The German Model of Industrial Relations: Balancing Flexibility and Collective Action

Simon Jäger, Shakked Noy, Benjamin Schoefer

Forthcoming in the *Journal of Economic Perspectives*

August 2022

Abstract

We give an overview of the "German model" of industrial relations. We organize our review by focusing on the two pillars of the model: sectoral collective bargaining and firm-level codetermination. Relative to the United States, Germany outsources collective bargaining to the sectoral level, resulting in higher coverage and the avoidance of firm-level distributional conflict. Relative to other European countries, Germany makes it easy for employers to avoid coverage or use flexibility provisions to deviate downwards from collective agreements. The greater flexibility of the German system may reduce unemployment, but may also erode bargaining coverage and increase inequality. Meanwhile, firm-level codetermination through worker board representation and works councils creates cooperative dialogue between employers and workers. Board representation has few direct impacts owing to worker representatives' minority vote share, but works councils, which hold a range of substantive powers, may be more impactful. Overall, the German model highlights tensions between efficiency-enhancing flexibility and equity-enhancing collective action.

Simon Jäger is Associate Professor of Economics, Massachusetts Institute of Technology, Cambridge, Massachusetts. Shakked Noy is a PhD student in economics, Massachusetts Institute of Technology, Cambridge, Massachusetts. Benjamin Schoefer is Associate Professor of Economics, University of California, Berkeley, in Berkeley, California. Their emails are sjaeger@mit.edu, snoy@mit.edu, and schoefer@berkeley.edu. We thank Alexander Busch, Jannis Hamida, Kilian Weil, and Pascal Zamorski for excellent research assistance. We thank Reinhard Bispinck and Steffen Müller for helpful comments. We thank Jörg Heining for help with the IAB Establishment Panel. Schoefer thanks the UC Berkeley Institute for Research on Labor and Employment for financial support; Jäger and Schoefer thank the National Science Foundation for support.

1 Introduction

Germany—the world's fourth largest economy—has remained partially insulated from the growing labor market challenges faced by the United States and other high-income countries. In many advanced economies, the past few decades have seen sustained increases in earnings inequality, a fall in the labor share, the disappearance of "good jobs" in manufacturing, the rise of precarious work, and a deterioration in the power of organized labor and individual workers.[1] These developments threaten to prevent economic growth from translating into shared prosperity.

Figure 1 shows that compared to the United States, German organized labor has remained strong. Half of German workers are covered by a collective bargaining agreement, compared to 6.1 percent of private-sector Americans (BLS, 2022). Trust in unions is almost twice as high in Germany compared to the US. Employees in Germany work fewer hours, the country's low-wage sector is 25 percent smaller, and labor's share of national income is higher. The German manufacturing sector still makes up almost a quarter of GDP (compared to 12 percent in the US). Germany has one of the highest robot penetration rates in the world (IFR, 2017)—yet in contrast to the US (Acemoglu and Restrepo, 2020), robotization has not led to net employment declines in Germany, especially in areas with high union strength (Dauth, Findeisen, Suedekum, and Woessner, 2021). At the same time, relative to other OECD countries—many of which, like France or Italy, have maintained even higher collective bargaining coverage through more rigid bargaining systems—the German labor market features low unemployment and high labor force participation (though also a larger low-wage sector).

Motivated by these facts, observers and policymakers in other countries have paid increasing attention to the German model of industrial relations (e.g., BBC, 2012; The Economist, 2017, 2020; Vox, 2019b; Strine Jr., Kovvali, and Williams, 2021). In the 2020 US Democratic primaries, the policy platforms of several candidates contained proposals explicitly based on German labor market institutions (Vox, 2019a). And American workers, frustrated with their lack of voice, exhibit demand for workplace representation mechanisms in the mold of the German system (Hertel-Fernandez, Kimball, and Kochan, 2022).

In this article, we present a primer on the "German model" of industrial relations. We organize our paper along its two key pillars.

The first pillar is the sectoral bargaining system. In Germany, unions and employer associations engage in bargaining at the industry-region level, leading to broader coverage than in the US. Meanwhile, partial decentralization of bargaining to the firm level—through

[1] See, for example, Autor (2014) and Chancel, Piketty, Saez, and Zucman (2022); Karabarbounis and Neiman (2014); Autor, Dorn, and Hanson (2013) and Acemoglu and Restrepo (2020); Weil (2014); and Stansbury and Summers (2020) and Farber, Herbst, Kuziemko, and Naidu (2021).

flexibility provisions in sectoral agreements, or direct negotiations between individual firms and sectoral unions—gives firms space to adapt to changing circumstances. However, this flexibility has also resulted in a gradual erosion of bargaining coverage.

The second pillar of the German model is firm-level codetermination. Workers are integrated into corporate decision-making through membership on company boards and the formation of "works councils," leading to ongoing cooperative dialogue between shareholders, managers, and workers.

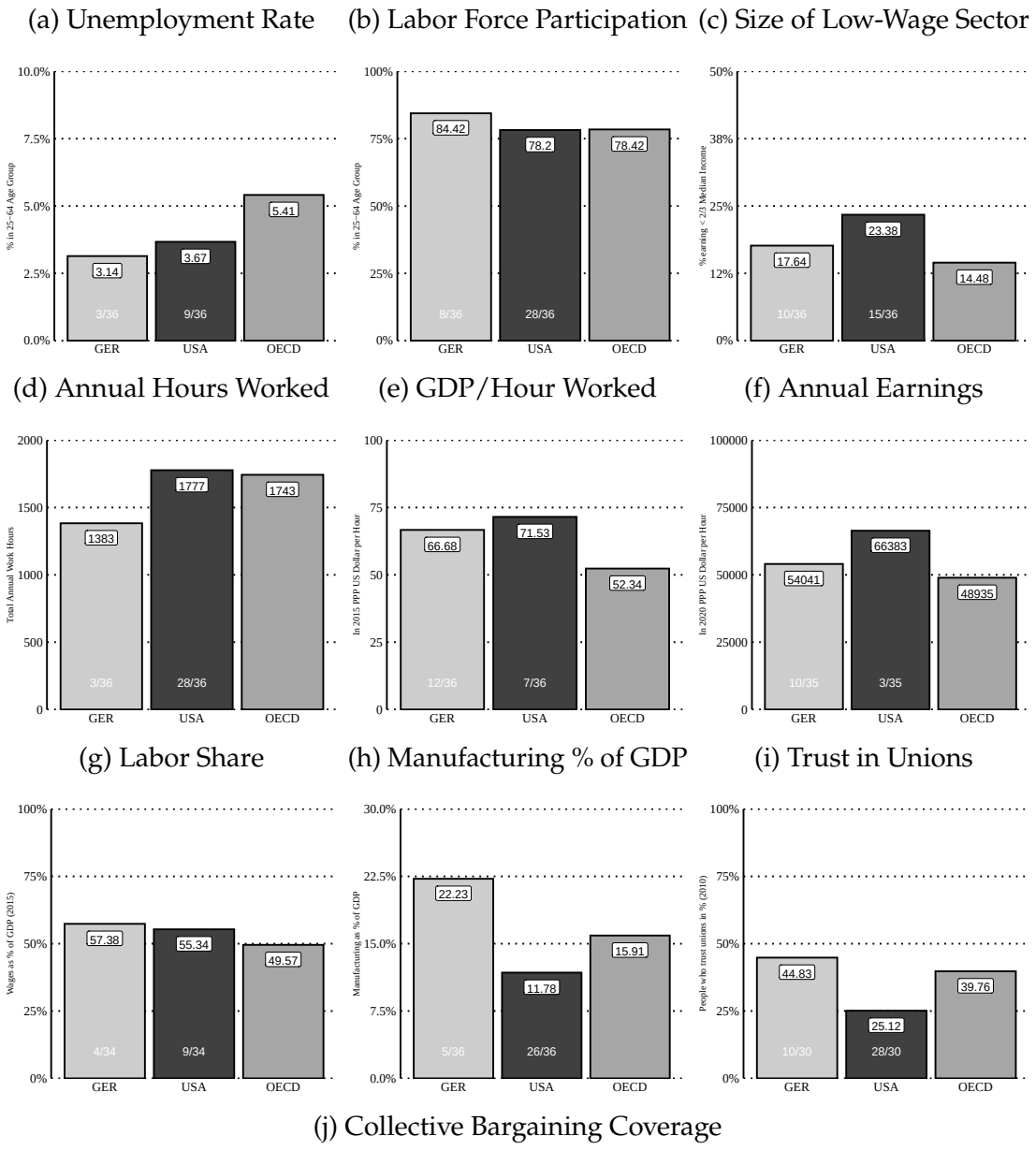
Overall, the German model combines centralized "social partnership" between unions and employer associations at the industry-region level with decentralized mechanisms for local wage-setting, dialogue, and customization of employment conditions.

The US industrial relations system is starkly different. American firms are run by managers on behalf of shareholders, within a legal structure that effectively bans cooperative forms of institutionalized worker voice akin to codetermination, in pursuit of "unencumbered" managerial decision-making (Harlin, 1982).[2] US collective bargaining occurs exclusively at the bargaining unit or establishment level—rather than at the sectoral level—thereby giving individual employers strong incentives to resist unionization. Unionization elections are highly contentious and successful unionization is associated with lower profits and establishment closures (Lee and Mas, 2012; Frandsen, 2021; Wang and Young, 2022). Over the past few decades, private-sector collective bargaining coverage has been almost completely eroded (Farber, Herbst, Kuziemko, and Naidu, 2021).

A recurrent theme in our discussion of the German model will be a tension at the heart of the model: between firms' flexibility and workers' collective bargaining strength. Since the 1990s, the model has become more decentralized and flexible. This evolution has arguably contributed to reductions in unemployment and increases in economic growth, but has entailed a substantial erosion of collective bargaining and works council coverage (as Figure 2 illustrates) and a weakening of bargaining agreements. This erosion may explain Germany's slowly increasing—and perhaps underappreciated—exposure to the afflictions suffered by other developed-world labor markets: rising wage inequality and the spread of low-wage, precarious jobs.

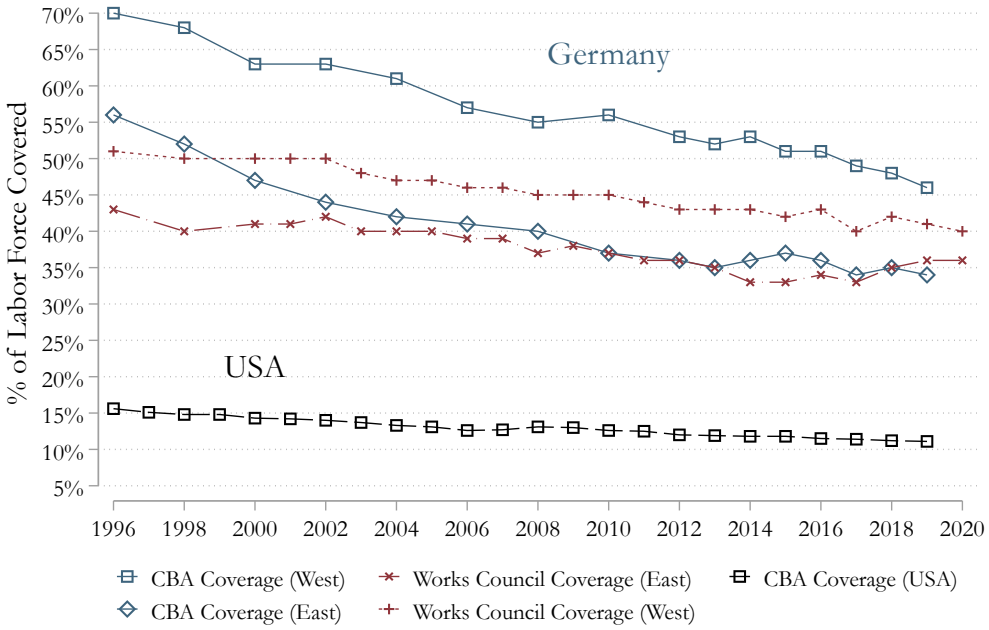
[2]These legal provisions were historically designed to ban employer-dominated unions (e.g., §8(a)(2) NLRA), and subsequent judicial decisions have further narrowed the scope of unions' bargaining rights.

