03(2.77)***
MQual	.96(-3.73)***	.93(-4.03)***	.97(-3.61)***	.97(-3.52)***
RTE	.97(-2.20)**	.97(-1.69)*	.99(-1.43)	.99(-0.74)
Off	1.02(1.70)*	1.01(0.79)	1.01(1.42)	1.01(1.65)*
Exp		1.00(-0.89)		1.00(-0.52)
Size		1.00(0.14)		1.00(-0.61)
New		1.03(1.32)		1.02(1.93)*
Profit		1.01(1.54)		1.01(2.74)***
Age		1.00(1.45)		1.00(1.53)
PercFem		1.01(0.30)		1.00(-0.21)
WrkCn		1.00(0.15)		1.00(0.18)
N	35789	14768	47907	22075
Regression Type	SR	SR	SR-D	SR-D

Note: Cox Proportional Hazard Regressions with fixed effects for industrial sector, federal state, and industrial sector X federal state. Standard errors clustered by firm. Hazard ratios reported with t-statistics in parentheses. **SR:** Set as one-spell single-record data. **SR-D:** Set as single-record data, where the firm drops out at failure, but reenters when it signs next industry-level collective agreement. $p < .1$, ** $p < .05$, *** $p < .01$

Table A.4: **German Firm Participation in Industry+Firm-Level Collective Agreements**

Covariates	(1)	(2)	(3)	(4)
SDQual	1.05(3.82)***	1.06(3.21)***	1.04(4.39)***	1.04(4.24)***
MQual	.97(-2.99)***	.95(-2.84)***	.98(-3.31)***	.97(-3.22)***
RTE	.97(-2.30)**	.97(-1.67)*	.99(-1.62)	.99(-0.78)
Off	1.01(0.64)	1.00(0.00)	.99(-0.64)	1.00(-0.15)
Exp		.999(-1.66)*		1.00(-0.91)
Size		1.01(1.03)		1.00(-0.41)
New		1.02(1.28)		1.02(2.02)**
Profit		1.01(1.61)		1.01(1.66)*
Age		1.00(2.64)***		1.00(1.63)*
PercFem		1.04(1.16)		.99(-0.50)
WrkCn		1.00(-0.08)		1.01(0.74)
N	43881	18518	53942	25529
Regression Type	SR	SR	SR-D	SR-D

Note: Cox Proportional Hazard Regressions with fixed effects for industrial sector, federal state, and industrial sector X federal state. Standard errors clustered by firm. Hazard ratios reported with t-statistics in parentheses. **SR:** Set as one-spell single-record data. **SR-D:** Set as single-record data, where the firm drops out at failure, but reenters when it signs next industry-level collective agreement. $p < .1$, ** $p < .05$, *** $p < .01$

Table A.5: **German Firm Participation in Collective Agreements: Industry-Level Analysis**

Covariates	(1)	(2)	(3)	(4)
Constant	1.01(10.31)***	1.01(10.89)***	.91(13.59)***	.89(11.60)***
SDQual	-.06(-1.36)	-.06(-1.27)	-.07(-2.13)**	-.06(-1.74)*
MQual	.10(0.13)	.00(-0.07)	.06(1.50)	.05(1.17)
RTE	.03(0.97)	.04(1.32)	.07(2.32)**	.10(2.43)**
Off	-.04(-1.14)	-.06(-1.27)	-.07(-1.99)*	-.09(-2.13)**
MeanEmp		.00(1.67)		.00(2.96)***
Exp		-.00(-0.61)		-.00(-0.29)
N	510	510	510	510
DV	Ind	Ind	Ind+Firm	Ind+Firm

Note: Regressions contain fixed effects for industry and year. Standard errors clustered by sector. Dependent Variable percentage of firms participating in either industry-level collective agreements (columns 1 and 2) or industry- *or* firm-level collective agreement (columns 3 and 4). $p < .1$, ** $p < .05$, *** $p < .01$

Table A.6: **German Firm Participation in Collective Agreements: Industry-Level Analysis, Lagged Covariates**

Covariates	(1)	(2)	(3)	(4)
Constant	.47(6.80)***	.48(6.56)***	.32(3.84)***	.33(4.16)***
$SDQual_{t-1}$	-.06(-1.97)*	-.06(-2.23)**	-.11(-2.72)***	-.11(-3.24)***
$MQual_{t-1}$	.02(0.89)	.03(1.45)	.08(2.12)**	.09(2.55)**
RTE_{t-1}	-.01(-0.34)	-.01(-0.38)	.00(0.00)	.00(0.14)
Off_{t-1}	.02(0.95)	.03(1.09)	.02(0.72)	.02(0.69)
$MeanEmp_{t-1}$		.00(0.75)		.00(1.84)*
Exp_{t-1}		-.00(-2.28)**		-.00(-1.69)*
N	475	475	475	475
DV	Ind	Ind	Ind+Firm	Ind+Firm

Note: Regressions contain fixed effects for industry and year. Covariates lagged by one year. Standard errors clustered by sector. Dependent Variable percentage of firms participating in either industry-level collective agreements (columns 1 and 2) or industry- *or* firm-level collective agreement (columns 3 and 4). $p < .1$, ** $p < .05$, *** $p < .01$

A.2 Figures

Figure A.1: **CME/LME Union Density 1970-2010**

Figure A.2: **Scandinavia Union Density 1970-2010**

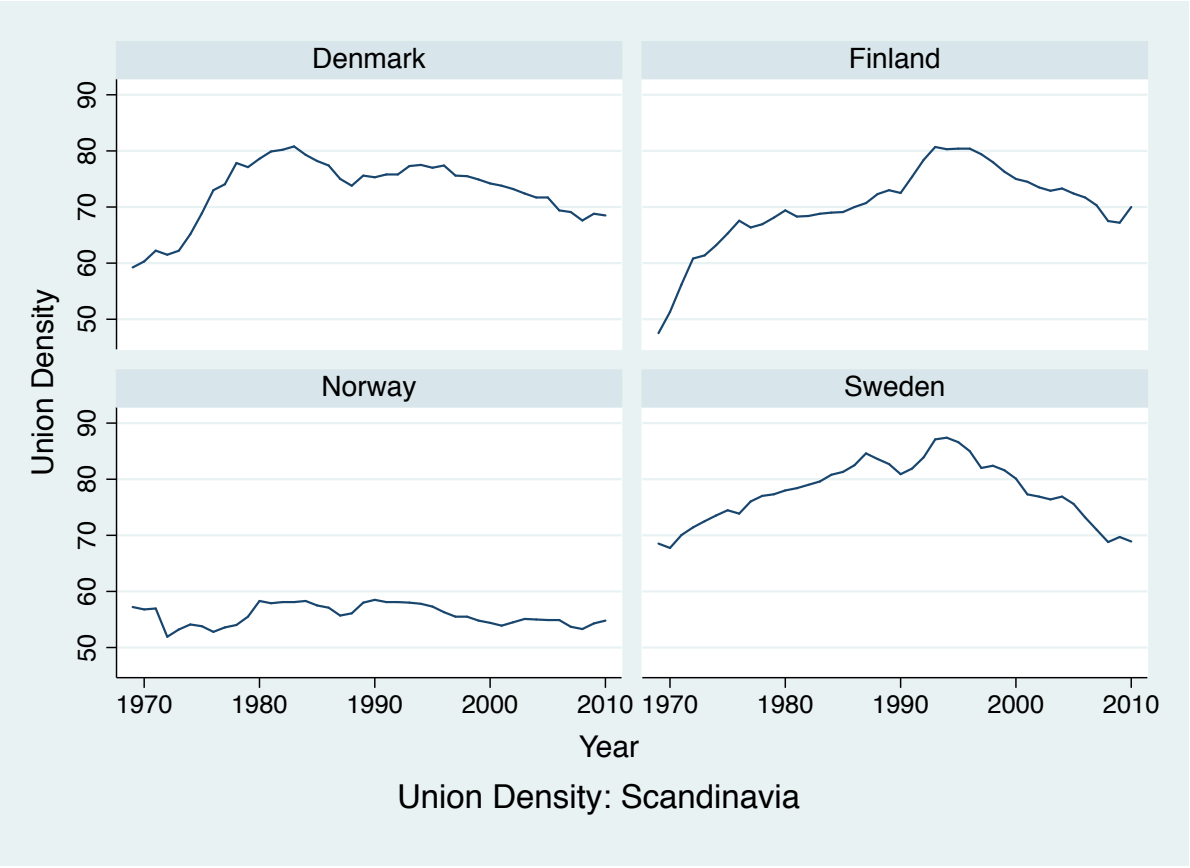
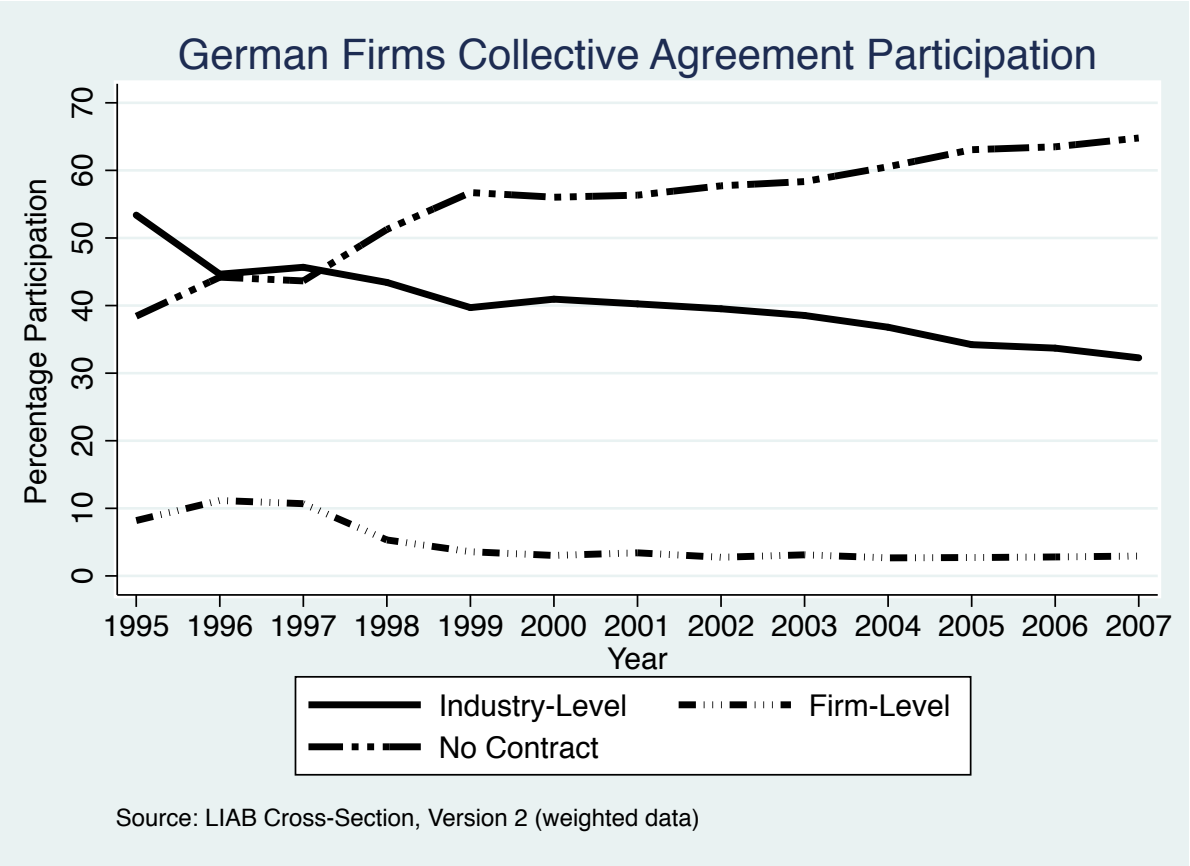


Figure A.3: **German Firm Participation in Collective Agreements**



A.3 Robustness Checks

A.3.1 Cross-National Two-Stage Least Squares Regression

One of the primary concerns with interpretation of the cross-national regression results is endogeneity of RTE. Perhaps the major endogeneity concern with RTE is reverse causality; it is possible that unions, knowing that they are threatened by technological change, will pressure employers to slow down the adoption of new worker-replacing technology. If this were true, then countries with strong unions would have endogenously higher levels of RTE than those with weaker unions.[1]

In order to provide a robustness check against the possibility of reverse causality, I instrument RTE with a measure of average computing power from Nordhaus and use Two-Stage Least Squares.[2] The idea here is that average computing power is largely a product of pure technological change and very unlikely a product of union strength, unlike occupational employment, which is likely affected by unions. Per Autor et al, it is the increase in average computing power which enables the automation of routine task jobs. Thus average computing power should be highly correlated with RTE yet not susceptible to reverse causality with union density.

Yet there are also several concerns with average computing power as an instrumental variable. One, it is not completely exogenous; although computing power has been exponentially increasing in an almost law-like fashion,[3] it caused by a constellation of social, economic, and political conditions, which may be observed or unobserved. Two, average computing power likely does not meet the exclusion restriction that it affect the dependent variable union density *only* through RTE.[4] Increased computing power could also affect union density by easing offshorability, international capital mobility, and foreign direct investment. Because of this, it is not credible to interpret such regression results as giving the 'causal' effect of RTE on employment. They may, however address some of the reverse causality concerns between RTE and union density and thus should be considered as a robustness check rather than the primary piece of evidence for my claims.

In table A.7, I present two types of regressions. Columns 1 and 2 instrument RTE with average computing power (RTE_{IV}). Because average computing power would likely af-

[1]This latter issue is somewhat alleviated in the above regressions through the use of country fixed effects, but reverse causality is still a concern for interpretation of fixed effects models.

[2]Nordhaus 2007.

[3]Indeed there is a famous observation by computer scientist Gordon Moore in 1965 (which has since been dubbed 'Moore's Law') that the number of transistors per square inch on integrated circuits had doubled every year since the integrated circuit was invented. He predicted that this trend would continue for the foreseeable future. Nordhaus finds that from 1982-2001, computing power actually increased 18% *faster* than predicted by Moore's Law. See Nordhaus 2007.

[4]See Sovey and Green 2011 for a guide to usage and interpretation of instrumental variables regressions.

fect union density through other covariates, such as offshorability and industrial employment percentage, in columns 3 and 4, I created a country-year average of standardized RTE, offshorability, and industrial employment percentage and used average computing power as an instrument for this ($Task_{IV}$).[5] Columns 1 and 3 include these respective instrumental variables without controls and columns 2 and 4 add the same controls from the cross-national analysis. These results are consistent with the main results. RTE_{IV} without the controls and $Task_{IV}$ have substantially smaller magnitudes than in the main regressions, but they display the proper positive signs and are always statistically significant. These regressions can increase our confidence that the above results for RTE are not just artifacts of reverse causality and that technological change generally has an effect on union density through its effect on employment.

