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Germany

Adjustments of an Export-Led Growth Regime

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1. Introduction

Germany's growth regime is characterized by a strong export orientation. Export-led growth has been driven primarily by the export of manufactured goods (Baccaro and Pontusson 2016; Hassel 2017; Hassel and Palier 2021; Baccaro and Höpner 2022; Hassel and Palier, Chapter 1 of this volume).[1] Hassel and Palier (2021) posit that growth strategies imply welfare state reforms aimed at supporting a given growth regime. In the case of export-led growth regimes, wage restraint and the selected protection of workers in the core manufacturing sector have helped to fuel further export specialization while maintaining favorable terms of trade, generating a high current account surplus. Dualism is therefore expected to be the preferred strategy by the government to foster export-led growth based on manufacturing goods (Hassel and Palier 2021). On the one hand, the necessity to remain competitive in global markets induces organized interests in core sectors to advocate for moderate unit labor costs (ULC) growth across the economy. On the other, powerful manufacturing firms support liberalizing reforms at the margins of the labor market, which put severe downward pressures on wages and social contributions, thus contributing to the competitiveness of the country's real exchange rate (REER) and service sector employment. As a result, wage restraint and complementary labor market reforms protect labor market insiders but penalize outsiders while contributing to the overall competitiveness of the economic system (Palier and Thelen 2010; Hassel 2014).

In line with the book's overall approach, this chapter analyzes the institutional foundations of Germany's export-oriented growth regime and investigates the role of government policy in the pursuit of an export-oriented growth strategy, particularly concerning the reform trajectory of Germany's welfare state. We start by briefly summarizing the characteristics of the German growth and welfare regime

[1] Next to a manufacturing-based model, Hassel and Palier have identified two other types of export-led regimes: one based on high-quality services (the Nordic countries) and one based on foreign direct investment (Eastern Europe and Ireland) (Regan and Brazys 2018; Reurink and Garcia-Bernardo 2020).

as it has been depicted in the literature. We then investigate policy responses to two crucial critical junctures that have shaped Germany's political economy.

The first and most important period, set in motion by the reunification, covers the period between 1990 and 2007. This period is characterized by governments' efforts to cope with the reunification's fiscal legacy and an economic depression engineered by the Bundesbank's hard monetary policy stance in the early 1990s. During this period, governments' reforms aimed at supporting the export sector via labor markets' dualization and welfare state reforms. The second period begins with the financial crisis in 2007 and until 2019. This period is characterized by a mild rebalancing and labor market reregulation. The growth strategy has shifted from deepening export-led growth in the first period to a moderate rebalancing in the second. Different policy fields have been at the core of these shifts: overall wage restraint, labor market, and social policy reforms were at the center of the first period while service sector wage growth, labor market reregulation, and moderate moves toward higher public investment characterize the latter. We conclude with a brief analysis of the government's responses to the economic fallout caused by the outbreak of COVID-19 and the energy crisis following Russia's invasion of Ukraine. This new phase is characterized by a remarkable Keynesian fiscal stimulus and interventionist industrial policy to protect manufacturing industries and the export-oriented growth regime (Di Carlo et al. 2024b)—an important departure from the economic and social policies implemented in Germany during the previous decades.

Our argument is, first and foremost, that export-led growth is a long-term feature of the German political economy throughout the period and is deeply enshrined in a number of key institutions ranging from wage bargaining to the welfare state and its fiscal federalism system (Hassel 2017; Di Carlo 2019; Höpner 2019). In addition to institutional path dependence and lock-in effects, government policies have contributed to bolstering an export-oriented growth trajectory. The government's growth strategy since German reunification has been focused on the protection of the export sector, and the increase of labor market participation to expand labor supply and to keep public budgets under control. However, the government was not always explicit and intentional in its export-oriented growth strategy and experimented with different types of institutional reforms, particularly at the turn of the century.

The three-decade analysis shows how growth strategies and welfare regimes interact. When confronted with the reunification shock, the government focused strongly on restoring competitiveness, especially through wage restraint in the public and private services sectors. After the global financial crisis, which hit Germany after a period of sustained current account surpluses and a tight labor market, the government shifted the German economy onto a more balanced path. However, the institutional structures of Germany's fiscal federalism continue to hamper reflationary fiscal policy via public sector wage inflation (Di

Carlo 2019) and public investment (Bremer et al. 2023). Germany's rebalancing has been undone by the pandemic (Di Carlo and Höpner 2020) and the energy shock, which, again, put competitiveness and the protection of export-oriented industries on top of the agenda. In all, export-led growth not only remains the dominant frame for governments' policy and Germany's prosperity but it also shapes governments' choices in welfare state reforms. The relationship between Germany's growth model and its welfare state has remained unscathed and has grown stronger the more the economy—and the export sector—come under pressure in crisis times.