Figure 1: The German Labor Market in International Comparison



Note: Unless otherwise noted, the data are for 2019. Numbers in white boxes denote the heights of the bars; the numbers at the bottom of the bars denote the US/Germany's rank in the OECD in terms of each measure (with ranks closer to 1 being "better" for all measures). Variation in the total number of OECD countries is due to missing data (e.g., no data for annual wages for Turkey) and different years (manufacturing share data from 2018). Both manufacturing and labor share OECD averages were calculated by the authors from OECD data. Variables: Unemployment = annual percentage of unemployed aged 25 to 64 (OECD, 2022f). Employment rate = employed aged 25 to 64 / population aged 25 to 64 (OECD, 2022e). Low wage sector share = share of employees earning less than 2/3 of the annual median wage (OECD, 2022h). Annual working hours = total annual working hours / employed population (OECD, 2022d). Annual wage = total annual wage in constant prices 2020 USD PPP (OECD, 2022a). GDP per hour = annual GDP in constant prices 2020 USD PPP / total annual working hours (OECD, 2022c). Labor share = Employee compensation as share of GDP (OECD, 2022b). Manufacturing share = manufacturing sector output as share of GDP (OECD, 2022g). Trust in unions = share of people who tend to trust unions (GER) or who are "greatly" or "quite a lot" confident in unions (USA) (OECD, 2019). Bargaining coverage = share of workers covered by a collective agreement (Visser, 2021).

Figure 2: Institutional Coverage Over Time in Germany and the US



Notes: This figure shows collective bargaining coverage in East and West Germany (blue lines) and the US (black line), as well as works council coverage in East and West Germany (red lines) from 1996 to 2020. Source: Ellguth and Kohaut (2020) for the German numbers, Visser (2021) for the US numbers.

2 Sectoral Collective Bargaining

The German labor market is shaped by large-scale collective bargaining agreements containing schedules of minimum requirements for wages, hours, working conditions, entitlements, and promotion criteria for workers in different industries, regions, and occupations, and with different levels of skill and experience. These agreements, typically negotiated at the industry-region level,[3] have broad coverage and create significant standardization in wages and working conditions—a sharp contrast to the patchwork system of employer-dominated wage-setting, individual bargaining, and (rare) establishment-level union bargaining prevalent in the United States. At the same time, the collective bargaining system in Germany allows for an unusual degree of decentralization and flexibility in wage-setting relative to the more rigid

[3]The industry-region bargaining system has its origins in the Stinnes-Legien Agreement and Collective Agreements Order of 1918, negotiated between moderate trade unions and major industry leaders against the backdrop of an unstable post-World War I provisional government and the threat of violent revolution from radical worker movements (Winkler, 1998; Silvia, 2013). The agreements institutionalized collective bargaining at the industry-region level, since this was the natural intersection between existing industry-region employer associations and industry-level trade unions. (German employers had been organizing in local cartels throughout the 19th century, while trade unions formed at the industry level; Lepinski, 1959; Silvia, 2013).

bargaining systems of many of its European neighbors, and even makes it relatively easy for employers to avoid coverage altogether.

2.1 The Structure of Collective Bargaining

2.1.1 The Bargaining Parties: Unions, Employer Associations, and Firms

Figure 3 visualizes the system of collective bargaining between sectoral trade unions and industry-region employer associations. The left of Figure 3 shows the worker side, the right shows the employer side, and the center illustrates the typical industry-region agreements. As we describe later, collective bargaining agreements can also sometimes be concluded between unions and individual firms.

Unions German unions are mostly organized at the sectoral level and belong to a small number of major trade union confederations. The most powerful confederation, the *Deutscher Gewerkschaftsbund* (DGB), oversees many of Germany's biggest unions, including *IG Metall* (manufacturing workers), *ver.di* (public-sector and services), *IG BCE* (mining and chemical industries), *GEW* (education and science), *IG BAU* (construction), and *NGG* (catering and restaurants) (Gewerkschaftsbund, 2021). The DGB covers about 6 million workers; other union confederations include the *Deutscher Beamtenbund* (dbb), overseeing mainly civil service unions and covering about 1.3 million workers, and the Christian CGB, overseeing a variety of independent unions and covering about 300,000 workers (ETUI, 2021). The union confederations compete for members and are differentiated by their political slant and attitudes towards collective bargaining. The DGB is mostly aligned with the centre-left Social Democratic Party, though it maintains formal political neutrality and strives to always include a member of the centre-right party (the Christian Democratic Union) on its governing staff. It remains strongly committed to broad sectoral bargaining. The dbb and CGB, by contrast, lean more towards the Christian Democrats, and are less committed to industry-level bargaining—for example, the dbb contains several member unions organized at the level of granular occupations rather than industries.

Unions enjoy widespread public support and trust—about 73 percent of Germans agree that "workers need strong unions," compared to 49 percent of Americans (authors' calculations using the International Social Survey Panel 2015). The partisan gap in support for unions is also much smaller in Germany than in the US,[4] and Christian Democratic (center-right) politicians are broadly supportive of collective bargaining: for example, the party's 2021 election manifesto asserted that the "social partnership" between unions and employer

[4] 83 percent of 2013 Social Democratic Party (center-left) voters and 68 percent of Christian Democratic Union (center-right) voters agree with the statement, compared with 63 percent of 2012 Obama voters and 26 percent of Romney voters.

associations is at the core of Germany's economic success, called for more sectoral bargaining in the EU, and declared an intention to legislatively extend a greater number of bargaining agreements (see below for a discussion of extensions; CDU, 2021).

German unions are prominent in public discourse, and often engage in policy lobbying. For example, they were instrumental in campaigning for the introduction of a federal minimum wage in 2015. They also fund research centers and think tanks, most notably the DGB-affiliated Hans Böckler Foundation. Trade union research institutes (and rival research institutes sponsored by employer associations) play a major role in economic policy discussions, frequently appearing in the media or writing widely covered reports.

Employer Associations and Individual Firms Similarly to workers, German employers organize in associations at the industry-region level, with these associations in turn belonging to umbrella employer federations ultimately organized in the Federal Society of the German Employer Associations (*Bundesvereinigung der Deutschen Arbeitgeberverbände*, BDA). The BDA comprises 14 interdisciplinary regional associations and 48 federal umbrella associations representing more than 6,500 individual employer associations. Among the largest and most powerful umbrella associations are the metal and electrical industry association *Gesamtmetall*, the insurance companies association *Arbeitgeberverband der Versicherungsunternehmen in Deutschland*, and the chemical industry association *Bundesarbeitgeberverband Chemie*, as illustrated in Figure 3.

The primary function of employer associations is to engage in coordinated collective bargaining, but, like unions, they also have several auxiliary functions. First, they engage in business lobbying focused on labor market policy, complementing the lobbying efforts of trade associations (*Wirtschaftsverbände*) and chambers of commerce and industry (*Industrie- und Handelskammern*). For example, they have campaigned against wealth and inheritance taxes, and lobbied for the abolition of a tax on high-earning individuals and firms (BDI, 2021; BDA, 2021). Second, employer associations often provide member companies with additional benefits such as legal advice and strike insurance. Third, they fund research institutes that play a major role in public discourse and also engage in lobbying and advocacy. Finally, employer associations are prominent networking hubs in the business world (Silvia and Schroeder, 2007).

Relationships Between Unions and Employer Associations Interactions between major employer associations and major trade unions tend to be adversarial but respectful. The DGB and BDA are protective of their status as the economy's defining "social partners," and take pride in the industrial peace and low levels of strikes accompanying their partnership (for example, Germany lost only 5 days per 1,000 employees to strikes between 2001 and 2007, compared to 30 days in the US; Lesch, 2009). Both the DGB and BDA are wary of

fragmentation of the industrial relations system; for example, they jointly lobbied for the introduction of a 2015 "unity law" declaring that only the largest bargaining agreement (in share of unionized workers) in an establishment could apply to that establishment. The law was intended to undercut a proliferation of occupation-specific unions representing highly skilled or hard-to-replace workers such as train conductors (*GDL*), who were demanding large wage increases and threatening to strike. Employer associations disliked the high wage demands and threat of strikes; the DGB argued that the demands of specific worker groups would exacerbate inequality and undermine the solidaristic principle of moderating wages at the top in order to boost wages at the bottom. The DGB was perhaps also motivated by an opportunity to consolidate its own power (Behrens, 2016).[5]

International Perspective Comparing Germany to the United States, it is tempting to draw analogies between, for example, the DGB in Germany and the AFL-CIO in the US, or the BDA and the US Chamber of Commerce. However, there are several crucial differences.

First, membership is the lifeblood of American unions, whose influence is directly determined by the share of workers who have voted to collectivize their workplace and join a union. By contrast, membership matters only indirectly for German unions, because (as we describe below) bargaining happens at the sectoral level and agreements apply to both unionized and non-unionized workers in participating firms. To a German worker, joining a union is closer to becoming a fee-paying member of a political party. This has a few implications. It means German unions (mostly) do not have to engage in conflictual employer-specific unionization drives, which may help explain their enduring and bipartisan popularity. It also means that German unions have remained strong in the private sector even as union membership has diminished, whereas in the US, diminishing membership has devastated private-sector union influence.

Second, American employer associations like the Chamber of Commerce traditionally adopt an actively hostile stance towards organized labor. By contrast, engaging in collective bargaining is the *raison d'etre* of German employer associations, which derive their public legitimacy and membership appeal from their status as "social partners" with the unions. They are therefore highly tolerant of organized labor.

The German model of collective bargaining is also distinct from other European countries with strong unions. Countries such as Sweden, Norway, France, and Italy also feature two to four large, competing, widely legitimate union confederations paired with a large employer confederation in a stylized "social partnership" built around sectoral bargaining. However, this structural similarity obscures several axes of heterogeneity.

[5]Several large unions, such as *ver.di*, opposed and even unsuccessfully challenged the law before the Federal Constitutional Court, asserting that it curtailed the freedom of association and individual unions' rights to strike (1 BvR 1571/15 -, Rn. 1-24, 1 BvR 571/16 -, Rn. 1-23).

First, unlike the Nordic countries and France—which have a "tripartite" industrial relations system where the government plays an active role—the German government is largely excluded from the industrial relations system.[6] Second, unlike Denmark, Sweden, and Finland, where unions directly administer social insurance, in Germany social insurance is handled by the government, with no direct role for unions. Third, while most Western European countries maintain a notion of "social partnership" between unions and employer associations, the national ideology of cooperative partnership appears historically strongest in Germany and the Nordic countries.