Table A.7: **Cross-National Union Density: Two-Stage Least Squares Regressions**

Covariates	(1)	(2)	(3)	(4)
Intercept	-.42(-1.88)*	-.33(-0.23)	-.24(-1.06)	.68(0.76)
RTE_{IV}	2.05(2.08)**	10.54(2.21)**		
$Task_{IV}$			.79(2.08)**	3.16(3.05)***
Off		-9.26(-2.26)**		
$IndPerc$		-.01(-0.10)		
$PubEmp$		.13(3.14)***		.21(3.80)***
FDI		-2.40(-1.09)		-1.11(-0.47)
$Kmob$		.01(0.06)		-.13(-1.06)
$Trade$		.00(0.66)		.00(0.59)
$Ghent$		2.13(4.39)***		2.33(4.52)***
$Coor$		.12(1.18)		.18(1.85)
$WrkCn$		-.46(-2.33)**		-.79(-2.98)***
$Party$		.08(1.25)		.08(1.26)
Fed		.04(0.21)		-.34(-1.72)*
Imm		.00(1.46)		.00(1.45)
Emp		-.00(-1.80)*		-.00(-2.05)**
GDP		.00(1.10)		.00(1.74)*
$Unemp$		-.03(-0.23)		.03(0.91)
N	585	522	585	522
R^2	.99	.99	.99	.99

Note: Two-Stage Least Squares regression with Average Computing Power (Nordhaus 2007) as instrument for RTE in columns 1 and 2 and for a standardized average of RTI, Off, and IndPerc (Task) in columns 3 and 4. All regressions include lagged dependent variable (unreported).
* $p < .1$, ** $p < .05$, *** $p < .01$

[5]Think of this as an instrument for employment change writ large rather than for task changes.

A.3.2 Additional Firm-Level Results

In this section, I present some additional results from the German firm-level data, including regressions with the skill and task variables entered separately and full regressions which account for clock time and events in different ways. First, I present regressions in which the two skill and the two task variables are included separately, with industry, federal state, and industry X federal state fixed effects (as in the original regressions). Table A.8 presents regressions for the four regression types for withdrawal from industry-level collective agreements and table A.9 presents the same regressions for withdrawal from either industry- or firm-level collective agreements.

As we can see in both tables A.8 and A.9, the results when I include either just the two skill variables or the two task variables are fairly similar to the above regressions. Both SQual and MQual have hazard ratios consistently greater than and less than 1 and are statistically significant. Again, the hazard ratios are fairly close to one, meaning that the substantive effects are not very large, but they are precisely estimated.

Surprisingly, neither RTE nor Off has a consistent effect on probability of withdrawal. We might have thought that RTE and Off would have a stronger effect when neither skill variable was included in the regression but if anything, the opposite is true. RTE is never significant in these simple regressions and also switches signs across the models. The same is true for Off. It appears that unlike in the cross-national results, these variables are not particularly crucial for explaining collective agreement participation in Germany. There are a variety of possible reasons for the difference. One, it may be that there isn't a relationship between RTE and collective agreement within-industry, which all of these regressions are as they include industry fixed effects. Two, while dependence on routine task occupations or offshorable occupations may favor unionization when it is not possible to either replace workers with machines or offshore, the opposite may be true when it is. In other words, the effect may change over time and these countervailing effects may cancel each other out. A third possibility is that the task content of occupations changes over time and that time-invariant task-based measures, such as that used here and in other work on changes in occupational employment do not adequately capture the within-occupation task mix and thus do not give a completely reliable measure of how replaceable jobs actually are.

As mentioned above, I ran four types of firm-level regressions, of which I already presented two: 1) one-spell single-record regressions and 2) repeated spell single-record regressions, where a firm drops out of the dataset when it doesn't sign a collective agreement and reenters when it once again does. In tables A.10 and A.11, I present two additional types: 1) single-record regressions where the firm never drops out of the dataset[6] and is recorded as experiencing a failure each year it does not have a collective agreement, with the clock starting again with each first year the firm signs a collective agreement (table A.10) and 2) multiple-record regressions where the firm never drops

[6]This, of course only applies for years in which the firm is in the survey.

out of the dataset and the clock runs continuously from the year of first entry. In both cases, each year in which the firm doesn't sign a collective agreement is recorded as a failure (table A.11). The only difference is that in the first set, the clock restarts with each failure. In both tables, columns 1 and 2 record dropping from an industry-level to either a firm-level or no collective agreement as a failure, while columns 3 and 4 record dropping from either an industry- or firm-level collective agreement to no collective agreement as a failure.

The results are fairly consistent with those presented in the first two regression types. The magnitudes on the two skill variables are quite small, with one unit increases associated with between a 1 and 2% greater chance of withdrawal for a unit increase of SDQual and between a 1 and 2% lesser chance of withdrawal for a unit increase of MQual, but the coefficients are always highly significant. The signs on RTE and Off are consistently greater and less than one respectively, but they are very close to 1 and never significant. The results for the control variables are similar although surprisingly, firms with larger workforces have greater probabilities of withdrawal (although the magnitudes are very small) across the various regressions. More highly export-oriented firms consistently have lower probabilities of withdrawal, although most coefficients do not quite reach significance.

Table A.8: **Firm-Level Regressions: Separate Skill and Task Variables**

Covariates	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SDQual	1.03(2.74)***		1.02(2.37)**		1.01(3.15)***		1.01(2.84)***	
MQual	.97(-3.65)***		.98(-3.57)***		.99(-4.43)***		.99(-4.02)***	
RTE	.99(-1.49)		1.00(-0.53)		1.01(1.48)		1.01(1.53)	
Off	1.01(1.03)		1.01(1.67)*		1.00(0.09)		1.00(0.21)	
N	35789	35789	47907	47907	69670	69670	69670	69670
Clock	SR	SR	SR-D	SR-D	SR-ND	SR-ND	MR	MR

Note: SR=Single record **SR-D**= Single record, drop consecutive years with no collective agreement **SR-ND** Single record, record all non-signings as failures (clock restarts with each)
MR= Multiple record * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.9: **Firm-Level Regressions: Separate Skill and Task Variables**

Covariates	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SDQual		1.04(4.10)***		1.04(4.36)***		1.02(3.99)***		1.01(3.62)***
MQual		.97(-3.34)***		.98(-3.10)***		.99(-3.40)***		.99(-2.96)***
RTE	.98(-1.57)		.99(-1.33)		1.00(0.78)		1.00(0.69)	
Off	1.00(0.17)		.99(-0.49)		1.00(-0.72)		1.00(-0.66)	
N	43881	43881	53942	53942	69670	69670	69670	69670
Clock	SR	SR	SR-D	SR-D	SR-ND	SR-ND	MR	MR

Note: SR=Single record **SR-D**= Single record, drop consecutive years with no collective agreement **SR-ND** Single record, record all non-signings as failures (clock restarts with each) **MR**= Multiple record * $p < .1$, ** $p < .05$, *** $p < .01$

Table A.10: **German Firm Participation in Collective Agreements: Single-Record Restart**

Covariates	(1)	(2)	(3)	(4)
SDQual	1.01(3.18)***	1.01(3.28)***	1.02(4.06)***	1.02(3.53)***
MQual	.99(-4.16)***	.98(-3.76)***	.99(-3.22)***	.99(-2.62)***
RTE	1.00(0.64)	1.01(1.33)	1.00(0.53)	1.01(1.12)
Off	1.00(-0.07)	1.00(-0.60)	1.00(-0.85)	.99(-1.15)
Exp		1.00(-1.47)		.999(-1.57)
Size		1.00(1.84)*		1.01(2.93)***
New		1.00(1.36)		1.00(0.61)
Profit		1.00(0.32)		1.00(-0.36)
Age		1.00(4.38)***		1.00(3.75)***
PercFem		.99(-1.00)		.99(-0.76)
WrkCn		.99(-1.51)		.99(-0.76)
N	69670	38341	69670	38341
DV	Sec	Sec	Sec+Firm	Sec+Firm

Note: Cox Proportional Hazard Regressions with fixed effects for industrial sector, federal state, and industrial sector X federal state. Standard errors clustered by firm. Hazard ratios reported with t-statistics in parentheses. Data set as single record, where clock restarts after each failure, but with *all* firm-years included in the dataset. $p < .1$, ** $p < .05$, *** $p < .01$

Table A.11: **German Firm Participation in Collective Agreements: Multiple-Record Continuous**

Covariates	(1)	(2)	(3)	(4)
SDQual	1.01(2.86)***	1.01(2.92)***	1.01(3.69)***	1.01(3.18)***
MQual	.99(-3.74)***	.99(-3.20)***	.99(-2.79)***	.99(-2.09)**
RTE	1.00(0.78)	1.00(1.11)	1.00(0.52)	1.00(0.88)
Off	1.00(0.06)	1.00(-0.34)	1.00(-0.78)	1.00(-0.92)
Exp		1.00(-1.64)*		1.00(-1.51)
Size		1.00(2.00)**		1.01(3.00)***
New		1.01(1.84)*		1.00(1.13)
Profit		1.00(0.31)		1.00(-0.18)
Age		1.00(1.98)**		1.00(1.73)*
PercFem		.99(-1.02)		.99(-0.69)
WrkCn		1.00(-1.93)*		.99(-1.84)*
N	69670	38481	69670	38481
DV	Sec	Sec	Sec+Firm	Sec+Firm

Note: Cox Proportional Hazard Regressions with fixed effects for industrial sector, federal state, and industrial sector X federal state. Standard errors clustered by firm. Hazard ratios reported with t-statistics in parentheses. Data set as multiple record, with clock running continuously from entry. $p < .1$, ** $p < .05$, *** $p < .01$

Appendix B

Appendix to Chapter 3

B.1 Tables

Table B.1: **Change in Union Density**

Cov	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Con	.29(1.66)*	5.73(9.36)***	5.15(8.57)***	2.81(4.42)***	5.03(5.02)***	2.47(1.88)*	*omitted*
UD_{t-1}	-.01(-3.42)***	-.14(-12.28)***	-.17(-14.23)***	-.08(-8.42)***	-.17(-12.59)***	-.21(-14.64)***	-.18(-12.64)***
$\Delta SMkt$	-.005(-2.14)**	-.006(-2.59)***	.001(0.60)	-.002(-0.88)	-.002(-0.68)	.004(1.20)	.01(3.63)***
ΔRTI	6.11(5.42)***	6.14(4.12)***	5.41(3.36)***	4.65(3.17)***	5.92(3.37)***	6.71(3.70)***	8.02(4.48)***
ΔFDI				-1.05(-1.13)	-.71(-0.72)	-.59(-0.56)	-.83(-0.83)
ΔKOp				.26(1.19)	.52(2.20)**	.46(1.89)*	.57(2.31)**
$\Delta TrOp$				-.02(-2.95)***	-.01(-0.87)	.00(0.41)	.01(0.63)
$\Delta Ghent$				*omitted*	*omitted*	*omitted*	*omitted*
$\Delta Coor$				.13(1.74)*	.23(2.84)***	.13(1.47)	.12(1.36)
$\Delta WrkCn$				-.34(-0.84)	-.73(-2.34)**	-.56(-1.86)*	-.63(-1.89)*
$\Delta OpCl$				-.21(-2.20)**	-.29(-2.69)***	-.27(-2.52)**	-.25(-1.99)**
$\Delta Party$				.05(0.76)	.09(1.49)	.13(2.08)**	.09(1.45)
ΔFed				.18(0.35)	.54(0.99)	.55(0.96)	.50(0.77)
ΔImm				-.002(-1.51)	-.00(-0.41)	-.003(-2.02)**	.02(2.06)**
$\Delta FEmp$				16.30(4.36)***	12.59(3.38)***	13.22(3.16)***	13.49(4.21)***
ΔEmp				.00(3.69)***	.00(2.33)**	.00(3.69)***	.00(1.87)*
ΔGDP	.00(2.04)**	.00(3.07)***	.00(0.59)	-.00(-0.76)	.00(0.14)	-.00(-2.79)***	-.00(-3.40)
ΔU	.32(7.68)***	.22(4.38)***	.30(6.31)***	.16(2.85)***	.16(2.56)**	.27(4.25)***	.11(1.62)
$Smkt_{t-1}$	-.000(-0.55)	-.005(-3.39)***	.003(1.69)*	-.004(-3.88)***	-.002(-0.84)	.003(1.55)	.004(1.51)
RTI_{t-1}	.36(1.42)	5.05(6.41)***	2.94(2.43)**	.56(0.91)	5.69(4.56)***	6.30(4.28)***	6.26(4.33)***
FDI_{t-1}				-2.93(1.32)**	-2.42(-1.82)*	-2.18(-1.46)	-2.74(-2.07)**
KOp_{t-1}				-.05(-0.78)	.11(1.77)*	.23(.2.78)***	.27(3.26)***
$TrOp_{t-1}$				-.007(-2.67)***	-.00(-0.04)	.02(3.57)***	.03(3.29)***
$Ghent_{t-1}$				2.94(9.18)***	2.75(2.59)***	7.57(7.04)***	5.72(5.41)***
$Coor_{t-1}$				.11(2.11)**	.33(3.62)***	.14(1.38)	.14(1.33)
WCn_{t-1}				-.02(-0.19)	-.07(-0.21)	.06(0.16)	.24(0.59)
$OpCl_{t-1}$				-.19(-4.09)***	-.50(-6.79)***	-.45(-5.87)***	-.41(-5.40)***
$Party_{t-1}$				.03(0.80)	.09(2.07)**	.11(2.41)**	.12(2.68)***
Fed_{t-1}				.11(2.38)**	.71(2.18)**	.92(2.71)***	.97(3.18)***
Imm_{t-1}				-.003(-3.86)***	-.002(-1.51)	-.003(-1.95)*	.02(3.34)***
$FEmp_{t-1}$				4.77(2.95)***	3.25(1.88)*	6.53(2.80)***	4.24(2.12)**
$TEmp_{t-1}$				-.00(-3.57)***	.00(0.31)	.00(3.07)***	-.00(-0.52)
GDP_{t-1}	-.00(-2.56)***	-.00(-0.69)	.00(1.63)	.00(2.32)**	-.00(-0.79)	-.00(-2.11)**	.00(0.81)
U_{t-1}	-.03(-2.55)**	-.12(-6.82)***	-.06(-3.91)***	-.16(-8.92)***	-.12(-5.03)***	-.09(-3.67)***	-.14(-5.63)***
Cnt FE	No	Yes	Yes	No	Yes	Yes	Yes
Year FE	No	No	Five-Year	No	No	Five-Year	Year
R^2	.03	.16	.21	.11	.18	.23	.30
N	514	514	514	479	479	479	479

Note: Error Correction Models with Panel Corrected Standard Errors. t-statistics in parenthesis. All regressions account for AR(1) serial correlation. * $p < .1$, ** $p < .05$, *** $p < .01$