2.1.2 The Agreements

The Contents of Collective Agreements German unions and employer associations negotiate a range of industry-region level collective agreements (*Flächentarifvertrag*), which are differentiated by the topics they cover, as shown in Figure 3. First, wage and salary agreements (*Lohn- und Gehaltstarifverträge*), usually renegotiated on an annual or biannual basis, specify wage and salary floors for workers in the industry-region, often by occupational, skill, and experience group. The favorability principle (*Günstigkeitsprinzip*) allows employers to offer higher salaries or better working conditions than those stipulated in wage and salary agreements. Second, longer-running framework agreements (*Rahmentarifverträge*) define criteria for assigning workers or positions to salary groups. Finally, umbrella agreements (*Manteltarifverträge*) regulate general working conditions, including termination rules, vacation duration, sick leave, and overtime, and are typically in place over longer periods. There are a huge number of active collective bargaining agreements at any given moment—82,000 in 2021 (Schulten et al., 2021).

As one example, a 2021 framework agreement between the metalworkers' union (*IG Metall*) and the corresponding regional employer association (*Südwestmetall*) regulates how workers in the metal and electronics industry in the German state of Baden-Württemberg are assigned to salary groups. It defines a points system, with points assigned for a worker's education and experience as well as the complexity and autonomy of the worker's job.[7] A separately

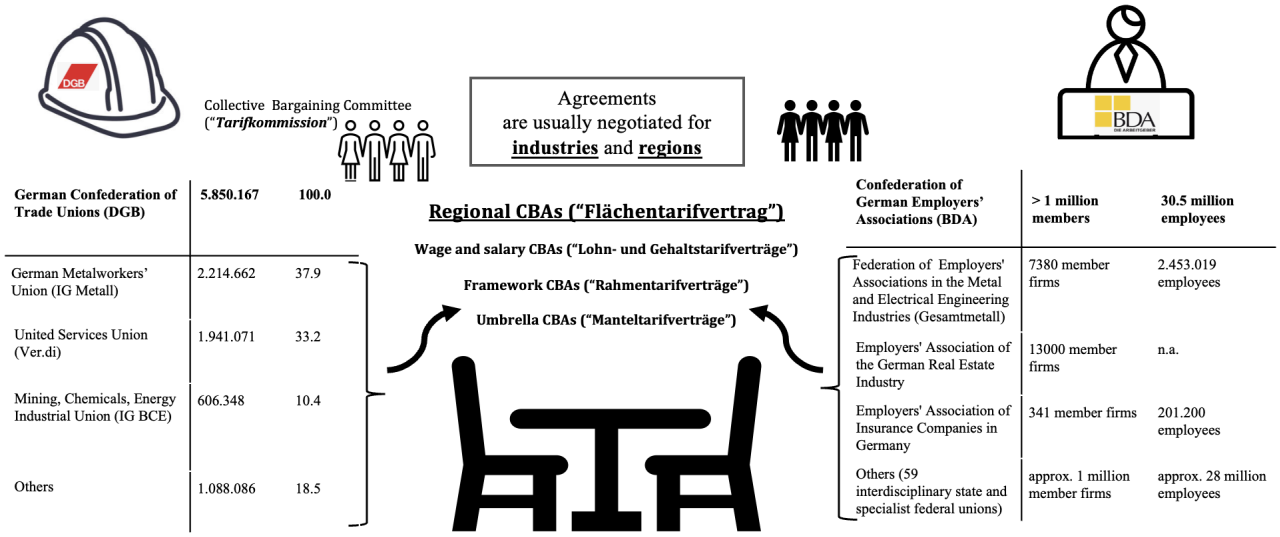
[6]The principle of bargaining autonomy (*Tarifautonomie*) bans the government from intervening in collective negotiations; this rule dates back to the collective agreements of 1918, which were negotiated under a temporary provisional government while the future of the German state was highly uncertain. The federal government has occasionally experimented with soft-touch tripartism during crises, inviting employer associations and unions to roundtable discussions with legislators. This happened during the 1960s, when the government attempted to organize macroeconomic Keynesian coordination with the bargaining parties; in July 2022, the government convened talks under the same name (*Konzertierte Aktion*) in an attempt to tame rising inflation (Deutsche Welle, 2022). This also happened in the 1990s (the "Joint Initiative for More Jobs in Eastern Germany;" Eurofound, 1997), when the government tried to tackle high unemployment and sluggish growth in East Germany by encouraging flexibility provisions and attentiveness to employment effects in bargaining agreements.

[7]See *Entgeltrahmen-Tarifvertrag für Beschäftigte in der Metall- und Elektroindustrie in Baden-Württemberg* (Salary Framework CBA for Employees in the Metal and Electronics Industry in Baden-Württemberg) (IG Metall Bezirk Baden-Württemberg, 2021).

negotiated collective bargaining agreement then stipulates wage floors for each points group.

Although collective bargaining agreements are typically negotiated at the industry-region level, there is substantial coordination in bargaining behavior across regions. Representatives of a national union confederation or umbrella employer organization are usually involved in guiding negotiations in a pilot region, and other regions then often imitate the agreement reached in the pilot region, deviating to match local conditions.

Figure 3: The German Bargaining Framework



Notes: This figure illustrates the structure of collective bargaining between unions (left-hand side) and employer associations (right-hand side), with the center illustrating typical industry-region agreements. Sources for membership statistics: Gewerkschaftsbund (2021); Bundesvereinigung der Deutschen Arbeitgeberverbände (2022).

Flexibility and Firm-Level Negotiations The collective bargaining structure allows for flexible firm- or establishment-level bargaining in a few circumstances. First, some (typically very large) individual employers negotiate separate firm-level agreements with the relevant union (*Firmentarifverträge* and *Haustarifverträge/Werkstarifverträge*). For example, *RAFI GmbH & Co. KG*, an electronics manufacturer of human-machine interface technology, concluded a 2020 agreement with the relevant union (*IG Metall*) which binds *RAFI* to the conditions of the pertinent industry-region-level agreements, including the one described above, *and* specifies several additional provisions for *RAFI* employees, including bonus payments and sabbaticals (Wochenblatt-Online, 2020). As this example illustrates, the main function of firm-level bargaining agreements is to bind large, productive firms to *even higher* standards than those stipulated in industry-level agreements. (Of course, firms can also voluntarily pay above the wage floors without such formal agreements, as discussed above.)

Second, "hardship" and "opening" clauses, which are included in some collective bargaining agreements, allow firms to negotiate agreements (*Betriebsvereinbarung*) with their workforce that involve deviations *below* the wage, hour, or amenity requirements imposed by the industry-region agreements.

Hardship clauses apply only to firms or establishments in severe financial distress, and negotiations under these clauses involve, e.g., workers agreeing to delay the implementation of collectively bargained wage increases until the financial situation of the establishment improves, or agreeing to temporary wage and hour cuts to prevent layoffs (Rehder, 2003; Seifert and Massa-Wirth, 2005). Dubbed "employment pacts," the latter kind of agreement likely played a role in preventing layoffs during the Great Recession, although government-administered "short-time work" policies were the most important lever blunting the employment impacts of the crisis (Burda and Hunt, 2011).

Meanwhile, *opening* clauses allow the negotiation of permanent employer-specific deviations from bargaining agreements. The criteria for using an opening clause vary; as one illustrative example, general opening clauses included in bargaining agreements in the metal industry since the mid-2000s allow companies to make deviations that "secure employment and create new jobs" or "[improve] competitiveness, innovative capability, and investment conditions" (Schulten and Bispinck, 2018).

To use a hardship or opening clause, an employer typically negotiates an agreement with its works council (a shop-floor codetermination institution we cover in greater depth in Section 3), and then submits the agreement to the sectoral union and employer association for approval.[8]

The relatively widespread use of hardship and opening clauses is unique to Germany, and is one source of the unusual flexibility of the German system, on top of the state-level regional differentiation built into the bargaining system (compared to national sectoral bargaining as in, e.g., Italy). In other countries, the scope of any such firm-level deviations from sectoral bargaining agreements is typically tightly circumscribed (as in, e.g., France), or they are simply less common (ETUI, 2021).

2.2 Coverage

2.2.1 Rules

A bargaining agreement negotiated between a union and an employer association covers all firms belonging to the signatory employer association. Covered firms typically extend coverage to all employees, regardless of union membership.[9] Thus, although only 15 percent

[8]However, even employers who report not having a works council appear to use opening clauses with similar frequency to employers with a council (authors' calculations using the IAB Establishment Panel); we do not know of research reconciling this empirical pattern with the conventional wisdom we describe above.

[9]The law in principle allows for discrimination by union membership (see, e.g., BAG 4 AZR 64/08). The law does not prohibit firms from granting coverage to all employees (BAG 4 AZR 366/09), a route firms typically

of German workers belong to a union (ETUI, 2021), about 52 percent work in establishments covered by a collective bargaining agreement (Ellguth and Kohaut, 2020). This stands in striking contrast to the United States, which had a private sector unionization rate of 6.1 percent in 2021 (BLS, 2022), and where there is no capacity for bargaining coverage to substantially exceed unionization rates. This decoupling of coverage and union membership means German unions usually do not engage in employer-specific unionization drives as in the US.

The German Labor Ministry can legislatively extend an agreement to cover *all* firms in the relevant industry-region (not just those belonging to the signatory employer association), if supported by a committee composed of union and employer representatives (*Tarifausschuss*). The threat of legislative extension was historically used to deter firms from exiting bargaining agreements *en masse*. These extensions were often supported by high-wage employers who wished to raise rivals' costs (Haucap, Pauly, and Wey, 1999). However, extensions have become somewhat less common over time (Müller and Schulten, 2019).

2.2.2 Why Do Employers Opt Into Coverage?

In contrast to the US, where bargaining coverage is determined by whether *workers* choose to unionize, in Germany, individual *employers* opt in or out of coverage by industry-region CBAs by joining or leaving the signatory employer association.[10] A growing number of employer associations even allow membership without participation in the relevant CBAs (*OT-Mitgliedschaft*, see Behrens and Helfen, 2016). This voluntary participation is a defining feature of the German model and the second contributor to its flexibility—and to the recent deterioration in bargaining coverage, as we discuss below. By comparison, in countries like France or Sweden, coverage is essentially mandatory and hence much higher, either due to frequent legislative extensions (France) or near-universal union membership and pressure to join agreements (Sweden; ETUI, 2021).

Why do German employers ever join employer associations, thereby restricting their wage-setting discretion? First, membership in an association guarantees employers access to peaceful, coordinated, and widely legitimate mechanisms of dispute resolution through sectoral bargaining. In fact, active CBAs preclude unions from strikes pertaining to any matters regulated in the pertinent CBA (*Friedenspflicht*).

Second, membership brings various side benefits, including access to strike insurance, legal advice, lobbying support, and professional networking.

Third, employers—especially large ones—may face pressure to join from workers and

take to reduce individual employees' incentives to unionize. An important exception are high-paid jobs, e.g., managers or senior engineers, with individually negotiated, above-collective-agreement salaries and working conditions (*Außertariflicher Arbeitsvertrag*); bargaining agreements often leave out these jobs.

[10] In the latter case, existing CBAs remain active until expiry for incumbent workers (§3 (3) TVG).

sectoral unions. Tesla's 2022 expansion into Germany provides an illustrative example.[11] During the first half of 2022, a new Tesla factory near Berlin has faced several complaints over its wage policies: wages are low relative to nearby manufacturing firms covered by sectoral agreements (Bloomberg, 2022b), and Tesla has begun raising the wages offered to new hires in an effort to increase recruitment, introducing a wage gap between new recruits and identically qualified incumbents (Der Spiegel, 2022). Discontented workers have appealed to the local *IG Metall* (manufacturing union) branch, which has begun publicly agitating for Tesla to enter collective negotiations. The union suspects Tesla may try to fend off the pressure by offering a local wage agreement to the plant's works council (which, unlike the sectoral union, cannot call a strike during wage negotiations). *IG Metall* has also rebuffed Tesla's instruction to all Tesla employees to return to work in-person, stating that "In Germany an employer cannot dictate the rules just as he likes... Whoever does not agree with such one-sided demands and wants to stand against them has the power of unions behind them" (Business Insider, 2022).

2.2.3 Facts

Average Coverage As of 2020, 27 percent of German establishments employing 52 percent of German workers are covered by a collective bargaining agreement (as shown in Panel (a) of Figure 4; Ellguth and Kohaut, 2020). In particular, 43 percent of workers are covered by a sectoral agreement and 8 percent by firm-specific agreements. A further 20 percent of workers are employed by establishments reporting an "orientation" towards a bargaining agreement, meaning that they informally imitate the relevant agreement's prescribed wages and working conditions, but retain discretion to deviate from those prescriptions. This leaves 29 percent of German workers who are not covered, explicitly or by imitation, by a bargaining agreement.

Formal bargaining coverage in Germany is hence fairly high—substantially exceeding American union coverage even at the latter's mid-20th-century peak (Farber, Herbst, Kuziemko, and Naidu, 2021)—though significantly lower than coverage rates achieved through national bargaining or legislative extensions in countries like Sweden or France (see Figure 1).

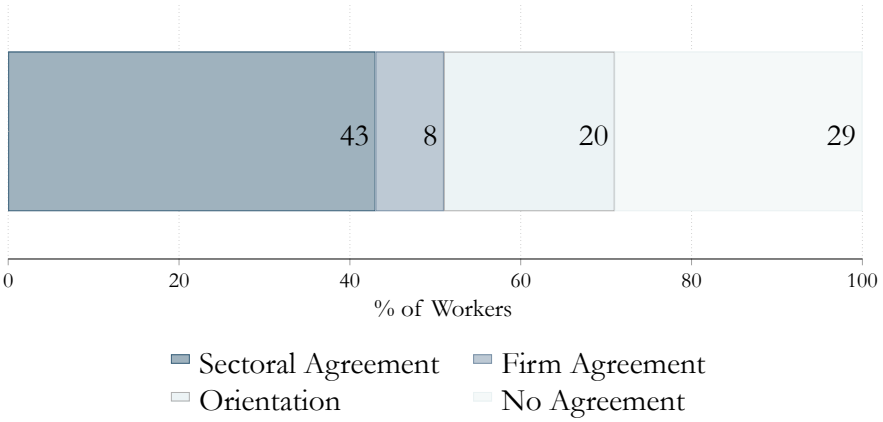
Correlates of Coverage Panel (b) of Figure 4 shows that coverage rates are strongly increasing in establishment size, reflecting the higher propensity of larger firms to join employer associations: only 10-20 percent of establishments with under 100 employees are covered by a collective bargaining agreement, compared to 50-60 percent of establishments with more than 500 employees. Larger firms are more likely to join employer associations for several reasons: they tend to be more productive and are hence more likely to pay high wages anyways, they may benefit more from the non-bargaining functions of employer associations (like lobbying),

[11] However, active exercises of union power like this are relatively uncommon, and Germany, unlike the US, does not regularly see acrimonious conflicts over collectivization in major firms.

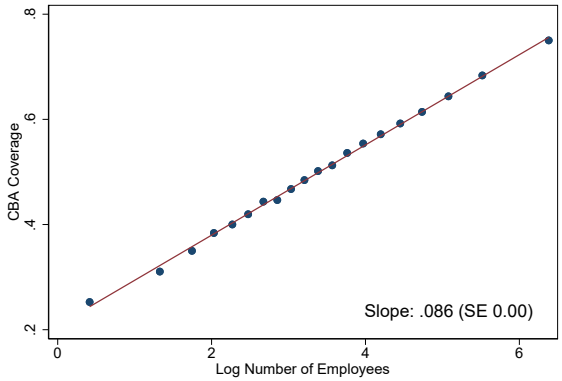
and unions tend to focus their pressure on large firms. Indeed, Panel (c) of Figure 4 shows that coverage rates are also higher among more productive firms (by value added per worker), supporting the hypothesis that some firms join employer associations because they would have paid high wages anyways.

Figure 4: Collective Bargaining Coverage

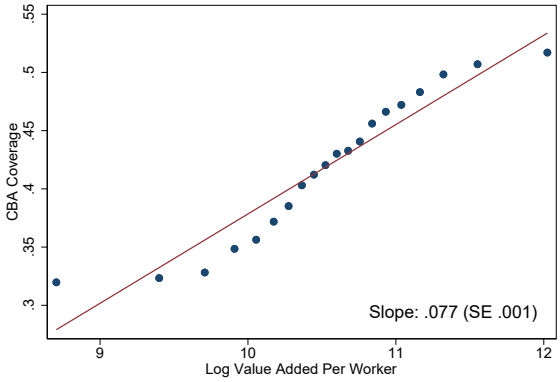
(a) Bargaining Coverage in 2020



(b) Coverage by Establishment Size, 1993-2020



(c) Coverage by Productivity, 1993-2020



Notes: Panel (a) illustrates the share of German workers in 2020 covered by a sectoral bargaining agreement, a company-level bargaining agreement, or informal orientation towards a collective bargaining agreement. Source: Ellguth and Kohaut (2020). Panels (b) and (c) plot establishment-level regressions of a dummy for being covered by a bargaining agreement on log number of employees (Panel (b)) or log value added per worker (Panel (c)), controlling for year dummies interacted with an East/West Germany dummy, and 3-digit industry dummies. The data are from the IAB Establishment Panel (Umkehrer, 2017), pooled across 1993-2020; authors' own calculations.

Trends: Erosion and Decentralization The aforementioned statistics for 2020 reflect a steep drop in German bargaining coverage since the mid-1990s, when about 70 percent of German workers were covered, as shown in Figure 2. Employer association membership (and hence CBA coverage) has declined substantially, especially among small- and medium-sized firms

(Hassel, 1999; Bispinck and Schulten, 2010; Kügler, Schönberg, and Schreiner, 2018). Informal "orientation" towards CBAs has grown over the same period (Oberfichtner and Schnabel, 2018). Among covered firms, the proliferation of general opening clauses since the mid-2000s have allowed firms to negotiate deviations below CBA floors. Representative data on opening clauses is scant and at times conflicting. Based on a 2015 survey of works council members, 21 percent of establishments with at least 20 employees (and a works council) made use of opening clauses, e.g., to pay below-CBA wages (Amlinger and Bispinck, 2015); data from the IAB Establishment Panel show a substantially higher prevalence of opening clauses (Boeri, Ichino, Moretti, and Posch, 2021). Finally, large and high-paying firms have increasingly evaded CBAs for their lowest-paid workers by outsourcing jobs to uncovered supplier firms. For example, the proportion of retail establishments with a cleaning worker on their own staff declined from 82 percent in 1975 to 20 percent in 2009 (Goldschmidt and Schmieder, 2017), reflecting a surge in outsourcing of food, cleaning, security, and logistics jobs in the economy.

The sources of the erosion and decentralization of German collective bargaining since the 1990s remain an active area of debate; we discuss the main candidates below.

First, increasing exposure to foreign competition and a prolonged recession in the 1990s drove many firms—especially small ones—into financial distress and provoked a flight from employer associations to avoid wage floors of collective bargaining agreements (Silvia and Schroeder, 2007; Dustmann, Fitzenberger, Schönberg, and Spitz-Oener, 2014; Raess, 2014).

Second, the dissolution of the Soviet Union allowed employers to more credibly threaten to outsource production to low-wage Eastern European neighbors (Dauth, Findeisen, and Suedekum, 2014), giving employer associations greater bargaining power and allowing them to lobby for opening clauses and other flexibility provisions in collective bargaining agreements. Unions also began to embrace opening clauses, to negotiate firm-level "employment pacts" to protect against the growing threat of layoffs (Schulten and Bispinck, 2018).

Third, beginning in the 1980s, small, unproductive employers could not keep up with the wage floors negotiated by employer associations dominated by large, highly productive firms, and hence exited the associations (Silvia, 1997; Dustmann, Ludsteck, and Schönberg, 2009).

While similar factors have been linked to the decline of collective bargaining coverage in the US (Acemoglu, Aghion, and Violante, 2001; Farber and Western, 2002), the collapse of US unions was also partially driven by political and legislative changes (including growing employer hostility to unions, the rise of the shareholder value paradigm, and the spread of right-to-work laws). By contrast, in Germany, the basic consensus in favor of the industrial relations regime has remained solid since the 1950s. Moreover, although some of the changes since the 1990s were informally encouraged by the government (e.g., through the Joint Initiative for More Jobs in Eastern Germany mentioned in Footnote 6), they were not implemented

through legislative reforms.[12]

Looking Ahead The decline in German collective bargaining coverage shows no sign of abating, as coverage has kept dropping in each new cohort of firms (Card, Heining, and Kline, 2013). Growing inequality and the expansion of a nascent low-wage sector unconstrained by CBAs has motivated pushback against the erosion and decentralization of collective wage-setting. First, in 2015, following a successful union campaign, the government introduced Germany's first federal minimum wage. (Dustmann, Lindner, Schönberg, Umkehrer, and Vom Berge, 2022). Second, as mentioned above in Section 2.1.1, unions and employer associations lobbied successfully for a 2015 collective bargaining agreement "unity law", in an attempt to arrest the gradual fragmentation of bargaining in specific sectors. Third, political parties have declared intentions to mandate broader coverage. For instance, legislative extensions of bargaining agreements are on the table (SPD, 2017, 2021; CDU, 2021), and the 2021 *Gesundheitsversorgungsweiterentwicklungsgesetz* (Health Care Advancement Act) will restrict public payments to only those long-term care providers that pay wages compliant with collective agreements.

2.3 Effects on Labor Market Performance

What are the effects of German wage-setting institutions on employment levels and the wage structure? While causal estimates of these effects are scarce, we review and discuss the existing evidence that speaks to this question.

Aggregate Narratives Zooming out to the aggregate time series suggests that the erosion and decentralization of collective bargaining since the 1990s weakened an institution which had previously held up wages at the bottom, constrained wage inequality, and increased unemployment by restricting firm-level wage setting. Several patterns support this account. First, beginning in the 1990s, real wages have declined in the lower deciles of the German wage distribution (Dustmann, Ludsteck, and Schönberg, 2009). Second, earnings inequality has risen dramatically, with about 25 percent of the increase driven by growing heterogeneity in pay across firms (Card, Heining, and Kline, 2013).[13] Third, the German economy experienced a remarkable resurgence beginning in the mid-2000s, with the unemployment rate dropping from about 10 percent to below 5 percent, potentially due to increased competitiveness of manufacturing exporters thanks to lower real wages at the bottom of the distribution

[12]The closest German analogue to the Reagan/Thatcher reforms of the 1980s—the Hartz reforms of the early 2000s—focused on unemployment insurance, active labor market programs, and outsourcing.

[13]Hirsch and Mueller (2020) provide evidence that this increase in dispersion of firm pay premia is partially explained by declining bargaining coverage.

(Dustmann, Fitzenberger, Schönberg, and Spitz-Oener, 2014).[14]

One inherent limitation of this time series perspective is the presence of other contemporaneous trends, like globalization and skill-biased technological change. (In fact, the erosion of collective bargaining may itself have been an outcome of these forces; Acemoglu, Aghion, and Violante, 2001, .) Such time series narratives also tend to be quite flexible: in the 1950s-1980s, Germany's strong performance was attributed to the bright side of sectoral bargaining (Silvia, 1997), a narrative that flipped in the 1990s (Ochel, 2005; Schulten and Bispinck, 2018) and has been changing again following Germany's success since the late 2000s.