Table B.2: **Change in Opening Clauses**

Cov	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Con	.23(7.58)***	.74(5.55)***	.91(6.57)***	.22(1.37)	2.02(6.63)***	2.62(6.72)***	*omitted*
$OpCl_{t-1}$	-.05(-6.06)***	-.30(.03)***	-.30(-11.81)***	-.10(-6.41)***	-.37(-11.97)***	-.32(-11.38)***	-.25(-10.04)***
$\Delta SMkt$	.002(2.69)***	.002(3.04)***	.002(3.00)***	.002(2.80)***	.002(2.38)**	.002(2.38)**	.001(1.17)
ΔRTI	-.19(-0.49)	-.40(-1.03)	-.08(-0.20)	.22(0.51)	-.64(-1.59)	-.45(-1.09)	-.49(-1.19)
ΔFDI				-.42(-2.17)**	-.31(-1.92)*	-.34(-2.09)**	-.32(1.81)*
ΔKOp				.04(0.52)	.05(0.91)	.00(0.05)	.00(0.00)
$\Delta TrOp$				.00(1.75)*	.00(0.46)	.00(0.48)	.00(0.25)
$\Delta Ghent$				*omitted*	*omitted*	*omitted*	*omitted*
$\Delta Coor$				-.04(-2.64)***	-01(-0.54)	-.00(-0.15)	-.01(-0.41)
ΔWCn				-.04(-0.60)	-.02(-0.58)	-.00(-0.09)	-.01(-0.21)
ΔUD				-.01(-2.11)**	-.01(-2.60)***	-.01(-2.19)**	-.01(-2.12)**
$\Delta Party$				.02(1.35)	.04(2.82)***	.04(2.60)***	.03(1.95)*
ΔFed				-.02(-0.57)	-.04(-0.97)	-.04(-0.98)	-.06(-1.57)
$\Delta Immi$				-.00(-1.65)*	.00(0.30)	-.00(-2.17)**	.01(3.66)***
$\Delta FEmp$				-.77(-0.50)	-2.21(-1.42)	-3.13(-1.94)*	-3.34(-2.11)**
ΔEmp				-.00(-0.48)	.00(0.52)	.00(1.06)	.00(1.38)
ΔGDP	-.00(-0.69)	-.00(-0.83)	-.00(-0.00)	-.00(-0.76)	-.00(-0.46)	-.00(-0.82)	-.00(-1.20)
ΔU	-.01(-0.56)	.00(0.23)	-.00(-0.03)	.00(0.25)	.03(1.79)*	.03(1.77)*	.02(1.36)
$Smkt_{t-1}$	-.000(-0.99)	.000(1.43)	-.001(-2.49)**	.000(1.13)	.000(0.83)	-.00(-0.71)	-.000(-0.41)
RTI_{t-1}	24(-2.59)***	1.22(-6.36)***	-.65(-2.64)***	.19(1.31)	1.26(-4.03)***	1.05(-3.58)***	-.86(-3.05)***
FDI_{t-1}				-.25(-1.05)	-.16(-0.85)	-.31(-1.78)*	-.26(-1.46)
KOp_{t-1}				.06(2.74)***	.05(2.47)**	.01(0.71)	.01(0.44)
$TrOp_{t-1}$				.00(0.75)	.00(1.00)	.00(0.54)	-.00(-0.09)
$Ghent_{t-1}$				.00(0.02)	-.38(-1.50)	-.50(-2.12)	-.13(-0.49)
$Coor_{t-1}$				-.06(-4.91)***	-.00(-0.03)	.01(0.57)	.01(0.37)
WCn_{t-1}				-.04(-1.68)*	-.04(-1.13)	-.01(-0.30)	-.03(-0.89)
UD_{t-1}				-.00(-0.47)	-.01(-3.71)***	-.01(-2.15)**	-.00(-0.90)
$Party_{t-1}$				-.03(-3.04)***	-.03(-2.63)***	-.03(-3.07)***	-.03(-3.33)***
Fed_{t-1}				-.02(-1.73)*	-.14(-2.91)***	-.14(-3.31)***	-.14(-3.80)***
$Immi_{t-1}$				-.00(-1.79)*	-.00(-0.79)	.001(-2.79)***	.01(5.22)***
$FEmp_{t-1}$				1.16(2.71)***	-.87(-1.71)*	2.03(-3.34)***	1.62(-2.96)***
Emp_{t-1}				.00(3.22)***	-.00(-3.83)***	-.00(-3.06)***	-.00(-2.12)**
GDP_{t-1}	.00(2.36)**	-.00(-3.15)***	-.00(-4.86)***	.00(-2.95)***	.00(2.50)**	.00(1.82)*	.00(1.27)
U_{t-1}	-.00(-2.30)**	.01(3.45)***	.01(3.32)***	-01(-3.24)***	.01(3.40)***	.01(3.44)***	.01(3.28)***
Cnt FE	No	Yes	Yes	No	Yes	Yes	Yes
Year FE	No	No	Five-Year	No	No	Five-Year	Year
R^2	.03	.18	.19	.08	.23	.23	.24
N	503	503	503	479	479	479	479

Note: Error Correction Models with Panel Corrected Standard Errors. t-statistics in parenthesis. All regressions account for AR(1) serial correlation. * $p < .1$, ** $p < .05$, *** $p < .01$

Table B.3: **Change in Wage Bargaining Coordination**

Cov	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Con	.53(6.05)	1.84(11.95)***	1.60(10.71)***	-.08(-0.77)	.69(2.35)**	.47(1.76)*	1.29(4.23)***
$Coor_{t-1}$	-.15(-6.91)***	-.57(-17.24)***	-.59(-17.62)***	-.27(-9.42)***	-.68(-18.80)***	-.68(-18.97)***	-.65(.04)***
$\Delta SMkt$	-.003(-2.40)**	-.003(-2.34)**	-.003(-1.65)*	-.003(-1.75)*	-.004(-2.09)**	-.003(-1.74)*	-.005(-2.00)**
ΔRTI	1.07(2.02)**	.55(1.03)	.18(0.35)	1.00(1.70)*	-.14(-0.26)	-.37(-0.72)	-.68(-1.18)
ΔFDI				.16(0.49)	.19(0.58)	.25(0.76)	.36(1.07)
ΔKOp				.15(4.44)***	.16(5.19)***	.21(6.31)***	.24(6.41)***
$\Delta TrOp$				-.01(-1.39)	-.00(-1.18)	-.00(-0.72)	-.00(-0.99)
$\Delta StFd$				.01(0.08)	.29(2.65)***	.25(2.39)**	.28(2.52)**
ΔUD				.01(1.70)*	.02(3.80)***	.01(2.07)**	.01(2.41)**
$\Delta Party$				.03(2.28)**	.01(0.76)	.01(1.22)	.03(2.14)**
ΔFed				-.09(-1.38)	-.12(-3.98)***	-.12(-3.46)***	-.08(-2.91)***
ΔEmp				-.00(-2.66)***	.00(0.62)	.00(0.61)	.00(0.89)
ΔGDP	.00(0.15)	.00(2.66)***	.00(2.03)**	.00(1.49)	.00(1.09)	.00(0.92)	.00(0.42)
ΔU	-.01(-0.53)	.02(1.19)	.04(1.90)	-.00(-0.04)	.03(1.13)	.05(1.98)**	.07(2.57)***
$SMkt_{t-1}$	.001(1.62)	-.001(-1.20)	.001(0.55)	.002(2.72)***	-.001(-0.87)	.00(0.12)	.001(0.64)
RTI_{t-1}	.52(4.41)***	-.07(-0.34)	-.75(-2.49)**	1.24(6.76)***	-1.07(-2.97)***	-1.29(-3.52)***	-1.55(-4.08)***
FDI_{t-1}				.66(1.96)**	.64(1.58)	.82(2.03)**	1.11(2.85)***
KOp_{t-1}				.04(2.02)**	.03(1.16)	.07(2.66)**	.05(1.88)*
$TrOp_{t-1}$				.00(5.39)***	-.00(-1.02)	.00(0.18)	-.00(-0.21)
$StFd_{t-1}$				.21(5.50)***	.66(7.61)***	.60(7.43)***	.60(7.65)***
UD_{t-1}				.01(3.68)***	.02(6.16)***	.01(3.65)***	.02(3.97)***
$Party_{t-1}$				.01(1.10)	.00(0.38)	.01(0.59)	.00(0.36)
Fed_{t-1}				.03(2.00)**	-.01(-0.31)	.00(0.06)	-.02(-0.56)
Emp_{t-1}				.00(4.27)***	.00(2.73)***	.00(3.14)***	.00(3.93)***
GDP_{t-1}	-.00(-3.31)***	-.00(-1.24)	.00(0.26)	-.00(-3.90)***	-.00(-2.87)***	-.00(-2.41)**	-.00(-3.22)
U_{t-1}	-.01(-2.40)**	-.03(-3.61)***	-.03(-2.70)***	.00(0.04)	-.05(-4.40)***	-.04(-3.36)***	-.03(-2.30**)
Cnt FE	No	Yes	Yes	No	Yes	Yes	Yes
Year FE	No	No	Five-Year	No	No	Five-Year	Year
R^2	.09	.31	.32	.17	.38	.38	.41
N	503	503	503	488	488	488	488

Note: Error Correction Models with Panel Corrected Standard Errors. t-statistics in parenthesis. All regressions account for AR(1) serial correlation. * $p < .1$, ** $p < .05$, *** $p < .01$

Table B.4: **Change in Wage Bargaining Centralization**

Cov	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Con	.56(5.46)***	2.65(13.26)***	2.33(11.77)***	.09(0.61)	1.46(4.15)***	1.38(3.93)***	1.74(4.78)
$Cent_{t-1}$	-.20(-7.41)***	-.83(-18.71)***	-.86(-19.28)***	-.36(-7.96)***	-.88(-22.48)***	-.89(-21.69)***	-.77(-17.70)***
$\Delta SMkt$	-.005(-3.62)***	-.005(-2.93)***	-.004(-2.33)**	-.004(-2.18)**	-.005(-3.03)***	-.006(-2.73)***	-.008(-3.38)***
ΔRTI	1.32(2.21)**	1.19(2.22)**	.61(1.15)	1.15(1.44)	.52(0.98)	.26(0.51)	-.08(-0.14)
ΔFDI				-.60(-0.88)	-.58(-1.08)	-.59(-1.15)	-.75(-1.31)
ΔKOp				.10(0.88)	.07(0.88)	.11(1.49)	.14(1.85)*
$\Delta TrOp$				-.00(-0.46)	.00(1.06)	.00(0.57)	.00(0.05)
$\Delta StFd$				.26(2.19)**	.26(3.95)***	.16(1.96)**	.15(1.71)*
ΔUD				-.01(-1.53)	-.01(-1.47)	-.02(-2.38)**	-.01(-2.01)**
$\Delta Party$				.05(2.51)**	.02(1.48)	.02(1.78)*	.03(2.24)**
ΔFed				-.01(-0.03)	.03(0.12)	.04(0.16)	.11(0.40)
ΔEmp				-.00(-0.05)	-.00(-0.22)	-.00(-0.55)	-.00(-0.25)
ΔGDP	-.00(-0.71)	.00(0.70)	-.00(-0.18)	.00(0.37)	.00(1.26)	.00(0.87)	.00(1.13)
ΔU	-.02(-0.94)	.02(0.78)	.03(1.45)	.01(0.30)	.02(0.85)	.03(1.30)	.02(0.91)
$SMkt_{t-1}$	.00(0.84)	-.001(-1.49)	-.00(-0.20)	.001(1.23)	-.003(-2.10)**	-.002(-1.76)*	-.002(-1.57)
RTI_{t-1}	.08(0.73)	1.08(3.46)***	.01(0.04)	.68(4.48)***	-.26(-0.65)	-.52(-1.36)	-.89(-2.41)**
FDI_{t-1}				.09(0.09)	-.37(-0.46)	-.32(-0.42)	-.27(-0.35)
KOp_{t-1}				-.14(-3.38)***	-.08(-2.55)**	-.04(-1.33)	-.04(-1.26)
$TrOp_{t-1}$				.01(5.55)***	.01(1.80)*	.01(2.13)**	.00(0.60)
$StFd_{t-1}$				.05(2.02)**	.33(5.75)***	.22(3.17)***	.18(2.72)***
UD_{t-1}				.01(3.57)***	.03(7.62)***	.02(5.77)***	.02(5.51)***
$Party_{t-1}$				.04(2.75)***	.03(4.35)***	.03(4.61)***	.03(4.30)***
Fed_{t-1}				.07(2.14)**	-.08(-0.50)	-.07(-0.44)	-.08(-0.52)
Emp_{t-1}				-.00(-0.49)	-.00(-0.36)	.00(0.64)	.00(1.14)
GDP_{t-1}	-.00(-3.36)***	.00(2.26)**	.00(5.25)***	.00(0.56)	.00(1.78)*	.00(1.33)	.00(0.50)
U_{t-1}	.01(1.56)	-.03(-3.04)***	-.02(-1.55)	.02(2.09)**	-.05(-4.56)***	-0.3(-2.78)***	-.02(-1.81)*
Cnt FE	No	Yes	No	No	Yes	Yes	Yes
Time FE	No	No	Five-Year	No	No	Five-Year	Year
R^2	.12	.45	.46	.22	.49	.49	.47
N	503	503	503	488	488	488	488

Note: Error Correction Models with Panel Corrected Standard Errors. t-statistics in parentheses. All regressions account for AR(1) serial correlation. * $p < .1$, ** $p < .05$, *** $p < .01$

Table B.5: **Robustness Check: Change in Union Density**

Covariates	(1)	(2)	(3)	(4)
Constant	.05(0.07)	5.50(4.91)***	1.78(1.33)	*omitted*
$UnDens_{t-1}$	-.06(-7.75)***	-.18(-12.20)***	-.19(-14.56)***	-.16(-11.14)***
$\Delta StMkt_{t-1}$	-.008(-2.86)***	-.01(-3.71)***	-.007(-2.21)**	.001(0.20)
ΔRTI_{t-1}	-1.71(-1.28)	-4.27(-2.53)**	-2.74(-1.70)*	-1.48(-0.96)
ΔFDI_{t-1}	-1.11(-1.05)	-1.74(-1.87)*	-1.62(-1.65)*	-1.56(.94)*
$\Delta CapOp_{t-1}$	.46(2.34)**	.62(2.80)***	.50(2.30)**	.60(2.72)***
$\Delta TrOp_{t-1}$	.01(1.17)	.02(2.29)**	.03(3.37)***	.06(4.90)***
$\Delta Ghent_{t-1}$	*omitted*	*omitted*	*omitted*	*omitted*
$\Delta Coor_{t-1}$	-.01(-0.11)	-.02(-0.25)	-.02(-0.33)	-.05(-0.66)
$\Delta WrkCn_{t-1}$	.51(1.15)	-.19(-0.53)	-.12(-0.42)	-.20(-0.70)
$\Delta OpCl_{t-1}$	.15(1.66)*	.33(3.52)***	.30(3.15)***	.26(2.58)**
$\Delta Party_{t-1}$	.07(1.28)	.38(0.72)	.06(1.26)	.07(1.62)
ΔFed_{t-1}	-.49(-0.96)	-.65(-1.43)	-.79(-1.59)	-.23(-0.48)
ΔImm_{t-1}	-.001(-1.12)	-.002(-1.22)	-.01(-5.07)***	-.006(-1.04)
$\Delta FemEmp_{t-1}$	-3.03(-0.98)	-1.89(-0.52)	-6.05(-1.58)	-7.51(-1.81)*
$\Delta TotEmp_{t-1}$	-.00(-1.25)	-.00(-0.30)	.00(0.03)	.00(1.27)
ΔGDP_{t-1}	.00(0.60)	.00(1.07)	-.00(-0.27)	-.00(-0.50)
$\Delta Unemp_{t-1}$	-.01(-0.19)	-.03(-0.41)	-.03(-0.47)	-.04(-0.64)
$Stmkt_{t-1}$	-.004(-3.48)***	-.003(-1.35)	-.001(-0.34)	-.004(-1.60)
RTI_{t-1}	.79(1.09)	4.62(3.66)***	3.76(2.96)***	2.20(1.76)*
FDI_{t-1}	-1.92(-1.27)	-.58(-0.46)	-.51(-0.38)	-.72(-0.58)
$CapOp_{t-1}$	.04(0.63)	.12(1.47)	.21(2.17)**	.15(1.70)*
$TrOp_{t-1}$	-.00(-0.53)	-.01(-1.70)*	-.00(-0.27)	-.01(-1.23)
$Ghent_{t-1}$	2.34(5.68)***	6.05(5.51)***	6.15(6.21)***	2.15(2.01)**
$Coor_{t-1}$	.02(0.35)	.02(0.22)	-.07(-0.88)	.01(0.09)
$WrksCn_{t-1}$	-.09(-1.05)	.58(.33)*	.76(2.56)**	.85(2.91)***
$OpCl_{t-1}$	-.18(-4.19)***	-.45(-7.97)***	-.39(-6.61)***	-.39(-6.38)***
$Party_{t-1}$	.08(2.45)**	.16(4.59)***	.16(5.08)***	.13(4.66)***
Fed_{t-1}	.08(1.66)*	.42(1.38)	.60(1.93)*	.45(1.58)
Imm_{t-1}	-.00(-0.86)	.001(1.05)	.005(3.81)***	.03(3.41)***
$FemEmp_{t-1}$	6.74(5.49)***	2.00(1.28)	5.92(3.07)***	5.30(2.63)**
$TotEmp_{t-1}$	-.00(-0.49)	.00(1.78)*	.00(2.53)**	.00(1.26)
GDP_{t-1}	.00(0.26)	-.00(-1.91)*	-.00(-1.83)*	-.00(-0.73)
$Unemp_{t-1}$	-.14(-8.57)***	-.04(-1.42)	-.03(-0.86)	-.04(-1.31)
Country FE	No	Yes	Yes	Yes
Year FE	No	No	Five-Year	Year
R^2	.08	.22	.26	.32
N	479	479	479	479

Note: Error Correction Models with Panel Corrected Standard Errors. t-statistics in parenthesis. All regressions account for AR(1) serial correlation. * $p < .1$, ** $p < .05$, *** $p < .01$

Table B.6: **Robustness Check: Change in Opening Clauses**

Covariates	(1)	(2)	(3)	(4)
Constant	.02(0.07)	1.52(3.26)***	2.00(3.69)***	*omitted*
$OpCl_{t-1}$	-.09(-5.21)***	-.35(-13.39)***	-.33(-13.03)***	-.28(-12.01)***
$\Delta StMkt_{t-1}$	.001(0.32)	.001(0.37)	.00(0.69)	.00(0.18)
ΔRTI_{t-1}	-1.22(-2.22)**	-.64(-1.12)	-.76(-1.36)	-.97(-1.64)
ΔFDI_{t-1}	.15(0.49)	.12(0.39)	.15(0.47)	.12(0.39)
$\Delta CapOp_{t-1}$	-.07(-1.22)	-.05(-0.95)	-.04(-0.66)	-.03(-0.51)
$\Delta TrOp_{t-1}$	-.002(-0.77)	-.01(-1.64)*	-.00(-1.03)	-.00(-0.61)
$\Delta Ghent_{t-1}$	*omitted*	*omitted*	*omitted*	*omitted*
$\Delta Coor_{t-1}$	.02(0.55)	-.00(-0.10)	-.01(-0.34)	-.02(-0.48)
$\Delta WrkCn_{t-1}$	-.02(-0.38)	.04(0.60)	.01(0.18)	.09(1.53)
$\Delta UnDen_{t-1}$	-.01(-2.85)***	-.01(-1.76)*	-.01(-2.11)**	-.01(-2.84)***
$\Delta Party_{t-1}$	-.05(-2.66)***	-.02(-1.07)	-.02(-1.25)	-.03(-1.71)*
ΔFed_{t-1}	-.07(-2.11)**	.07(1.29)	.09(1.27)	.03(0.45)
$\Delta Immi_{t-1}$	-.001(-3.33)***	-.001(-2.65)***	-.001(-2.41)**	-.01(-3.85)***
$\Delta FemEmp_{t-1}$	-4.20(-2.89)***	-4.24(-2.82)***	-3.53(-2.21)**	-3.16(-1.94)*
$\Delta TotEmp_{t-1}$	-.00(-1.48)	.00(0.60)	.00(0.47)	.00(0.33)
ΔGDP_{t-1}	.00(2.17)**	.00(1.44)	.00(1.55)	.00(1.59)
$\Delta Unemp_{t-1}$	.05(2.18)**	.05(2.15)**	.05(2.01)**	.04(1.47)
$Stmkt_{t-1}$	.001(1.34)	.001(0.80)	.00(0.02)	-.00(-0.16)
RTI_{t-1}	.37(1.60)	-.98(-2.16)**	-.83(-1.92)*	-.75(-1.83)*
FDI_{t-1}	.00(0.01)	.09(0.29)	-.09(-0.27)	-.25(-0.87)
$CapOp_{t-1}$	.06(2.99)***	.04(1.97)**	.01(0.30)	.00(0.10)
$TrOp_{t-1}$	.001(1.69)*	.004(1.76)*	.00(1.00)	.00(0.29)
$Ghent_{t-1}$	-.02(-0.21)	-.53(-1.32)	-.62(-1.79)*	-.08(-0.24)
$Coor_{t-1}$	-.07(-3.58)***	-.01(-0.35)	.00(0.03)	.01(0.23)
$WrkCn_{t-1}$	-.04(-1.89)*	-.08(-1.30)	-.09(-1.56)	-.15(-3.54)***
$UnDen_{t-1}$	.00(0.69)	-.00(-1.03)	-.00(-0.09)	.00(0.27)
$Party_{t-1}$	0.02(-2.33)**	-.03(-2.93)***	-.03(-3.11)***	-.03(-3.02)***
Fed_{t-1}	-.02(-1.94)*	-.19(-3.78)***	-.19(-3.85)***	-.18(-3.92)***
$Immi_{t-1}$	.00(1.07)	.00(1.51)	.00(0.68)	.01(2.81)***
$FemEmp_{t-1}$	.75(1.25)	-.87(-1.01)	-1.81(-2.01)**	-1.39(-1.65)*
$TotEmp_{t-1}$	.00(3.60)***	-.00(-3.11)***	-.00(-1.66)*	-.00(-1.22)
GDP_{t-1}	-.00(-3.64)***	.00(1.58)	.00(0.62)	.00(0.34)
$Unempt-1$	-.01(-0.73)	.02(1.21)	.02(1.17)	.02(0.96)
Country FE	No	Yes	Yes	Yes
Year FE	No	No	Five-Year	Year
R^2	.13	.26	.26	.27
N	478	478	478	478

Note: Error Correction Models with Panel Corrected Standard Errors. t-statistics in parenthesis. All regressions account for AR(1) serial correlation. * $p < .1$, ** $p < .05$, *** $p < .01$

Table B.7: **Robustness Check: Change in Wage Bargaining Coordination**

Covariates	(1)	(2)	(3)	(4)
Constant	-.11(-1.23)	.64(2.43)**	.57(2.28)**	1.12(3.69)***
$Coor_{t-1}$	-.21(-8.62)***	-.49(-13.78)***	-.52(-13.42)***	-.49(-12.69)***
$\Delta StMkt_{t-1}$	-.004(-2.06)**	-.003(-1.80)*	-.004(-1.97)**	-.004(-1.70)*
ΔRTI_{t-1}	-2.20(-3.87)***	-1.89(-3.21)***	-1.76(-3.08)***	-2.18(-3.52)***
ΔFDI_{t-1}	-.04(-0.10)	.07(0.20)	.00(0.00)	.01(0.01)
$\Delta CapOp_{t-1}$	.02(0.48)	.08(2.07)**	.07(1.69)*	.07(1.72)*
$\Delta TrOp_{t-1}$	-.01(-3.09)***	-.01(-3.76)***	-.02(-4.26)***	-.02(-4.31)***
$\Delta StkFd_{t-1}$	-.01(-0.12)	-.09(-0.97)	-.08(-0.85)	-.09(-0.90)
$\Delta UnDen_{t-1}$	-.00(-0.73)	-.01(-2.51)**	-.01(-2.65)***	-.01(-1.65)*
$\Delta Party_{t-1}$	.02(1.25)	.03(2.67)***	.03(3.00)***	.04(3.74)***
ΔFed_{t-1}	-.10(-1.04)	-.24(-4.90)***	-.25(-4.88)***	-.27(-5.46)***
$\Delta TotEmp_{t-1}$	-.00(-3.55)***	-.00(-0.94)	-.00(-0.81)	-.00(-1.09)
ΔGDP_{t-1}	.00(0.84)	.00(0.78)	-.00(-0.24)	.00(0.26)
$\Delta Unemp_{t-1}$	-.08(-3.49)***	-.03(-1.40)	-.02(-0.92)	-.02(-0.73)
$StMkt_{t-1}$	.001(2.43)**	-.00(-0.45)	.00(0.37)	.00(0.44)
RTI_{t-1}	1.04(6.05)***	.33(1.03)	.24(0.73)	.03(0.10)
FDI_{t-1}	.57(1.63)	.39(1.02)	.61(1.58)	.62(1.65)*
$CapOp_{t-1}$	.00(0.20)	.06(2.38)**	.09(3.19)***	.08(3.03)***
$TrdOp_{t-1}$	.00(4.93)***	.00(1.09)	.01(2.30)**	.004(1.75)*
$StkFd_{t-1}$	.11(3.26)***	.16(2.12)**	.15(2.05)**	.11(1.52)
$UnDen_{t-1}$	.01(3.64)***	.01(3.28)***	.01(1.66)*	.01(1.71)*
$Party_{t-1}$	.01(1.18)	-.00(-0.33)	-.00(-0.14)	-.01(-0.93)
Fed_{t-1}	.03(1.90)*	.18(5.33)***	.19(5.51)***	.19(5.02)***
$TotEmp_{t-1}$	.00(3.85)***	.00(1.86)*	.00(1.30)	.00(1.27)
GDP_{t-1}	-.00(-3.13)***	-.00(-1.46)	-.00(-0.70)	-.00(-0.75)
$Unemp_{t-1}$	-.00(-0.28)	-.04(-3.51)***	-.03(-3.08)***	-.03(-2.51)**
Country FE	No	Yes	Yes	Yes
Year FE	No	No	Five-Year	Year
R^2	.15	.31	.32	.35
N	488	488	488	488

Note: Error Correction Models with Panel Corrected Standard Errors. t-statistics in parenthesis. All regressions account for AR(1) serial correlation. * $p < .1$, ** $p < .05$, *** $p < .01$

Table B.8: **Robustness Check: Change in Wage Bargaining Centralization**

Covariates	(1)	(2)	(3)	(4)
Constant	.31(2.16)**	1.73(4.59)***	1.53(4.14)***	2.13(5.50)**
$Cent_{t-1}$	-.31(-7.92)***	-.77(-18.56)***	-.76(-18.04)***	-.74(-17.40)***
$\Delta StMkt_{t-1}$	-.004(-1.97)**	-.004(-2.50)**	-.005(-2.45)**	-.004(-1.76)*
ΔRTI_{t-1}	-1.30(-1.92)*	-.85(-1.65)*	-.66(-1.33)	-.91(-1.71)*
ΔFDI_{t-1}	.25(0.34)	.19(0.32)	.13(0.22)	-.02(-0.03)
$\Delta CapOp_{t-1}$	-.11(-1.16)	-.10(-1.33)	-.12(-1.48)	-.07(-0.89)
$\Delta TrdOp_{t-1}$	-.01(-1.00)	-.00(-0.82)	-.00(-0.97)	-.01(-1.96)**
$\Delta StkFd_{t-1}$	.09(0.75)	.02(0.41)	.05(0.94)	-.05(-0.90)
$\Delta UnDen_{t-1}$	.04(5.45)***	.02(4.73)***	.01(3.55)***	.01(2.95)***
$\Delta Party_{t-1}$	.01(0.33)	.02(1.40)	.03(1.89)*	.04(2.64)***
ΔFed_{t-1}	.15(0.43)	.29(0.97)	.27(0.91)	.31(1.03)
$\Delta TotEmp_{t-1}$	-.00(-0.33)	-.00(-1.24)	-.00(-1.07)	-.00(-1.14)
ΔGDP_{t-1}	-.00(-2.21)**	-.00(-1.78)*	-.00(-2.03)**	-.00(-1.82)*
$\Delta Unemp_{t-1}$	-.08(-3.24)***	-.03(-1.27)	-.03(-1.25)	-.02(-0.89)
$StMkt_{t-1}$	.00(1.16)	-.001(-1.08)	-.001(-0.41)	-.00(-0.19)
RTI_{t-1}	.69(4.29)***	.36(1.11)	.11(0.35)	-.31(-0.91)
FDI_{t-1}	.32(0.33)	.16(0.18)	.29(0.34)	.49(0.56)
$CapOp_{t-1}$	-.13(-3.91)***	-.03(-1.09)	.00(0.08)	.00(0.11)
$TrdOp_{t-1}$	.01(4.29)***	.00(1.32)	.01(2.03)**	.00(1.17)
$StkFd_{t-1}$	.02(0.66)	.15(3.05)***	.09(1.74)*	.11(2.04)**
$UnDen_{t-1}$	.01(3.01)***	.02(5.91)***	.02(4.07)***	.02(4.14)***
$Party_{t-1}$	.02(1.42)	.00(0.35)	.00(0.54)	-.00(-0.20)
Fed_{t-1}	.05(1.86)*	-.12(-0.74)	-.11(-0.66)	-.12(-0.77)
$TotEmp_{t-1}$	-.00(-1.07)	-.00(-2.05)**	-.00(-0.95)	-.00(-0.82)
GDP_{t-1}	.00(1.25)	.00(2.74)***	.00(2.21)**	.00(1.94)*
$Unemp_{t-1}$	.01(1.51)	-.05(-4.35)***	-.04(-3.21)***	-.04(-2.71)***
Country FE	No	Yes	Yes	Yes
Time FE	No	No	Five-Year	Yes
R^2	.20	.43	.43	.44
N	488	488	488	488