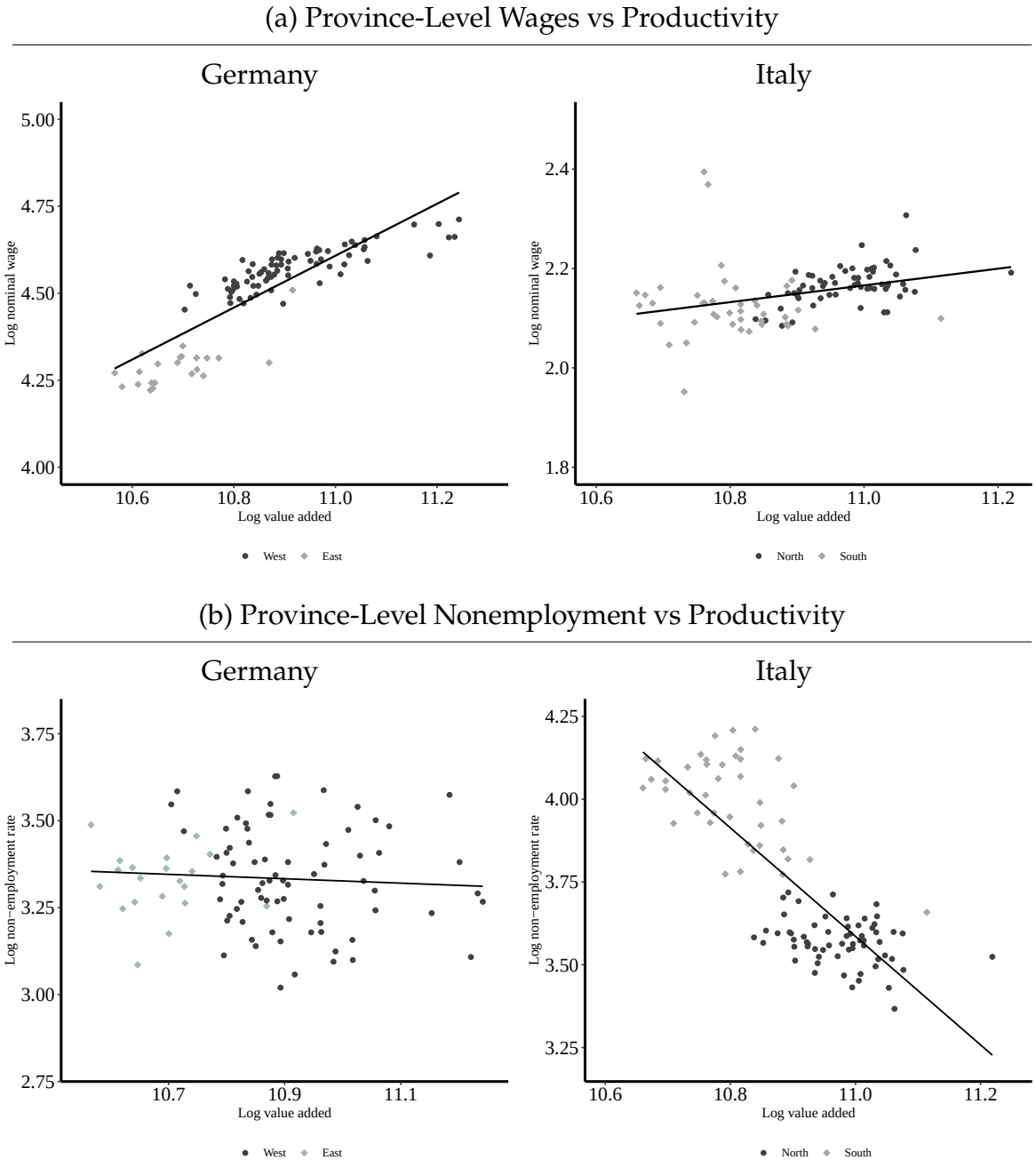
Cross-sectional international comparisons paint a picture similar to the time-series narrative. As reproduced in Figure 5, a striking figure by Boeri, Ichino, Moretti, and Posch (2021) shows that the German system—thanks to non-mandatory employer participation, the regionalization of sectoral bargaining, and the spread of opening clauses—allows wages to vary according to regional productivity and hence maintains high employment rates everywhere, even in lower-productivity areas, particularly East Germany. By contrast, the Italian system—which imposes uniform wage floors across all regions with limited local wage adjustments—largely delinks wages from regional productivity and hence depresses employment in low-productivity regions, such as Southern Italy. Again, these results are consistent with claims that the more rigid 20th-century German bargaining system compressed wages at the expense of elevated unemployment, and reforms to the bargaining system since the 1990s have resulted in greater wage dispersion but increased employment.

Firm-Level Evidence Firm-level evidence also suggests that the contemporary collective bargaining system slightly raises mean wages in covered firms, compresses within-firm wage distributions, and raises the average proportion of rents shared with workers (while reducing firm-level wage-setting discretion at the margin). More specifically, *uncontrolled* cross-sectional comparisons of firms covered and uncovered by sectoral bargaining indicate 10-30 percent higher average wages in covered firms (Dustmann and Schönberg, 2009; Addison, Teixeira, Evers, and Bellmann, 2016); however, controlling for worker and firm characteristics reduces this premium to about 2 percent (Hirsch and Mueller, 2020), with event studies of firms exiting and entering agreements suggesting a 3-4 percent premium (Addison, Teixeira, Evers, and Bellmann, 2014, 2016). Increases in profits or productivity are passed on to workers *less* so in covered firms (Gürtzgen, 2009), but wages conditional on (static) rents are higher (Hirsch and Mueller, 2020). Meanwhile, within-firm wage dispersion tends to be lower in covered firms (Dustmann and Schönberg, 2009), which also invest more in apprenticeship training (in line with theories of wage compression and training provision; Acemoglu and Pischke, 1999).

[14] An important alternative hypothesis for this resurgence points to the Hartz reforms of the early 2000s, which cut the generosity of unemployment benefits and reformed active labor market policies (see, e.g., Krebs and Scheffel, 2013; Price, 2018; Hartung, Jung, and Kuhn, 2018).

As coverage is largely voluntary in Germany, these firm-level comparisons need not only reflect the causal effect of coverage. Firms opting into collective agreements might pay high and compressed wages anyways. There is no existing source of identification mirroring the close union election regression discontinuity design in the US (DiNardo and Lee, 2004), or sharp policy variation as in Portugal (Hijzen and Martins, 2020). More broadly, even an ideal firm-level experiment would leave open the question of equilibrium effects of sectoral bargaining through market spillovers or norms and expectations about pay (as suggested by the phenomenon of "orientation" to CBA wages by uncovered firms, and see also Falk, Fehr, and Zehnder, 2006; Western and Rosenfeld, 2011).

Figure 5: Collective Bargaining Flexibility in Germany and Italy (reproduction from Boeri, Ichino, Moretti, and Posch, 2021)



Note: This figure reproduces Figures 4 and 6 of Boeri, Ichino, Moretti, and Posch (2021). Panels (a) and (b) show scatterplots (each dot representing a province) of mean log wages against mean log value added, separately for Germany and Italy. Panels (c) and (d) show province-level scatterplots of log nonemployment against mean log value added, again separately for Germany and Italy. The distinction between West/East Germany is analogous to the distinction between North/South Italy, in that the former region tends to be wealthier and more productive in each case. Data are from 2010.

2.4 The Effects on Industrial Relations

The collective bargaining system also plausibly contributes to Germany's remarkably harmonious industrial relations, which are built around the "social partnership" between union confederations and employer associations. It does so through two mechanisms.

First, sectoral bargaining elevates zero-sum bargaining over the division of rents to the higher level of industry-region negotiations, in contrast to the adversarial firm-level bargaining system in the US (Moene, Wallerstein, and Hoel, 1992). When negotiations do take place at the firm level in Germany (as under opening clauses), these negotiations still occur in the shadow of the industry-region agreements, as evidenced by the frequent requirement to submit deviations to the sectoral bargaining parties for approval, and by the increasing number of firms informally "orienting" their pay policies to collective bargaining agreements.

Second, employers' ability to opt in or out of collective bargaining coverage, and the decoupling of bargaining coverage from firm-level union membership, eliminates individual employers' incentives to crack down on union activity in the firm.

3 Codetermination

The second pillar of German industrial relations is codetermination (*Mitbestimmung*), which refers to the legally mandated integration of workers into corporate governance and decision-making. German codetermination comes in two forms: representation on corporate boards, and works councils. In the first form, workers elect representatives to company boards, thereby gaining a vote in major decisions and the appointment, supervision, and dismissal of top corporate management. Board representation is restricted to relatively large firms, and is mandatory in those firms. In the second form, workers elect establishment- and firm-level works councils tasked with participating in day-to-day managerial decision-making. Workers have a right to form works councils in all firms except the very smallest ones, meaning this second form of codetermination is more widespread. Corporate governance under codetermination contrasts with the American system of corporate governance, where boards are composed exclusively of shareholder representatives and executives, and day-to-day decision-making is purely in the hands of managers.

In this section, we describe how codetermination operates, illustrate its interaction with industry-level bargaining, review evidence on its effects, and connect it to the overall trends of erosion and decentralization in the German model.

3.1 Board Representation

Germany was the first country in the world to implement wide-scale board-level codetermination, with legal provisions for board-level representation going back to the Weimar Republic (Winkler, 1998). Following World War II, the institution in its modern form was introduced by the post-war British occupiers, who imposed "parity" codetermination requirements (50-50 shareholder-worker board representation) on firms in the iron, coal, and steel sectors, with the goal of breaking up the power of industry leaders who had helped drive both World Wars. Lobbying campaigns by German unions later led to the extension of the institution (in a substantially weaker form) to all sectors by legislation passed in 1952 and 1976 (for more historical background, see Jäger, Noy, and Schoefer, 2022a). Other European countries later followed suit; however, board-level codetermination remains uncommon internationally, with fewer than 20 countries featuring the institution today (Jäger, Noy, and Schoefer, 2022b).

Codetermination Laws In general, German firms with more than 500 employees must have worker representatives on their supervisory boards, alongside the regular shareholder representatives. A firm's *supervisory board* selects and oversees the firm's *executive board*, which is composed of senior executives and is tasked with day-to-day management. The supervisory board also participates in major decisions, such as decisions about large investments or significant changes to company operations.

Minority, Quasi-Parity, and Parity Representation There are three tiers of board-level codetermination requirements, applying to different groups of German firms (Jäger, Schoefer, and Heining, 2021; ETUI, 2021). First, under *minority representation*, firms with between 500 and 2,000 employees (and stock corporations incorporated before August 1994, regardless of size) must appoint worker representatives to 33 percent of the seats on their supervisory board. In these firms, the worker representatives are company employees directly elected by workers. Second, under *quasi-parity representation*, firms with more than 2,000 employees must appoint worker representatives to 50 percent of the seats on their supervisory board, though shareholder representatives receive the tie-breaking vote. In these firms, some worker representatives are elected company employees, others are external representatives of the union covering the company's workforce, and at least one is chosen by senior managers as a representative of their interests as employees. Finally, there exists true *parity representation*, where 50 percent of the seats go to workers, and shareholder representatives do *not* receive a tie-breaking vote (instead, a neutral chair, appointed by majorities of both the shareholder and worker representatives, holds the deciding vote). However, parity representation is limited to firms with more than 1,000 employees in the iron, coal, and steel sectors, as a political relic of the post-World War II arrangements.