Note: Error Correction Models with Panel Corrected Standard Errors. t-statistics in parentheses. All regressions account for AR(1) serial correlation. * $p < .1$, ** $p < .05$, *** $p < .01$

Table B.9: **Robustness Check: StMkt as Dependent Variable**

Covariates	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-3.72(-0.39)	3.72(0.54)	-2.39(-0.34)	-1.11(-0.14)	-8.02(-0.33)	*omitted*
$StMkt_{t-1}$	-.19(-1.94)*	-.19(-1.93)*	-.19(-1.93)*	-.19(-1.91)*	-.21(-2.61)***	-.22(-3.86)***
$\Delta UnDen_{t-1}$	-.11(-0.29)				-.09(-0.26)	-.05(-0.32)
$\Delta OpCl_{t-1}$		-.30(-0.29)			-1.97(-1.00)	-.52(-0.45)
$\Delta Coor_{t-1}$			-2.09(-1.74)*		-1.41(-1.11)	-.58(-0.91)
$\Delta Cent_{t-1}$				-.61(-0.47)	.24(0.16)	-.61(-0.88)
ΔRTI_{t-1}	24.95(27.63)	20.98(26.84)	22.30(0.84)	21.85(0.82)	30.98(1.13)	1.03(0.07)
ΔFDI_{t-1}					13.45(0.55)	.71(0.07)
$\Delta CapOp_{t-1}$					-.46(-0.15)	.74(0.59)
$\Delta TrdOp_{t-1}$					.38(0.81)	.05(0.27)
$\Delta Ghent_{t-1}$					*omitted*	*omitted*
$\Delta WrkCn_{t-1}$					-9.58(-0.76)	-21.97(-3.59)***
$\Delta Party_{t-1}$					.34(0.35)	-.06(-0.13)
ΔFed_{t-1}					5.59(1.12)	2.55(0.82)
$\Delta Immi_{t-1}$					-.02(-0.26)	-.04(-0.83)
$\Delta FemEmp_{t-1}$					-53.56(-0.59)	5.57(0.11)
$\Delta TotEmp_{t-1}$					.00(0.59)	.00(0.02)
ΔGDP_{t-1}	.00(0.89)	.00(0.90)	.00(0.84)	.00(0.89)	.00(0.13)	.00(0.35)
$\Delta Unemp$	-.60(-0.41)	-.63(-0.42)	-.74(-0.48)	-.71(-0.47)	-.03(-0.02)	-.08(-0.12)
$UnDen_{t-1}$	.18(1.01)				.24(1.11)	.28(2.41)**
$OpCl_{t-1}$		-.30(-0.29)			.29(0.28)	-.30(-0.38)
$Coor_{t-1}$			1.75(1.26)		.81(0.54)	.16(0.19)
$Cent_{t-1}$				1.31(0.68)	.09(0.04)	.21(0.17)
RTI_{t-1}	-50.59(-1.80)*	-45.27(-1.78)*	-45.29(-1.73)*	-46.52(-1.83)*	-40.71(-1.76)*	-2.77(-0.27)
FDI_{t-1}					5.91(0.23)	14.67(1.22)
$CapOp_{t-1}$					1.97(1.68)*	.40(0.54)
$TrdOp_{t-1}$					.07(.23)	.11(0.96)
$Ghent_{t-1}$					-43.60(-1.21)	-37.33(-2.97)***
$WrkCn_{t-1}$					13.63(1.24)	13.34(2.43)**
$Party_{t-1}$					-.47(-0.78)	.10(0.28)
Fed_{t-1}					-5.17(-1.79)*	-5.01(-2.22)**
$Immi_{t-1}$					-.04(-0.62)	-.02(-0.23)
$FemEmp_{t-1}$					26.36(0.59)	-26.37(-1.13)
$TotEmp_{t-1}$					.00(0.29)	.00(0.77)
GDP_{t-1}	.00(2.00)**	.00(2.00)**	.00(2.03)**	.00(1.97)**	.00(0.97)	-.00(-0.11)
$Unemp$	.74(1.10)	.79(1.17)	.85(1.28)	.82(1.25)	.16(0.32)	.26(0.84)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	No	No	No	No	No	Year
R^2	.15	.14	.15	.14	.22	.57
N	523	512	512	512	487	487

Note: Error Correction Models with Panel Corrected Standard Errors. t-statistics in parentheses. All regressions account for AR(1) serial correlation. * $p < .1$, ** $p < .05$, *** $p < .01$

B.2 Figures

Figure B.1: **Stock Market Development 1969-2010**

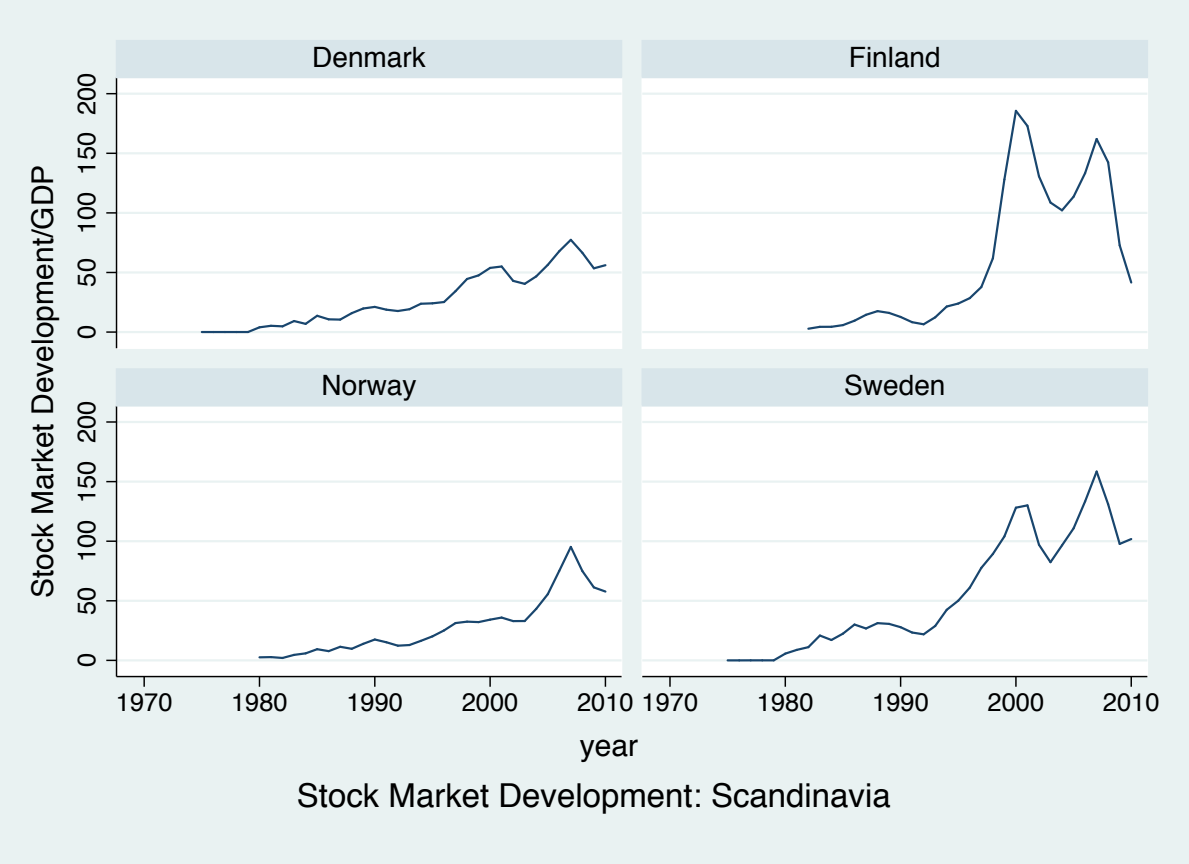


Figure B.2: **Stock Market Development 1969-2010**

Figure B.3: **Union Density 1969-2010**

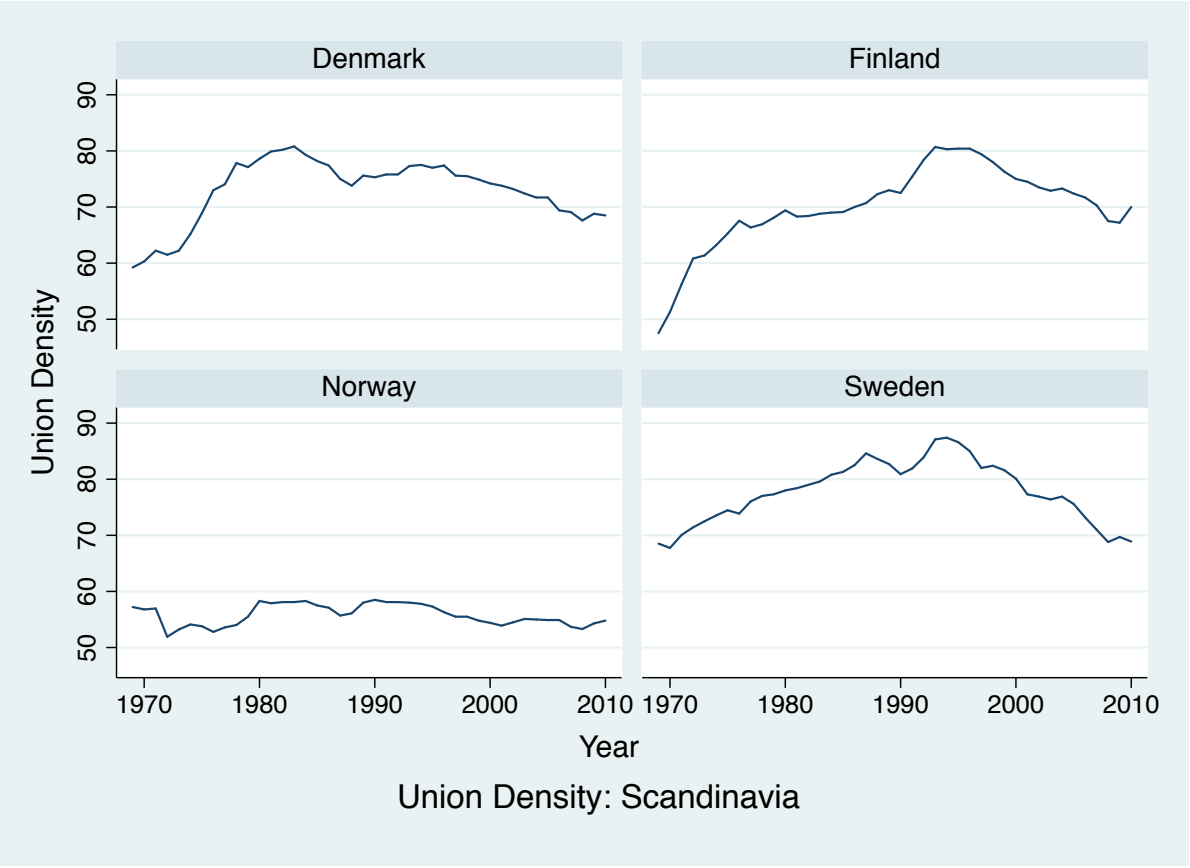


Figure B.4: **Opening Clauses 1969-2010**

Figure B.5: **Opening Clauses 1969-2010**

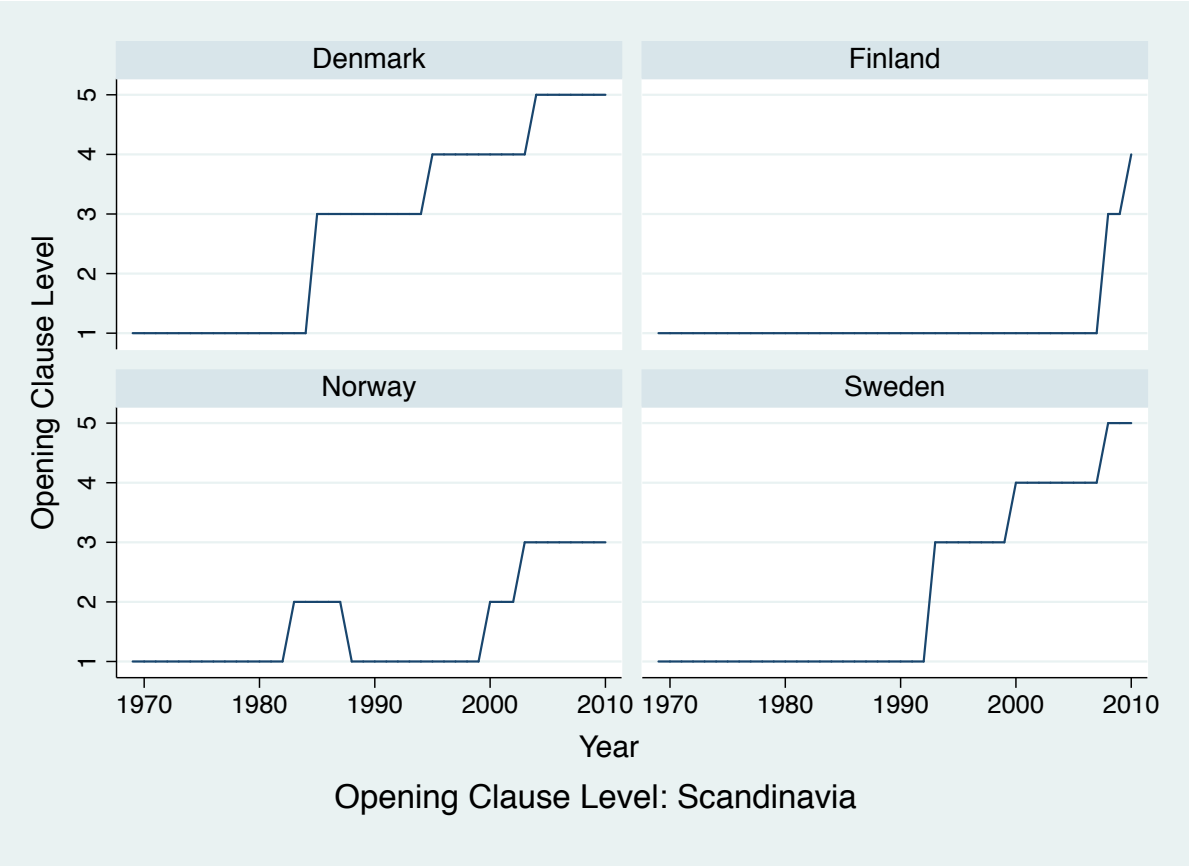


Figure B.6: **Opening Clauses 1969-2010**

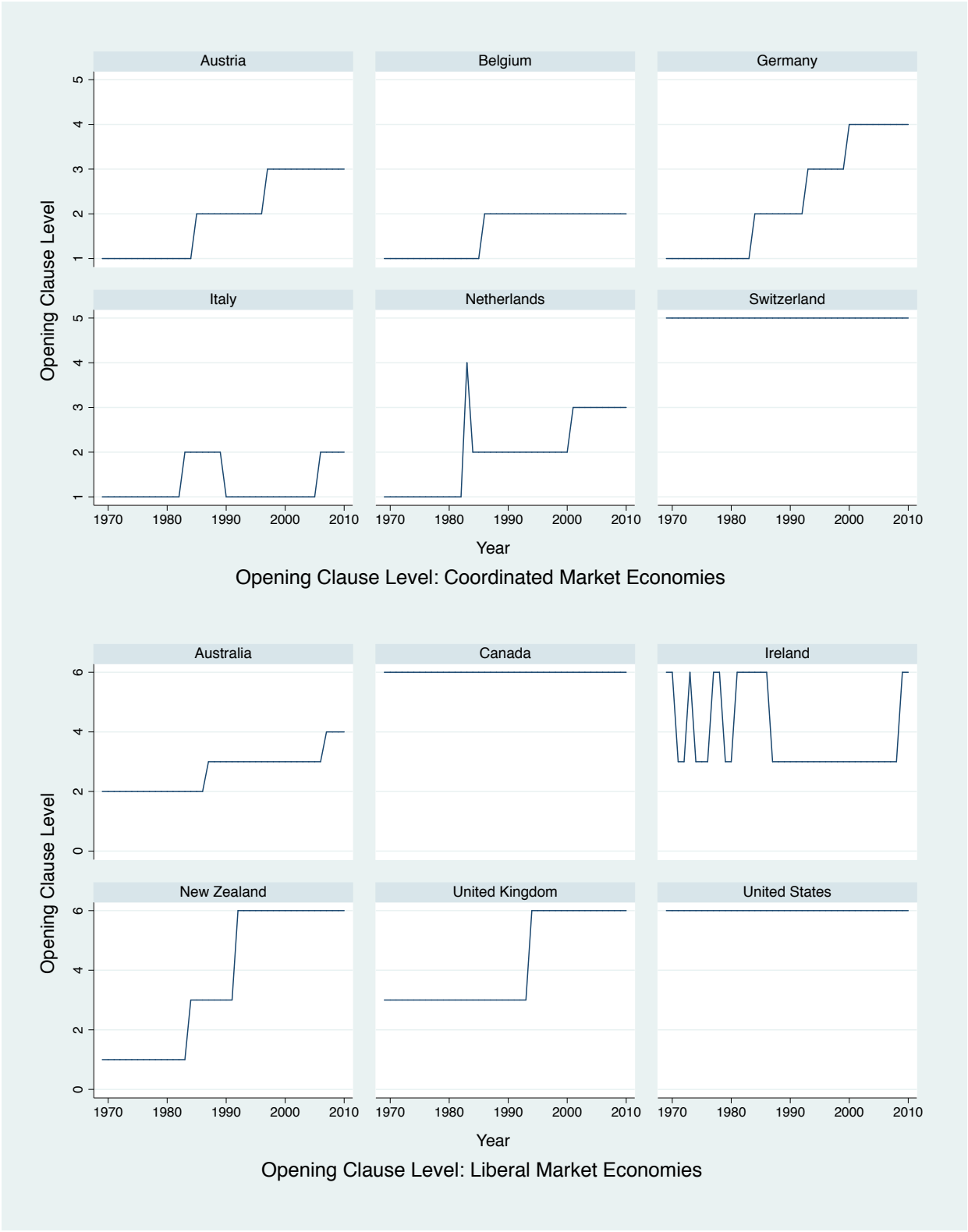


Figure B.7: **Wage Bargaining Coordination 1969-2010**

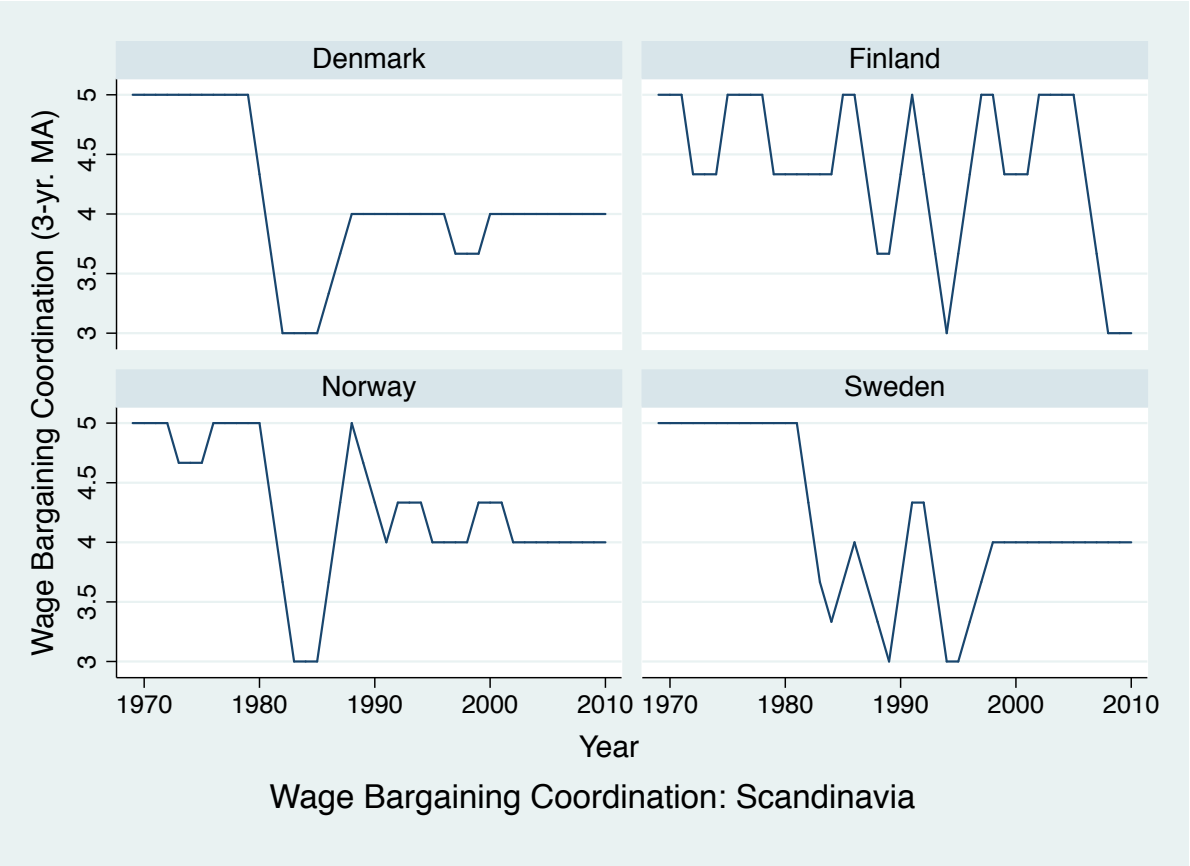


Figure B.8: **Wage Bargaining Coordination 1969-2010**

Figure B.9: **Wage Bargaining Centralization 1969-2010**

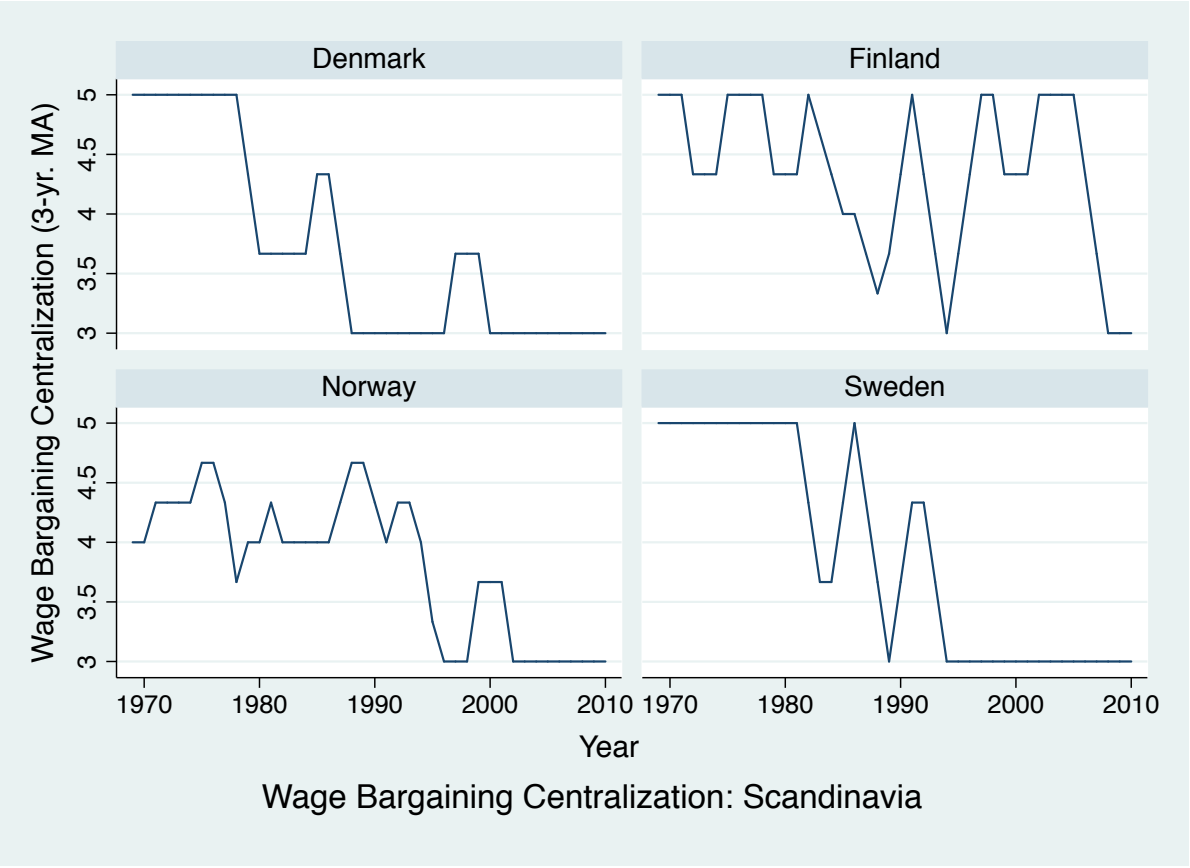
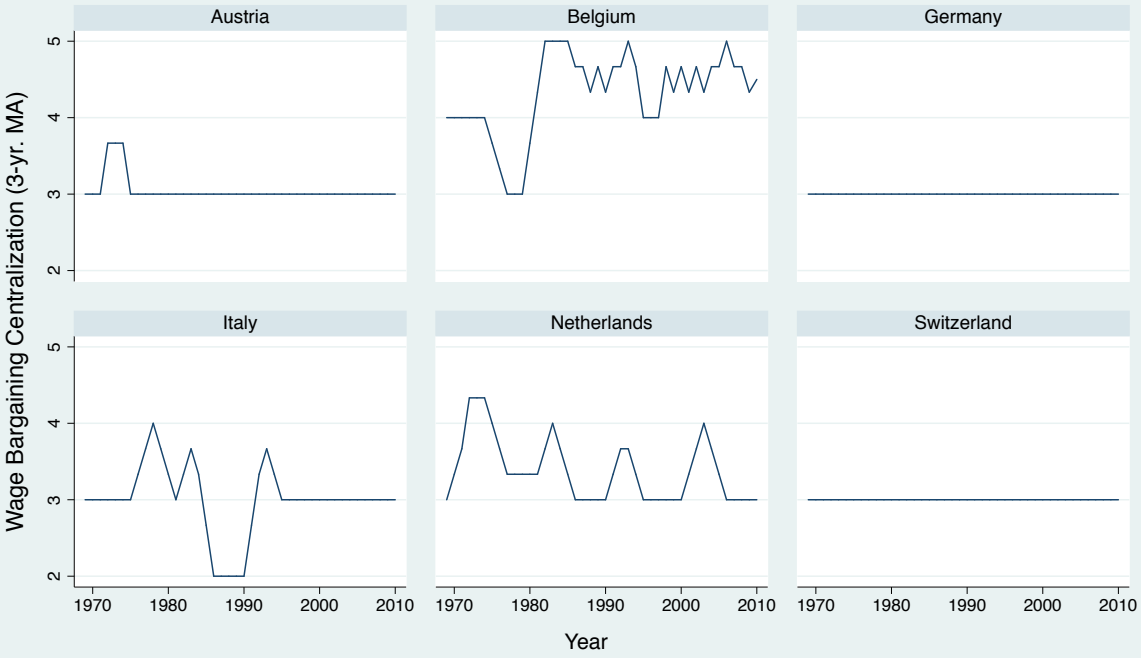
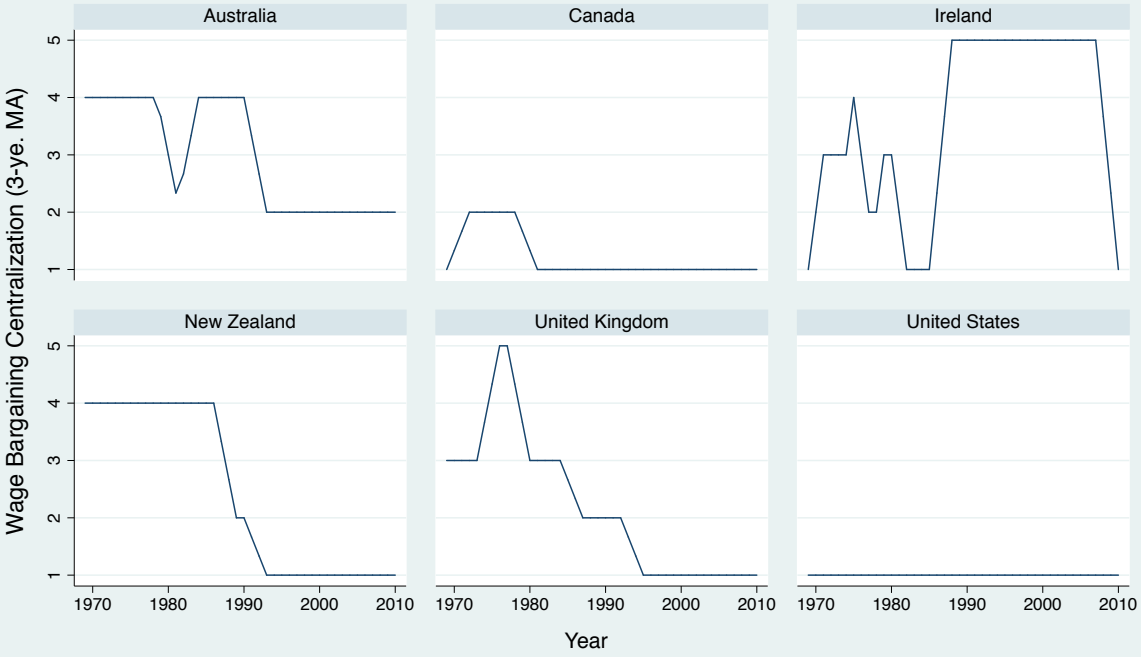


Figure B.10: **Wage Bargaining Centralization 1969-2010**



Wage Bargaining Centralization: Coordinated Market Economies



Wage Bargaining Centralization: Liberal Market Economies

Appendix C

Appendix to Chapter 4

C.1 Tables

Table C.1: **Unions and the Minimum Wage in Europe**

Country	Contract Coverage	Union Density	Minimum Wage?
Austria	99	28.4	No
Belgium	96	51.5	Yes
France	92	7.9	Yes
Sweden	91	68.9	No
Finland	89.5	70	No
Denmark	85	68.5	No
Italy	85	35.5	No
The Netherlands	84.3	19.3	Yes
Norway	74	54.8	No
Germany	61.1	18.6	Yes (2015)
Switzerland	49.1	17.2	No
Australia	45	18	Yes
Ireland	42.2	36.6	Yes
Canada	31.6	30	Yes
United Kingdom	30.8	27.1	Yes
New Zealand	17	20.8	Yes
Japan	16	18.4	Yes
United States	13.1	11.4	Yes

Source: Visser (2013). Contract coverage and union density statistics for 2010.