International Perspective Quasi-parity and parity representation are unique to Germany, and are the strongest forms of board-level codetermination in the world; all other countries with board-level codetermination laws have implemented minority representation. Apart from this, the German board-level codetermination system is virtually identical to the systems present in many other European countries (Jäger, Noy, and Schoefer, 2022b).

Rights and Duties Worker representatives have the same rights and obligations as shareholder representatives, and can discuss and vote on any matter that comes before the supervisory board. In this way, workers have a direct voice in major strategic decisions. For example, in interviews, worker representatives describe lobbying for more generous pension plans, alerting shareholder representatives to job security and task duplication issues following a merger or acquisition, providing input on the construction of new company buildings, and pushing back against a focus on maximizing short-run returns (Gold, Kluge, and Conchon, 2010, p.74, 84, 85, 94). They also describe collaborating with works councils or union representatives, to coordinate messaging or to lobby for legislative changes (Gold, Kluge, and Conchon, 2010, p.76, 96, 97). Like shareholder representatives, worker representatives have a fiduciary duty to the company (rather than to workers), which leads to occasional tensions (see, e.g., Gold, Kluge, and Conchon, 2010, p.76, 77, 84).

Labor in the Boardroom Anecdotally, the relationships between worker and shareholder representatives on supervisory boards are friendly and collaborative. Most German executives are broadly supportive of board-level codetermination laws (Paster, 2012), with some evidence that minority codetermination is viewed more favorably and quasi-parity codetermination is more likely to be opposed (Stettes, 2007). Shareholder representatives appreciate the insights into workers' preferences and company operations provided by worker representatives (Gold, Kluge, and Conchon, 2010, p.93). Votes on supervisory boards are usually unanimous (Gold, Kluge, and Conchon, 2010). Since worker representatives on their own cannot outvote shareholder majorities and recognize the importance of maintaining friendly and cooperative relationships, they are usually acquiescent and recognize the limits of their influence (see, for instance, Gold, Kluge, and Conchon, 2010, p.74, 82).

The Effects of Board-Level Codetermination The available quasi-experimental evidence suggests limited causal effects of board-level worker representation on, e.g., wage-setting or investment, perhaps consistent with the limited power held by worker representatives owing to their minority vote share (Jäger, Schoefer, and Heining, 2021). A large literature using cross-sectional comparisons or simple regression-discontinuity designs similarly finds mixed effects (Conchon, 2011). Firms also do not appear to bunch below the relevant size thresholds to avoid codetermination requirements (Jäger, Noy, and Schoefer, 2022b), providing

revealed-preference evidence that the institution does not harm firm performance enough to lead firms to distort their size to evade it.

According to anecdotal reports, board-level representatives may complement unions' and works councils' activities, e.g., by sharing information gained from board meetings. Board-level codetermination has also been hypothesized to contribute to the environment of cooperation and social partnership that characterizes German industrial relations (Thelen, 2014, more on this below).

Board-Level Codetermination and the Erosion of the German Model Setting aside a reform in 1994 (Jäger, Schoefer, and Heining, 2021), board-level codetermination laws have remained largely untouched since the last major reform in 1976. There are no reliable statistics on the coverage of the institution, so it is difficult to tell whether it has experienced a decline in coverage over the past 30 years analogous to the decline experienced by collective bargaining agreements and works councils. There is anecdotal evidence of increasing attempts by large firms to evade board-level codetermination requirements through legal restructuring or by simply ignoring the mandates, suggesting that the gradual erosion of the German model may be affecting board-level representation as well (Sick, 2020).

3.2 Works Councils

Works councils—the second facet of German codetermination—are committees of representatives elected by workers who have rights to participate in a variety of managerial decisions. They typically are a form of lower-level, "shop-floor" codetermination that complements board-level codetermination, although firms with multiple works councils across establishments also have a firm-level works council (*Gesamtbetriebsrat*). German works councils possess broader and stronger co-decision-making rights compared to board-level representatives—who, as we have noted, lack formal power due to their minority share on boards—and compared to other European countries' often anemic shop-floor codetermination institutions (Jäger, Noy, and Schoefer, 2022b). The German works council system dates back more than a century, to the Stinnes-Legien Agreement of 1918 and the Works Council Act of 1920.

Codetermination Laws German law gives workers in any establishment with at least 5 employees the *right* (but not a requirement) to form a works council. If a works council is set up, the number of representatives on the council scales with the establishment's size, ranging from one in establishments with 5-20 workers to fifteen in establishments with 1,001-1,500 workers (ETUI, 2021). There are quotas for gender representation on councils. Responsibilities also scale with establishment size. In larger establishments, the works council sets up various subsidiary committees: a health and safety committee (in establishments with more than 50

workers), an economic committee (more than 100 workers) that scrutinizes company financials and is consulted on related matters, and a works committee (more than 200 workers) that deals with day-to-day managerial issues. Additionally, in these larger establishments, some works council members are allowed to perform their duties full-time.

Coverage Almost 40 percent of German workers are covered by a works council (Ellguth and Kohaut, 2020). These tend to be at larger establishments. As Figure 2 shows, these coverage numbers represent a moderate decline since the early 1990s, when about 50 percent of workers were covered by a works council (more on this below).

Powers Works councils have a spectrum of powers in various areas (ETUI, 2021). At the weaker end, they have various information and consultation rights: a right to be kept informed about the company's financial situation and a right to be consulted about planned changes that might affect workers, including changes to work methods, training, and health and safety procedures—though the employer usually has no obligation to follow their advice. At the stronger end, works councils can veto transfers, dismissals, or appointments of employees if they can show that the employer has acted unfairly or violated an existing agreement. Employers can appeal to a labor court to override the veto. At the very strongest end, works councils have full co-decision-making rights regarding working hours, vacations, workplace monitoring, bonuses and payment schemes, redundancy payments, and workplace amenities. In these areas, decisions must be jointly reached and approved by the employer and the works council, with both sides having the power to initiate proposals. However, works councils cannot initiate strikes. Disagreements are adjudicated by a conciliation committee (consisting of worker and employer representatives and chaired by a neutral arbiter who holds the deciding vote). Works councils are also responsible for the increasingly important job of negotiating over firm-level deviations from CBA requirements.

International Perspective These powers make German works councils among the strongest shop-floor codetermination institutions in the world, along with Swedish and Norwegian firm-level union representatives. While many other countries have shop-floor codetermination institutions, these institutions tend to grant workers narrow information, consultation, and arbitration rights, in contrast to the sweeping co-decision-making powers held by German works councils (Jäger, Noy, and Schoefer, 2022b).

Works Councils and Unions Although works councils were originally conceived as local representatives of industry-level trade unions, German law now maintains a clear legal separation between the two institutions (dating back to reforms in the 1950s aimed at weakening unions; Jäger, Noy, and Schoefer, 2022a). However, in practice, works council

members frequently occupy leadership positions in unions, and unions are closely involved in the procedures to set up works councils. Works council elections even frequently feature political-party-style union lists, and councils engage in membership drives for unions (Behrens, 2009). Councils are additionally formally tasked with monitoring compliance with collective bargaining agreements and employment regulations (§80 Works Council Act), and engage in negotiations under opening clauses.

The Effects of Works Councils A long empirical literature compares firms and establishments with and without works councils, with the common finding that works councils are associated with slightly higher wages and productivity and more compressed wage distributions (Addison, 2009; Jirjahn and Smith, 2018; Adam, 2019; Hirsch and Mueller, 2020; Schnabel, 2020). However, the voluntary nature of works council coverage, the low employment threshold for workers' right to demand one, and an absence of compelling natural experiments makes causal inference difficult. In general, it is plausible that works councils are more directly impactful than board-level codetermination, given that councilors are allocated a variety of direct decision-making powers that board-level representatives lack, and interact more often with workers (at the shop floor). But due to a lack of sharp and exogenous variation, the effects of works councils on worker and firm outcomes remain an open research question.

Works Councils and the Erosion of the German Model Works councils have played a dual role in the changes to German industrial relations since the 1990s. On the one hand, works councils have facilitated the partial decentralization of collective bargaining to the firm level, specifically the utilization of opening clauses. The associated negotiations under opening clauses have blurred the boundaries between cooperative codetermination and adversarial bargaining, and shifted Germany somewhat closer to the Nordic model, where establishment-level union representatives hold both codetermination and bargaining rights.

On the other hand, works councils have themselves been victims of the decline in collective institutions over the past three decades, as Figure 2 shows. The decline in coverage has been concentrated in medium-sized firms, and, perhaps surprisingly, appears evident in all sectors (Addison, Teixeira, Pahnke, and Bellmann, 2017). The causes of the decline are not well-understood; one hypothesis is that it is part of a generalized decline in worker mobilization and the power of unions and an increased willingness by managers and employers to avoid collective worker institutions.

3.3 Codetermination and Industrial Relations

A longstanding hypothesis holds that Germany's codetermination institutions are partially responsible for its unusually harmonious industrial relations and culture of "social partner-

ship" (see, e.g., Thelen, 1991). By providing systematic opportunities for cooperation and conversation between employers and workers at the firm level while adversarial bargaining is outsourced to the sectoral level, codetermination might provide the foundations for friendlier partnership between firms and workers (Freeman and Lazear, 1995). We do not know of compelling tests of this hypothesis. In cross country event studies, (Jäger, Noy, and Schoefer, 2022b) find no evidence that codetermination reforms in European countries are associated with subsequent improvements in industrial relations, but have wide confidence intervals and only study incremental shifts in this single institution.

4 Conclusion

Overall, the contemporary German model shows that powerful unions, a relatively robust collective bargaining system, and involvement of workers in corporate decision making are compatible with friendly and peaceful industrial relations and with the avoidance of distortionary pitfalls thought to be associated with strong labor power. Several features of the model may underlie these outcomes: (i) the outsourcing of most distributional conflicts to the industry-region (rather than firm) level; (ii) the decoupling of bargaining coverage from workers' unionization status, which reduces employers' incentives to oppose unionization; and (iii) the institutionalization of worker-management cooperation through codetermination. The result has been a long history of unusually harmonious industrial relations stretching back to the 1950s. Meanwhile, the (increasing) ease of nonparticipation in collective bargaining, the proliferation of opening clauses and other flexibility provisions, and the regionalization of bargaining mean that the contemporary German system seems much less likely to reduce employment, exclude potential labor market entrants, or slow down growth than sectoral bargaining systems in peer countries with more comprehensive and stricter coverage rules.

At the same time, the increasing flexibility of the German system means that Germany is no longer a poster child for strong sectoral bargaining, a policy that has been explored by US legislators. Bargaining coverage in Germany is middling, and decreasing. The flexibility to which Germany's strong macroeconomic performance is often attributed involves the omission of large segments of the labor market from bargaining coverage. Germany is now starting to face many of the challenges that its historically more rigid industrial relations system used to suppress: significant increases in earnings inequality, the spread of precarious work, and the gradual expansion of a low-wage sector that is now larger than the OECD average (though still 25 percent smaller than in the US).

Frustration with these developments has led to the introduction of a more rigid national minimum wage, and louder calls to strengthen both pillars of worker representation. The new, center-left-led government has proposed to extend collective bargaining coverage to

more employers, e.g., by formally extending more CBAs and by making public procurement contingent on compliance with the relevant collective bargaining agreement (Koalitionsvertrag, 2021). Members of the governing coalition also plan to make it easier to prosecute employers who (illegally) oppose works council elections, to facilitate works councils for gig and platform workers, and to close loopholes that allow evasion of board-level codetermination (Koalitionsvertrag, 2021; Handelsblatt, 2022).

More broadly, the German model of industrial relations will continue to evolve as fault lines that opened up in the 2000s continue to widen. The model will also shape and be shaped by new challenges. For instance, in response to the pandemic, collective bargaining agreements have started to include remote work provisions. "Crisis summits" between the bargaining partners and the government have discussed responses to high inflation and an energy crisis precipitated by the Russian invasion of Ukraine and gradual decarbonization of the economy (Bloomberg, 2022a; Deutsche Welle, 2022).

Bibliography

Acemoglu, Daron, Philippe Aghion, and Giovanni Violante. 2001. "Deunionization, Technical Change, and Inequality." *Carnegie-Rochester Conference Series on Public Policy* 55.

Acemoglu, Daron and Jörn-Steffen Pischke. 1999. "The Structure of Wages and Investment in General Training." *Journal of Political economy* 107 (3):539–572.

Acemoglu, Daron and Pascual Restrepo. 2020. "Robots and Jobs: Evidence from US Labor Markets." *Journal of Political Economy* 128 (6):2188–2244.

Adam, Julian. 2019. "Voluntary Quits: Do Works Councils Matter? An Analysis of the Reform of the German Works Constitution Act 2001." *Jahrbücher für Nationalökonomie und Statistik* 239 (1).

Addison, John. 2009. *The Economics of Codetermination: Lessons from the German Experience*. Palgrave Macmillan.

Addison, John, Paulino Teixeira, Katalin Evers, and Lutz Bellmann. 2014. "Indicative and Updated Estimates of the Collective Bargaining Premium in Germany." .

Addison, John, Paulino Teixeira, André Pahnke, and Lutz Bellmann. 2017. "The Demise of a Model? The State of Collective Bargaining and Worker Representation in Germany." *Economic and Industrial Democracy* 38 (2):193–234.

Addison, John T, Paulino Teixeira, Katalin Evers, and Lutz Bellmann. 2016. "Is the Erosion Thesis Overblown? Alignment from Without in Germany." *Industrial Relations: A Journal of Economy and Society* 55 (3):415–443.

Amlinger, Marc and Reinhard Bispinck. 2015. "Dezentralisierung der Tarifpolitik." *WSI-Mitteilungen* .

Autor, David, David Dorn, and Gordon Hanson. 2013. "The China Syndrome: Local Labor Market Effects of Import Competition in the United States." *American Economic Review* 103 (6):2121–2168.

Autor, David H. 2014. "Skills, Education, and the Rise of Earnings Inequality Among the "Other 99 Percent"." *Science* 344 (6186):843–851.

BBC. 2012. "German Economic Strength: The Secrets of Success." 'https://www.bbc.com/news/business-18868704' accessed April-04-2022.

BDA. 2021. "Die Arbeitgeber Zur 20. Legislaturperiode." 'https://arbeitgeber.de/newsroom/wirtschaft-sind-wir-alle/' accessed April-04-2022.

BDI. 2021. "Wahlprogramm-Check zur Bundestagswahl 2021." 'https://bdi.eu/#/publikation/news/wahlprogramm-check-zur-bundestagswahl-2021-investitionen-klimaschutz-innovationen-digitalisierung/' accessed April-04-2022.

Behrens, Martin. 2009. "Still Married after All These Years? Union Organizing and the Role of Works Councils in German Industrial Relations." *ILR Review* 62 (3):275–293.

———. 2016. *Developments in German Industrial Relations*, chap. Employment Relations in Germany. Cambridge Scholars Publishing.

Behrens, Martin and Markus Helfen. 2016. "Sachzwang oder Programm? Tarifpolitische Orientierungen und OT-Mitgliedschaft bei deutschen Arbeitgeberverbänden." *WSI-Mitteilungen* 69 (6):452–459.

Bispinck, Reinhard and Thorsten Schulten. 2010. "Sector-Level Bargaining and Possibilities for Deviations at Company-Level: The Case of Germany." *Paper for the Eurofound Project:"The functioning of sector level wage bargaining systems and wage setting mechanisms in adverse labour market conditions", May* .

Bloomberg. 2022a. "Germany's Union Head Warns of Collapse of Entire Industries." 'https://www.bloomberg.com/news/articles/2022-07-03/germany-s-union-head-warns-of-collapse-of-entire-industries' accessed July-19-2022.

———. 2022b. "Tesla's German Hiring Hitting Roadblocks Over Wages, Union Says." 'https://www.bloomberg.com/news/articles/2022-06-20/tesla-s-german-hiring-hitting-roadblocks-over-wages-union-says' accessed June-30-2022.

BLS. 2022. "Union Members—2021." 'https://www.bls.gov/news.release/pdf/union2.pdf' accessed March-02-2022.

Boeri, Tito, Andrea Ichino, Enrico Moretti, and Johanna Posch. 2021. "Wage Equalization and Regional Misallocation: Evidence from Italian and German Provinces." *Journal of the European Economic Association* 19 (6):3249–3292.

Bundesvereinigung der Deutschen Arbeitgeberverbände. 2022. "Mitglieder." URL https://arbeitgeber.de/en/mitglieder/.

Burda, Michael and Jennifer Hunt. 2011. "What Explains the German Labor Market Miracle in the Great Recession?" *NBER Working Paper* .

Business Insider. 2022. "Germany's biggest auto union questions Elon Musk's authority to give a return-to-office ultimatum: 'An employer cannot dictate the rules just as he

likes'." 'https://www.businessinsider.com/tesla-german-union-elon-musk-return-to-office-remote-workers-2022-6' accessed June-30-2022.

Card, David, Jörg Heining, and Patrick Kline. 2013. "Workplace Heterogeneity and the Rise of West German Wage Inequality." *The Quarterly Journal of Economics* 128 (3):967–1015.

CDU. 2021. "Alle Wahlprogramme für die Bundestagswahl 2021." 'https://www.bundestagswahl-2021.de/wahlprogramme/#cdu' accessed March-02-2022.

Chancel, Lucas, Thomas Piketty, Emmanuel Saez, and Gabriel Zucman. 2022. "World Inequality Report 2022." 'https://wir2022.wid.world/www-site/uploads/2022/03/0098-21_WIL_RIM_RAPPORT_A4.pdf' accessed April-04-2022.

Conchon, Aline. 2011. "Board-Level Employee Representation Rights in Europe: Facts and Trends." *European Trade Union Institute Report 121* .

Dauth, Wolfgang, Sebastian Findeisen, and Jens Suedekum. 2014. "The Rise of the East and the Far East: German Labor Markets and Trade Integration." *Journal of the European Economic Association* 12 (6):1643–1675.

Dauth, Wolfgang, Sebastian Findeisen, Jens Suedekum, and Nicole Woessner. 2021. "The Adjustment of Labor Markets to Robots." *Journal of the European Economic Association* 19 (6):3104–3153.

Der Spiegel. 2022. "Unterschiedliche Löhne bei Tesla in Grünheide sorgen für Unruhe in der Belegschaft." 'https://www.spiegel.de/wirtschaft/unterschiedliche-loehne-bei-tesla-in-gruenheide-sorgen-fuer-unruhe-in-der-belegschaft-a-3eb597dd-87c5-4f4e-a4d5-8fb17e7ebde0?sara_ecid=soci_upd_KsBF0AFjflf0DZCxpPYDCQgO1dEMph' accessed June-30-2022.

Deutsche Welle. 2022. "Inflation: Germany seeks to defuse social 'time bomb'." 'https://www.dw.com/en/inflation-germany-seeks-to-defuse-social-time-bomb/a-62353060' accessed July-10-2022.

DiNardo, John and David Lee. 2004. "Economic Impacts of New Unionization on Private Sector Employers: 1984-2001." *Quarterly Journal of Economics* 119 (4):1383–1441.

Dustmann, Christian, Bernd Fitzenberger, Uta Schönberg, and Alexandra Spitz-Oener. 2014. "From Sick Man of Europe to Economic Superstar: Germany's Resurgent Economy." *Journal of Economic Perspectives* 28 (1):167–88.

Dustmann, Christian, Attila Lindner, Uta Schönberg, Matthias Umkehrer, and Philipp Vom Berge. 2022. "Reallocation Effects of the Minimum Wage." *The Quarterly Journal of Economics* 137 (1):267–328.

Dustmann, Christian, Johannes Ludsteck, and Uta Schönberg. 2009. "Revisiting the German Wage Structure." *The Quarterly Journal of Economics* 124 (2):843–881.

Dustmann, Christian and Uta Schönberg. 2009. "Training and Union Wages." *The Review of Economics and Statistics* 91 (2):363–376.

Ellguth, Peter and Susanne Kohaut. 2020. "Tarifbindung und betriebliche Interessenvertretung: Aktuelle Ergebnisse aus dem IAB-Betriebspanel 2019." *WSI-Mitteilungen* 73 (4):278–285.

ETUI. 2021. "National Industrial Relations: Countries." 'https://www.worker-participation.eu/National-Industrial-Relations/Countries' accessed March-02-2022.

Eurofound. 1997. "Tripartite Agreement on Employment Alliance for Eastern Germany." 'https://www.eurofound.europa.eu/fr/publications/article/1997/tripartite-agreement-on-employment-alliance-for-eastern-germany-0' accessed July-10-2022.

Falk, Armin, Ernst Fehr, and Christian Zehnder. 2006. "Fairness Perceptions and Reservation Wages—the Behavioral Effects of Minimum Wage Laws." *The Quarterly Journal of Economics* 121 (4):1347–1381.

Farber, Henry, Daniel Herbst, Ilyana Kuziemko, and Suresh Naidu. 2021. "Unions and Inequality Over the Twentieth Century: New Evidence from Survey Data." *Quarterly Journal of Economics* 136 (3):1325–1385.

Farber, Henry and Bruce Western. 2002. *The Future of Private Sector Unionism in the United States*, chap. Accounting for the Decline of Unions in the Private Sector, 1973-1998. M.E. Sharpe.

Frandsen, Brigham. 2021. "The Surprising Impacts of Unionization: Evidence from Matched Employer-Employee Data." *Journal of Labor Economics* 39 (4).

Freeman, Richard and Edward Lazear. 1995. "An Economic Analysis of Works Councils." In *Works Councils: Consultation, Representation, Cooperation in Industrial Relations*, edited by Joel Rogers and Wolfgang Streeck. NBER Comparative Labor Markets Series.

Gewerkschaftsbund. 2021. "Mitgliederzahlen 2021." 'https://www.dgb.de/uber-uns/dgb-heute/mitgliederzahlen/2020-2029,citeproperly' accessed March-02-2022.

Gold, Michael, Norbert Kluge, and Aline Conchon. 2010. *'In the Union and on the Board': Experiences of Board-Level Employee Representatives across Europe*. European Trade Union Institute.

Goldschmidt, Deborah and Johannes F Schmieder. 2017. "The Rise of Domestic Outsourcing and the Evolution of the German Wage Structure." *The Quarterly Journal of Economics* 132 (3):1165–1217.

Gürtzgen, Nicole. 2009. "Rent Sharing and Collective Bargaining Coverage: Evidence from Linked Employer-Employee Data." *The Scandinavian Journal of Economics* 111 (2).

Handelsblatt. 2022. "Arbeitsminister Heil will Bundesaufträge nur noch an Unternehmen mit Tarifvertrag vergeben." 'https://www.handelsblatt.com/politik/deutschland/arbeitsmarkt-arbeitsminister-heil-will-bundesauftraege-nur-noch-an-unternehmen-mit-tarifvertrag-vergeben/27998704.html' accessed April-04-2022.

Harlin, Julia. 1982. "First National Maintenance Corp. V. NLRB: The Supreme Court Narrows Employers' Section 8(A)(5) Duty to Bargain." *Washington and Lee Law Review* 39 (1):285–302.