C.2 Figures

Figure C.1: **Minimum Wage around the World**

Sources: Visser 2013. "Country Reports on Human Rights Practices" (As of 2013; various years) at www.state.gov.

Figure C.2: **Minimum Wage in Europe**

Source: Visser 2013 (As of 2013).

Appendix D

Appendix to Chapter 5

D.1 Coding Outsiders and Far-Right Parties

The EVS and WVS both contain a question regarding the respondent's employment status in each wave. The possible responses are:

1. Full-time
2. Part-time
3. Self-employed
4. Retired
5. Housewife
6. Student
7. Unemployed
8. Other

The 2008 wave of the EVS and the 2010 wave of the WVS also ask a question about the employment status of the respondent's partner. The categories are the same except for including additional categories for whether the partner is in military service and for whether the partner is disabled. Previous waves of the EVS and WVS ask two questions, which are less ideal than asking about the partner's employment status, but still allow a richer view of employment status in the family than just asking about the respondent's

employment status: whether the respondent is the chief wage earner in the household and whether the chief wage earner is unemployed. I code the respondent as an outsider if he/she meets *any* of the following conditions:

- The chief wage earner is unemployed and the respondent is either part-time employed, self-employed, a housewife, a student, or unemployed.
- The respondent is the chief wage earner and is either part-time employed or unemployed.
- The respondent is not the chief wage earner, is employed part-time, self-employed, a housewife, a student, or unemployed and the family income is in one of the bottom two income deciles.
- The respondent is part-time employed and the partner is either part-time employed, in military service, a housewife, a student, unemployed, or disabled.
- The respondent is a housewife and the partner is either part-time employed, in military service, a housewife, a student, unemployed, or disabled.
- The respondent is a student and the partner is either part-time employed, in military service, a housewife, unemployed, or disabled.
- The respondent is unemployed and the partner is either part-time employed, in military service, a housewife, a student, unemployed, or disabled.

Additionally, I drop respondents for whom both members of the household are retired or one is retired and the other works a part-time job. I assume that these individuals are not seeking regular employment. If the respondent is retired and his/her partner is employed full-time, I code this respondent as a non-outsider. I drop respondents who list their occupation as 'other,' unless they list their partner as being full-time employed, in which case I classify this respondent as a non-outsider. I also drop respondents who list their occupation as student, and for whom the partner's occupation is either 'student' or 'other.' Finally, I recoded any individuals coded as outsiders according to the above scheme as insiders if their family income fell within the top 4 deciles, on the assumption that these respondents likely have substantial assets, which reduce the importance of employment status.

D.1.1 Coding Far-Right Parties

The data on party manifestos, which I use to code parties come from the Comparative Manifestos Project at the Wissenschaftzentrum Berlin, which contains codings of more than 3,000 election manifestos for more than 650 parties in over 50 countries (Volkens et al 2013). The manifestos are broken up into text units called 'quasi-sentences,' which are recognized as expressing a positive or negative position on one of 56 mutually exclusive policy categories.[1] Issue 'scores' are generated by adding up the number of positive and negative mentions and dividing by the total number of sentences in the manifesto.

In order to generate a coding of far-right parties, I rely on a recommended coding of 'Social Liberal-Conservative,' one of the two fundamental axes of political competition (the other being economic left-right) as suggested by Lowe et al (2011). This measure was conceived by Benoit and Laver (2007) and is generated from 13 items in the Manifestos data. For left positions: *103 Anti-Imperialism: Anti-Colonialism, 105 Military: Negative, 106 Peace: Positive, 107 Internationalism: Positive, 202 Democracy: Positive*; For right positions: *104 Military: Positive, 201 Freedom and Human Rights: Positive, 203 Constitutionalism: Positive, 305 Political Authority: Positive, 601 National Way of Life: Positive, 603 Traditional Morality: Positive, 605 Law and Order: Positive, 606 Social Harmony: Positive*. I also use the logit coding scale of Lowe et al (2011), which is meant to capture the relative balance of sentences accorded R or L, not just their absolute quantity (as was the case in previous scalings). For multi-category indices, such as the one I am using, the logit scale is defined as:

$$\theta_{index}^{(L)} = log\frac{\sum_j R_j}{\sum_k L_k}$$

where j are the individual right positions and k are the individual left positions. I code

[1]Quasi-sentences are either a complete natural sentence or a fragment of one. There may be multiple quasi-sentences expressing positions on different policy categories within a single natural sentence.

parties in the top 10% of scores as being far-right parties.

D.2 EVS/WVS Data

Table D.1: **Country-Years in Full Combined European Values Survey/World Values Survey with OECD Labor Market Data**

Country	Years
Australia	1981, 1995, 2005
Austria	1990, 1999, 2008
Belgium	1981, 1990, 1999, 2009
Canada	1982, 1990, 2000, 2006
Czech Republic	1990, 1991, 1998, 1999, 2008
Denmark	1981, 1990, 1999, 2008
Finland	1981, 1990, 1996, 2000, 2005, 2009
France	1981, 1990, 1999, 2006, 2008
Germany	1981, 1990, 1997, 1999, 2006, 2008
Greece	1999, 2008
Hungary	1982, 1991, 1998, 1999, 2008
Ireland	1981, 1990, 1999, 2008
Italy	1981, 1990, 1999, 2005, 2009
Japan	1981, 1990, 1995, 2000, 2005
The Netherlands	1981, 1990, 1999, 2006, 2008
New Zealand	1998, 2004
Norway	1982, 1990, 1996, 2007, 2008
Poland	1989, 1990, 1997, 1999, 2005, 2008
Portugal	1990, 1999, 2008
Slovak Republic	1990, 1991, 1998, 1999, 2008
Slovenia	1992, 1995, 1999, 2005, 2008
South Korea	1982, 1990, 1996, 2001, 2005
Spain	1981, 1990, 1995, 1999, 2000, 2007, 2008
Sweden	1982, 1990, 1996, 1999, 2006, 2009
Switzerland	1989, 1996, 2007, 2008
United States	1982, 1990, 1995, 1999, 2006
United Kingdom	1981, 1990, 1998, 1999, 2006, 2009

Table D.2: **Country-Years in Main Union Attitudes Model (Table 4, Column 2)**

Country	**Years**
Australia	1995, 2005
Austria	1999, 2008
Belgium	1999, 2009
Canada	2000, 2006
Czech Republic	1998, 1999, 2008
Denmark	1999, 2008
Finland	1996, 2000, 2005, 2009
France	1999, 2006, 2008
Germany	1997, 1999, 2006, 2008
Greece	1999, 2008
Hungary	1999, 2008
Ireland	1999, 2008
Italy	1999, 2005, 2009
Japan	2000, 2005
The Netherlands	1999, 2006, 2008
New Zealand	1998, 2004
Norway	1996, 2007, 2008
Poland	1997, 1999, 2005, 2008
Portugal	2008
Slovak Republic	2008
Slovenia	2005, 2008
South Korea	2001, 2005
Spain	1995, 1999, 2000, 2007, 2008
Sweden	1996, 1999, 2006, 2009
Switzerland	1996, 2007, 2008
United States	1995, 1999, 2006
United Kingdom	1995, 2005, 2009

Table D.3: **Country-Years in Main Far-Right Party Model (Table 6, Column 4)**

Country	**Years**
Australia	1995, 2005
Austria	1999, 2008
Belgium	1999, 2009
Canada	2000, 2006
Czech Republic	1998, 1999, 2008
Denmark	1999, 2008
Finland	1996, 2000, 2005, 2009
France	1999, 2008
Germany	1999, 2006, 2008
Greece	1999, 2008
Hungary	1999, 2008
Ireland	1999, 2008
Italy	1999, 2009
Japan	2000, 2005
The Netherlands	1999, 2008
New Zealand	1998, 2004
Norway	1996, 2007, 2008
Poland	1999, 2005, 2008
Portugal	2008
Slovak Republic	2008
Slovenia	2005, 2008
Spain	1999, 2000, 2007, 2008
Sweden	1996, 1999, 2006, 2009
Switzerland	1996, 2007, 2008
United States	1999, 2006
United Kingdom	1999, 2009

D.3 Tables

Table D.4: **Employment Protection, Active Labor Market Policy, and Outsider Attitudes toward Trade Unions**

Covariates	(1)	(2)	(3)	(4)
Intercept	1.12(.11)***		1.60(.14)***	
Ideology	-.05(.00)***	-.14(.02)***	-.05(.00)***	-.14(.02)***
Unionmember	.36(.01)***	.95(.03)***	.36(.01)***	.95(.03)***
Age	-.04(.00)***	-.12(.01)***	-.04(.00)***	-.16(.01)***
Female	.06(.01)***	.15(.02)***	.06(.01)***	.15(.02)***
Income	-.01(.00)***	-.02(.01)***	-.01(.00)***	-.01(.01)**
Educ	-.01(.00)***	-.02(.01)***	-.01(.00)***	-.02(.01)***
Outsider	.02(.01)	.05(.05)	.01(.01)	.04(.05)
EPL-LMP	.00(.00)	.07(.06)		
Out X EPL-LMP	-.03(.01)***	-.09(.04)**		
EPL-ALMP			.03(.00)***	.07(.05)
OutX EPL-ALMP			-.03(.01)***	-.11(.05)**
PLMP			.03(.01)***	.02(.08)
Out X PLMP			-.00(.01)	-.04(.05)
GINI	-.01(.01)	-.80(.16)***	-.04(.01)***	-.76(.16)***
LogGDP	.16(.01)***	-1.94(.42)***	.11(.01)***	-1.94(.41)***
GDPgrowth	.01(.00)***	-.01(.01)	-.00(.00)	-.01(.01)
Unemployment	-.01(.00)***	-.00(.00)	-.02(.00)***	-.00(.01)
Union Density	.00(.00)*	-.03(.01)***	.00(.00)***	-.03(.01)***
R^2		.06		.06
Level-1 N	49597	49597	49597	49597
Level-2 N	70	70	70	70
Model Type	Multi-Level	Fixed Effects	Multi-Level	Fixed Effects

Note: Standard errors are clustered by Country-Survey. Fixed effects models have both country and year fixed effects.

* $p < .1$, ** $p < .05$, *** $p < .01$

Table D.5: **Employment Protection, Labor Market Policy, and Outsider Attitudes toward Trade Unions**

Covariates	(1)	(2)	(3)	(4)	(5)
Intercept	1.92(.18)***		1.75(.14)***		
Ideology	-.05(.00)***	-.14(.02)***	-.05(.00)***	-.14(.02)***	-.14(.02)***
Unionmember	.36(.01)***	.95(.03)***	.36(.01)***	.95(.03)***	.93(.04)***
Age	-.04(.00)***	-.12(.02)***	-.04(.00)***	-.12(.01)***	-.11(.01)***
Female	.06(.01)***	.15(.02)***	.06(.01)***	.15(.02)***	.14(.02)***
Income	-.01(.00)***	-.02(.01)**	-.01(.00)***	-.01(.01)**	-.01(.01)*
Educ	-.01(.00)***	-.02(.01)***		-.02(.01)***	-.02(.01)**
Outsider	.01(.01)	.03(.05)	.02(.01)	.06(.05)	.09(.06)
EPL-LMP					-.02(.05)
Out X EPL-LMP					-.09(.04)**
RegEPL-LMP			-.00(.00)	-.01(.06)	
Out X RegEPL-LMP			-.04(.01)***	-.10(.03)***	
EPL	.09(.01)***	.22(.08)***			
Out X EPL	-.04(.02)**	-.11(.05)**			
ALMP	-.06(.01)***	-.05(.06)			
Out X ALMP	.04(.02)**	.12(.06)*			
PLMP	.09(.01)***	.01(.07)			
Out X PLMP	-.01(.02)	-.04(.07)			
GINI	.06(.01)***	-.74(.16)***	-.06(.01)***	-.73(.16)***	-.13(.09)
LogGDP	.08(.02)***	-2.08(.39)***	.09(.01)***	-1.84(.39)***	.38(.19)**
GDPgrowth	.02(.00)***	-.01(.01)	-.01(.00)***	-.01(.01)	.02(.02)
Unemployment	-.04(.00)***	-.01(.01)	-.01(.00)***	-.00(.01)	-.04(.02)***
Union Density	.00(.00)***	-.03(.01)***	-.00(.00)	-.03(.01)***	-.00(.00)
R^2		.06		.06	.04
Level-1 N	49597	49597	49597	49597	49597
Level-2 N	70	70	70	70	70
Model Type	Multi-Level	Fixed Effects	Multi-Level	Fixed Effects	Block Bootstrap

Note: Standard errors are clustered by Country-Survey. Fixed effects models have both country and year fixed effects. 500 replications for Block Bootstrap in model (5).
* $p < .1$, ** $p < .05$, *** $p < .01$

Table D.6: **Employment Protection, Labor Market Policy, and Outsider Preference for Far Right Parties**

Covariates	(1)	(2)	(3)	(4)
Intercept	31.30(31.05)	46.37(25.24)*	26.04(31.69)	56.51(24.36)
Ideology	.29(.01)***	.22(.06)***	.29(.01)***	.21(.06)***
Unionmember	-.18(.06)***	-.20(.08)***	-.18(.06)***	-.19(.08)**
Age	.01(.02)	-.01(.03)	.00(.02)	-.02(.03)
Female	-.09(.05)**	-.12(.06)**	-.10(.05)**	-.12(.06)**
Income	.05(.01)***	.03(.03)	.05(.01)***	.02(.03)
Educ	-.05(.01)***	.10(.04)	-.05(.01)***	.0(.04)
Outsider	.09(.09)	.20(.09)**	.18(.10)*	.34(.11)***
EPL-LMP	-.24(.73)	-.64(.63)		
Out X EPL-LMP	.04(.07)	.15(.12)		
EPL-ALMP			-.93(.85)	-.35(.39)
OutX EPL-ALMP			.20(.12)*	.42(.11)***
PLMP			-1.63(1.30)	.02(.68)
Out X PLMP			.17(.10)*	.41(.17)***
GINI	-.12(1.24)	-.91(.81)	-.58(1.31)	-1.21(.93)
GDP	-3.95(3.01)	-4.96(2.51)**	-3.67(3.05)	-6.11(2.42)***
GDPgrowth	-.10(.28)	.08(.12)	-.17(.28)	.05(.13)
Unemployment	-.22(.24)	-.05(.13)	-.04(.29)	-.050(.15)
Immrate	.13(1.93)	.96(.76)	-.16(2.26)	.98(.81)
ENPP	.82(.61)	.01(.73)	1.07(.66)	.26(.60)
R^2		.19		.19
Level-1 N	32928	29897	32928	29897
Level-2 N	63	59	63	59
Model Type	Multi-Level	Fixed Effects	Multi-Level	Fixed Effects