Hartung, Benjamin, Philip Jung, and Moritz Kuhn. 2018. "What Hides behind the German labor Market Miracle? Unemployment Insurance Reforms and Labor Market Dynamics." *Unemployment Insurance Reforms and Labor Market Dynamics (November 2018)* .

Hassel, Anke. 1999. "The Erosion of the German System of Industrial Relations." *British Journal of Industrial Relations* 37 (3):483–505.

Haucap, Justus, Uwe Pauly, and Christian Wey. 1999. "The Incentives of Employers' Associations to Raise Rivals' Costs in the Presence of Collective Bargaining." *WZB Discussion Paper* .

Hertel-Fernandez, Alex, William Kimball, and Thomas Kochan. 2022. "What Forms of Representation Do American Workers Want? Implications for Theory, Policy, and Practice." *ILR Review* 75 (2).

Hijzen, Alexander and Pedro Martins. 2020. "No Extension Without Representation? Evidence from a Natural Experiment in Collective Bargaining." *IZA Journal of Labor Economics* 9 (1).

Hirsch, Boris and Steffen Mueller. 2020. "Firm Wage Premia, Industrial Relations, and Wage Sharing in Germany." *ILR Review* 73 (5):1119–1146.

IFR. 2017. *World Robotics 2017: Industrial Robots*. International Federation of Robotics, VDMA.

IG Metall Bezirk Baden-Württemberg. 2021. "Entgeltrahmen-Tarifvertrag für Beschäftigte der Metall- und Elektroindustrie in Baden-Württemberg." 'https://www.bw.igm.de/tarife/tarifvertrag.html?id=696' accessed March-02-2022.

Jäger, Simon, Shakked Noy, and Benjamin Schoefer. 2022a. "Codetermination and Power in the Workplace." *Economic Policy Institute Working Paper* .

———. 2022b. "What Does Codetermination Do?" *ILR Review* 75 (5):857–890.

Jäger, Simon, Benjamin Schoefer, and Jörg Heining. 2021. "Labor in the Boardroom." *Quarterly Journal of Economics* 136 (2):669–725.

Jirjahn, Uwe and Stephen Smith. 2018. "Nonunion Employee Representation: Theory and the German Experience With Mandated Works Councils." *Annals of Public and Cooperative Economics* 89 (1):201–233.

Karabarbounis, Loukas and Brent Neiman. 2014. "The Global Decline of the Labor Share." *Quarterly Journal of Economics* 129 (1):61–103.

Koalitionsvertrag. 2021. "Koalitionsvertrag 2021 – 2025 zwischen der Sozialdemokratischen Partei Deutschlands (SPD), BÜNDNIS 90 / DIE GRÜNEN und den Freien Demokraten (FDP)." URL https://www.spd.de/fileadmin/Dokumente/Koalitionsvertrag/Koalitionsvertrag_2021-2025.pdf.

Krebs, Tom and Martin Scheffel. 2013. "Macroeconomic Evaluation of Labor Market Reform in Germany." *IMF Economic Review* 61 (4):664–701.

Kügler, Alice, Uta Schönberg, and Ragnhild Schreiner. 2018. "Productivity Growth, Wage Growth and Unions." In *Price and Wage-Setting in Advanced Economies*, vol. 2018. ECB, 215–247.

Lee, David and Alexandre Mas. 2012. "Long-Run Impacts of Unions on Firms: New Evidence from Financial Markets, 1961-1999." *Quarterly Journal of Economics* 127 (1):333–378.

Lepinski, Franz. 1959. "The German Trade Union Movement." *International Labour Review* 79 (1).

Lesch, Hagen. 2009. "Erfassung und Entwicklung von Streiks in OECD-Ländern." *Institut der deutschen Wirtschaft Trends* .

Moene, Karl Ove, Michael Wallerstein, and Michael Hoel. 1992. *Bargaining structure and economic performance*. Oslo University Department of Economics.

Müller, Torsten and Thorsten Schulten. 2019. "Germany: parallel universes of collective bargaining." *Collective bargaining in Europe: towards an endgame* :239.

Oberfichtner, Michael and Claus Schnabel. 2018. "The German Model of Industrial Relations: (Where) Does It Still Exist?" *Jahrbücher für Nationalökonomie und Statistik* 239 (1):5–37.

Ochel, Wolfgang. 2005. "Decentralising Wage Bargaining in Germany—A Way to Increase Employment?" *CESifo Working Paper* .

OECD. 2019. "Negotiating Our Way Up: Collective Bargaining in a Changing World of Work." 'https://www.oecd-ilibrary.org/employment/negotiating-our-way-up_1fd2da34-en;jsessionid=yH7TXrmEztb1qQSRY5GIpUjU.ip-10-240-5-158' accessed April-04-2022.

———. 2022a. "Average wages (indicator)." 'https://doi.org/10.1787/cc3e1387-en' accessed April-04-2022.

———. 2022b. "Employee compensation by activity (indicator)." 'https://doi.org/10.1787/7af78603-en' accessed April-04-2022.

———. 2022c. "GDP per hour worked (indicator)." 'https://doi.org/10.1787/1439e590-en' accessed April-04-2022.

———. 2022d. "Hours worked (indicator)." 'https://doi.org/10.1787/47be1c78-en' accessed April-04-2022.

———. 2022e. "Labour force participation rate (indicator)." 'https://doi.org/10.1787/8a801325-en' accessed April-04-2022.

———. 2022f. "Unemployment rate (indicator)." 'https://doi.org/10.1787/52570002-en' accessed April-04-2022.

———. 2022g. "Value added by activity (indicator)." 'https://doi.org/10.1787/a8b2bd2b-en' accessed April-04-2022.

———. 2022h. "Wage levels (indicator)." 'https://doi.org/10.1787/0a1c27bc-en' accessed April-04-2022.

Paster, Thomas. 2012. "Do German Employers Support Board-Level Codetermination? The Paradox of Individual Support and Collective Opposition." *Socio-Economic Review* 10 (3):471–495.

Price, Brendan. 2018. "The Duration and Wage Effects of Long-term Unemployment Benefits: Evidence from Germany's Hartz IV Reform." *Working Paper* .

Raess, Damian. 2014. "Export Dependence and Institutional Change in Wage Bargaining in Germany." *International Studies Quarterly* 58 (2):282–294.

Rehder, Britta. 2003. *Betriebliche Bündnisse für Arbeit in Deutschland: Mitbestimmung und Flächentarif im Wandel*. Campus Verlag.

Schnabel, Claus. 2020. "Betriebliche Mitbestimmung in Deutschland: Verbreitung, Auswirkungen und Implikationen (Translation: "Workplace participation in Germany: distribution, effects and implications")." *Perspektiven der Wirtschaftspolitik* 21 (4).

Schulten, Thorsten, Götz Bauer, Marion Frömming, Rosemarie Pulfrich, Andrea Taube, Monika Wollensack, and Jasmina Ziouziou. 2021. *2021 Tarifpolitik - Statistisches Taschenbuch*.

Schulten, Thorsten and Reinhard Bispinck. 2018. *Multi-Employer Bargaining Under Pressure: Decentralisation Trends in Five European Countries*, chap. Varieties of Decentralisation in German Collective Bargaining. European Trade Union Institute.

Seifert, Hartmut and Heiko Massa-Wirth. 2005. "Pacts for Employment and Competitiveness in Germany." *Industrial Relations Journal* 36 (3):217–240.

Sick, Sebastian. 2020. "Erosion Als Herausforderung Für Die Unternehmensmitbestimmung." 'https://www.mitbestimmung.de/html/erosion-als-herausforderung-fur-die-14188.html' accessed July-10-2022.

Silvia, Stephen. 1997. "German Unification and Emerging Divisions within German Employers' Associations: Cause or Catalyst?" *Comparative Politics* 29 (2):187–208.

———. 2013. *Holding the Shop Together: German Industrial Relations in the Postwar Era*. Cornell University Press.

Silvia, Stephen J and Wolfgang Schroeder. 2007. "Why are German Employers Associations Declining? Arguments and Evidence." *Comparative Political Studies* 40 (12):1433–1459.

SPD. 2017. "Zeit für mehr Gerechtigkeit: Unser Regierungsprogramm für Deutschland." 'http://library.fes.de/pdf-files/bibliothek/downl/zeit_fuer_mehr_gerechtigkeit-unser_regierungsprogramm.pdf' accessed March-02-2022.

———. 2021. "The SPD's Programme for the Future." 'https://www.spd.de/fileadmin/Dokumente/Regierungsprogramm/202105_Zukunftsprogramm_EN.pdf' accessed March-02-2022.

Stansbury, Anna and Lawrence Summers. 2020. "The Declining Worker Power Hypothesis: An Explanation for the Recent Evolution of the American Economy." *NBER Working Paper* .

Stettes, Oliver. 2007. "Die Arbeitnehmermitbestimmung im Aufsichtsrat: Ergebnisse einer Unternehmensbefragung." *IW-Trends-Vierteljahresschrift zur empirischen Wirtschaftsforschung* 34 (1):17–30.

Strine Jr., Leo, Aneil Kovvali, and Oluwatomi Williams. 2021. "Lifting Labor's Voice: A Principled Path Toward Greater Worker Voice And Power Within American Corporate Governance." *Faculty Scholarship at Penn Law* .

The Economist. 2017. "The Good and Bad in Germany's Economic Model Are Strongly Linked." 'https://www.economist.com/briefing/2017/07/08/the-good-and-bad-in-germanys-economic-model-are-strongly-linked' accessed April-04-2022.

———. 2020. "Most of the World Has Yet to Embrace Codetermination." 'https://www.economist.com/business/2020/02/01/most-of-the-world-has-yet-to-embrace-co-determination' accessed April-04-2022.

Thelen, Kathleen Ann. 1991. *Union of Parts: Labor Politics in Postwar Germany*. Cornell University Press.

———. 2014. *Varieties of Liberalization and the New Politics of Social Solidarity*. Cambridge University Press.

Umkehrer, Matthias. 2017. "Combining the Waves of the IAB Establishment Panel: A Do-File for the Basic Data Preparation of a Panel Data Set in Stata." *FDZ-Methodenreport* .

Visser, Jelle. 2021. "OECD/AIAS ICTWSS Database: Detailed Note on Definitions, Measurement, and Sources." *OECD* .

Vox. 2019a. "The Boldest and Weakest Labor Platforms of the 2020 Democratic Primary." 'https://www.vox.com/2019/9/5/20847614/democratic-debate-candidate-labor-platforms' accessed April-04-2022.

———. 2019b. ""Unions for All": The New Plan to Save the American Labor Movement." 'https://www.vox.com/policy-and-politics/2019/9/2/20838782/unions-for-all-seiu-sectoral-bargaining-labor-unions' accessed April-04-2022.

Wang, Sean and Samuel Young. 2022. "Unionization, Employer Opposition, and Establishment Closure." *MIT Working Paper* .

Weil, David. 2014. *The Fissured Workplace*. Harvard University Press.

Western, Bruce and Jake Rosenfeld. 2011. "Unions, Norms, and the Rise in US Wage Inequality." *American Sociological Review* 76 (4):513–537.

Winkler, Heinrich August. 1998. *Weimar 1918-1933: Die Geschichte der ersten deutschen Demokratie*. C.H. Beck.

Wochenblatt-Online. 2020. "RAFI und IG Metall einigen sich auf neuen Anerkennungstarifvertrag (ATV)." 'https://wochenblatt-online.de/rafi-und-ig-metall-einigen-sich-auf-neuen-anerkennungstarifvertrag-atv/' accessed March-02-2022.