Note: Standard errors are clustered by Country-Survey. Fixed effects models have both region (Eastern Europe, Southern Europe, Continental, Scandinavia, Anglo-Origin, Asia) and year fixed effects. * $p < .1$, ** $p < .05$, *** $p < .01$

Table D.7: **Employment Protection, Labor Market Policy, and Outsider Preference for Far Right Parties**

Covariates	(1)	(2)	(3)	(4)	(5)
Intercept	20.14(31.92)	33.48(25.30)	32.77(32.07)	69.89(30.05)**	11.54(15.46)
Ideology	.29(.01)***	.22(.06)***	.29(.01)***	.22(.07)***	.20(.06)***
Unionmember	-.18(.06)***	-.17(.09)**	-.18(.06)***	-.23(.09)***	-.12(.14)
Age	.00(.02)	-.01(.03)	.00(.02)	-.02(.03)	.04(.04)
Female	-.10(.05)**	-.12(.06)**	-.10(.05)**	-.12(.05)**	-.11(.06)*
Income	.05(.01)***	.03(.03)	.05(.01)***	.02(.02)	-.03(.05)
Educ	-.05(.01)***	.01(.04)	-.05(.01)***	-.01(.03)	.04(.04)
Outsider	.10(.11)*	.38(.14)***	.10(.10)	.18(.11)*	-.03(.27)
EPL-ALMP					-.44(.37)
OutX EPL-ALMP					.25(.14)*
RegEPL-ALMP			-1.01(.76)	-1.01(.43)**	
OutX RegEPL-ALMP			.04(.11)	.28(.10)***	
EPL	-1.43(1.06)	-2.19(.93)**			
Out X EPL	.27(.14)*	.52(.23)**			
ALMP	.32(1.18)	.07(.45)			
Out X ALMP	-.14(.14)	-.31(.12)***			
PLMP	-1.18(1.36)	.13(.71)	-1.78(1.26)	-.61(.60)	-.66(.51)
Out X PLMP	.11(.13)	.19(.14)	.08(.10)	.43(.21)**	.30(.27)
GINI	-1.07(1.47)	-1.52(1.00)	-.92(1.31)	-2.55(1.31)**	.54(.54)
GDP	-3.11(3.07)	-3.68(2.39)	-4.26(3.09)	-7.55(3.00)***	-1.50(1.46)
GDPgrowth	-.16(.28)	.10(.15)	-.17(.27)	.06(.12)	-.06(.11)
Unemployment	-.01(.29)	.13(.20)	-.07(.28)	-.21(.14)	.01(.13)
Immrate	-.53(2.06)	.48(.73)	-.09(2.14)	.86(.73)	.30(.71)
ENPP	1.09(.63)*	-.23(.72)	.98(.64)	.35(.51)	.04(.24)
R^2		.22		.22	.07
Level-1 N	32928	29897	32928	29897	32928
Level-2 N	63	59	63	59	63
Model Type	Multi-Level	Fixed Effects	Multi-Level	Fixed Effects	Block Bootstrap

Note: Standard errors are clustered by Country-Survey. Fixed effects models have both region (Eastern Europe, Southern Europe, Continental, Scandinavia, Anglo-Origin, Asia) and year fixed effects. 500 replications for Block Bootstrap model. * $p < .1$, ** $p < .05$, *** $p < .01$

D.4 Figures

Figure D.1: **Employment Protection and Active Labor Market Policy**

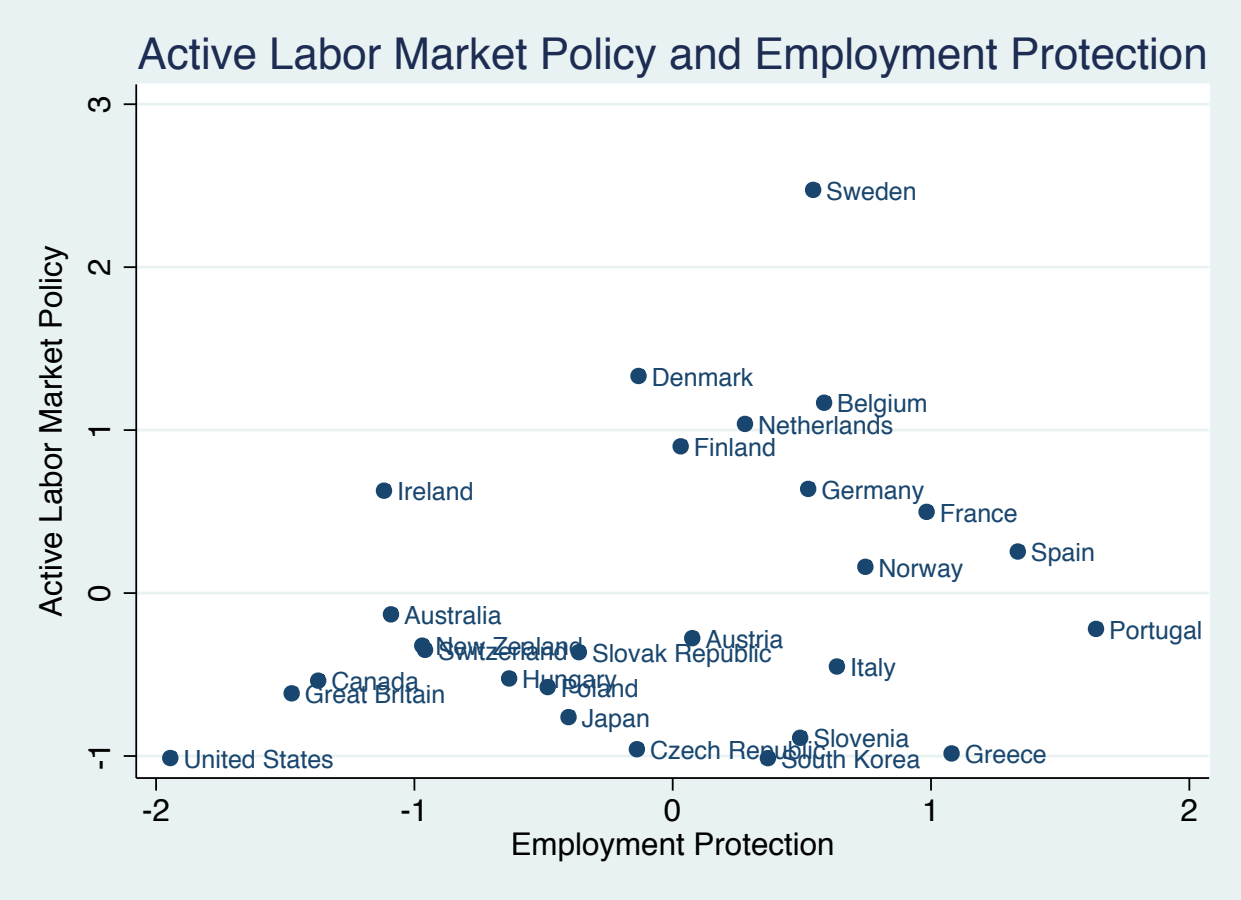
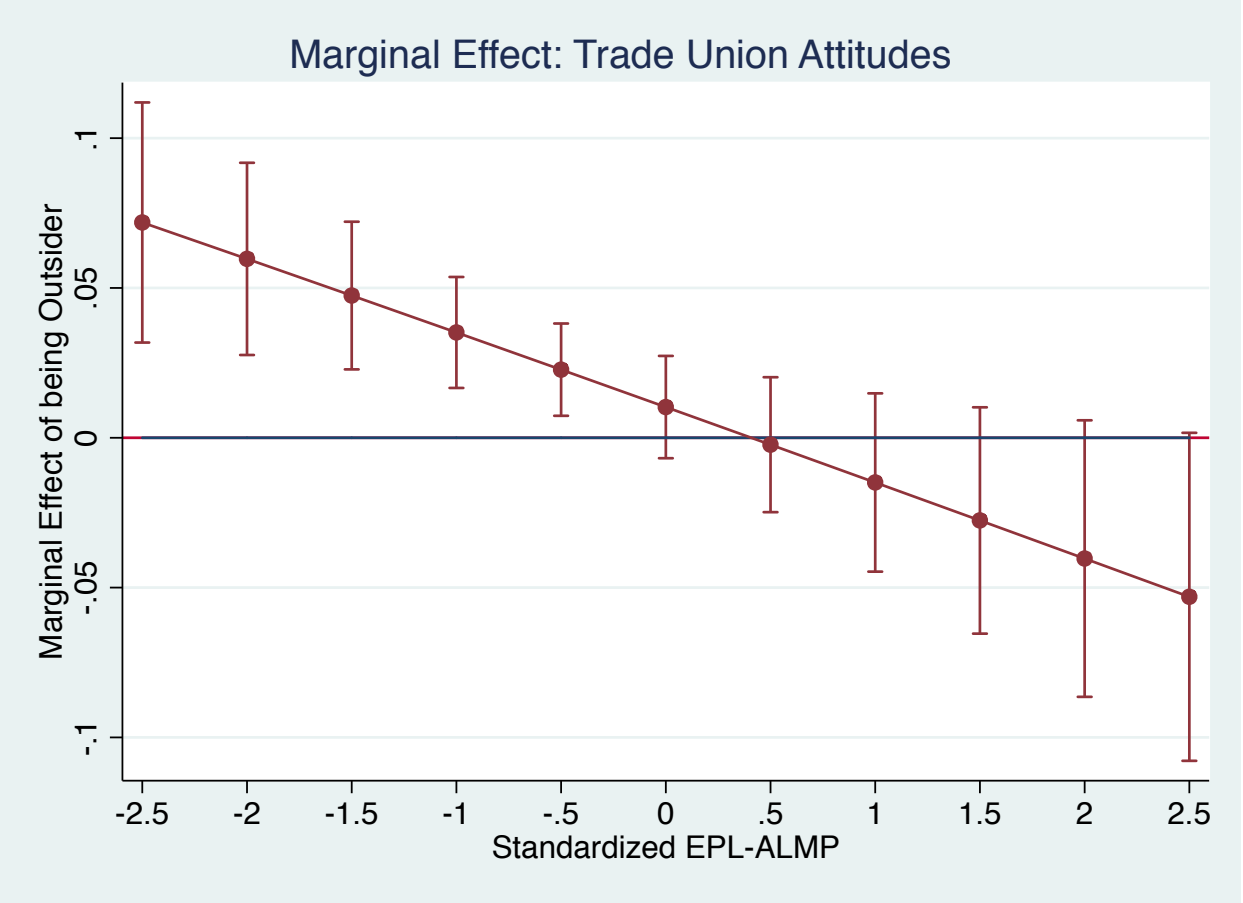
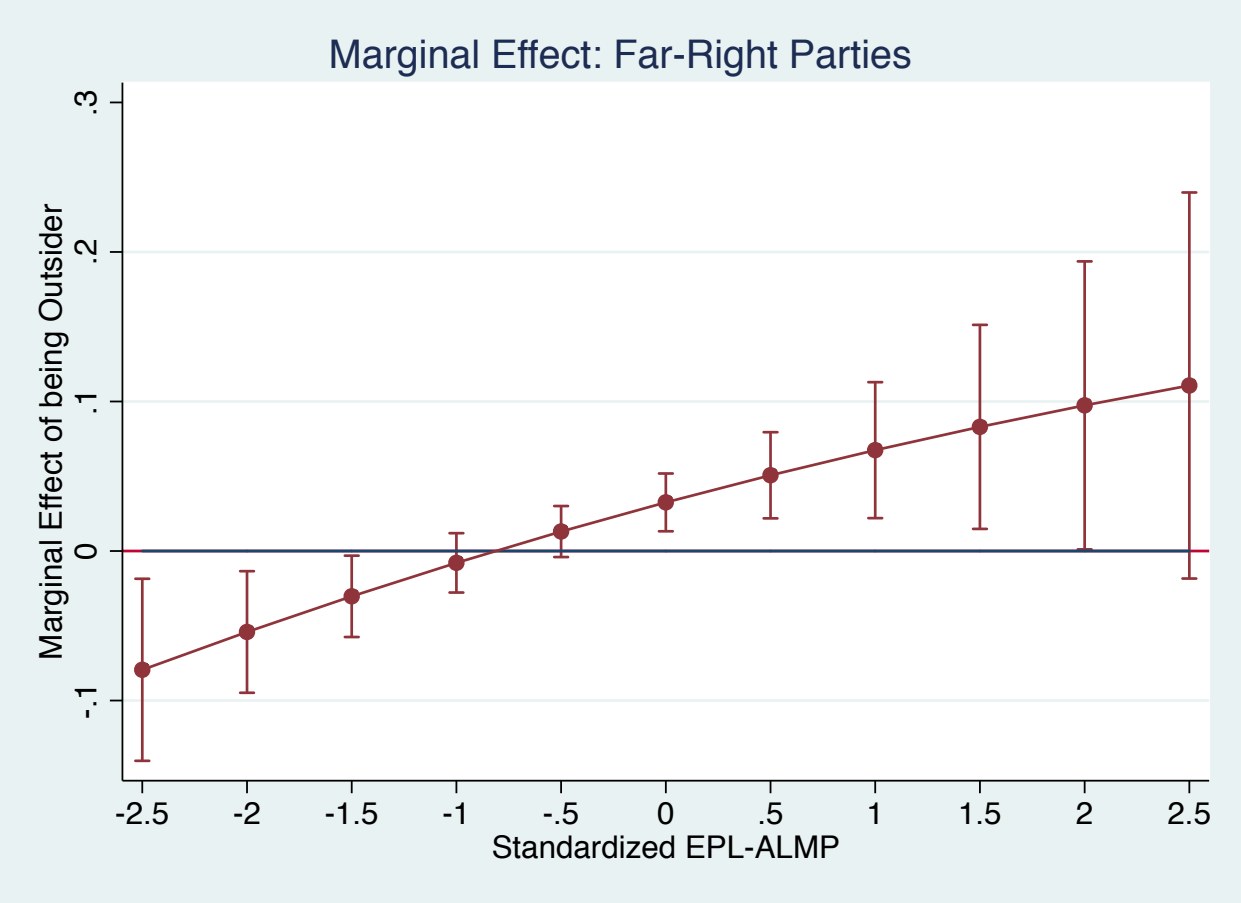


Figure D.2: **Marginal Effects: Trade Unions**



Note: Graph based on Table 4 Model 4, except using logit on dichotomized dependent variable instead of ordered logit with original coding.

Figure D.3: **Marginal Effects: Far Right Parties**



Note: Graph based on Table 6 Model 4.