2. Export-Led Growth and Conservative Welfare State: Complementarities

This section deals with the complementarities between the export-oriented growth regime and Germany's conservative welfare state. While both are institutionalized regimes and follow their own logic, the interactions between the two have often been complementary and reinforcing. Export-led growth based on manufacturing goods commands a strong control of labor costs, which is supported by a conservative welfare regime where liberalizations and wage restraint predominantly affect the service sector. We will briefly characterize Germany's export-led model over the post-World War II period and then link its underlying economic regime to the welfare state.

Despite its large size, Germany's growth regime increasingly resembles that of small open economies once described by Peter Katzenstein (1985). Export orientation has long been a defining feature of Germany's economic model (Höpner 2019), with an enduring "export mystique" shaping its economic identity since the postwar era (Kreile 1977). Germany's growth strategy was oriented toward exports already in the 1950s and between 1957 and 1980, Germany's current account balance was positive. In the mid-1970s, Germany's current account surplus reached 2 percent of GDP then doubled to 4 percent right before reunification in the late 1980s (Figure 2.2). Growth rates have been sluggish since the 1974 oil crisis and never recovered to the levels of the 1960s. The labor market started deteriorating with the oil crisis and unemployment increased throughout the 1980s. In comparison to other large advanced industrialized countries, Germany's growth rates were not exceptional.

The most fundamental shock to the German growth regime occurred in 1990 as reunification came to coincide broadly with the launch of the European Economic and Monetary Union (EMU). Reunification was costly both for the public budgets and for German firms, which had to embark on drastic corporate restructurings, especially in Eastern Germany where productivity was far below Western standards. Moreover, the Deutsche Mark appreciated through the 1990s after the

Bundesbank decided to tighten monetary policy to cool down inflation, which had resulted from the reunification's demand and wage shocks (Bibow 2003; Di Carlo 2019, ch. 6). When the world economy slowed down in the early 1990s, foreign demand for German exports declined, while domestic imports remained high, and the current account turned negative for the whole decade. It was only after 2002 that sizeable current account surpluses emerged. Since then, Germany's current account surplus has been steadily increasing, reaching its apex in 2015 at 8.5 percent (Figure 2.1). The share of exports in GDP has reached 50 percent, while domestic demand has lagged behind other industrialized countries (Scharpf 2018). In 2019, Germany recorded the world's largest current account surplus at about €300 billion.[2] This contrasts with most of the other large Organisation for Economic Co-operation and Development (OECD) economies—fueling widespread concerns among international organizations about global macroeconomic imbalances (IMF 2019).

The source of Germany's economic prowess remains the manufacturing sector. In fact, while manufacturing value-added and employment shares have been declining steadily across Western Europe, Germany has since the mid-1990s decoupled from this general deindustrialization trend, with manufacturing value-added remaining relatively stable and distinctly above other developed countries (Figure 2.2). Within the manufacturing sector, Germany's strong export performance continues to be driven by high and medium-high technology goods often produced by medium-sized family firms, the so-called hidden champions (Storm and Naastepad 2015). By international standards, Germany's high-end service sector remains relatively underdeveloped until today (Wren 2021), while employment in low-end (personal services) had remained subdued until the turn of the century due to the high labor costs stemming from Germany's social insurance-based welfare model (Iversen and Wren 1998).

The welfare regime functions as an important complementarity for the development of the export-led growth regime. Over the last four decades, the German economy maintained its manufacturing strength combined with the dualization of the labor market and the expansion of a relatively large low-paid sector in the service economy. In Germany's core manufacturing sector, the foundations of the growth regime remain robust, underpinned by collaborative relationships between workers and managers at the plant level, alongside strong employment protection for core manufacturing employees (Hassel 2014). Traditionally, the model of diversified quality production (Streeck 1991) has relied on a foundation of industry-specific skills, cooperative employment relations, and long-tenure jobs. However, in recent decades, advanced manufacturing has increasingly

[2] Reuters 3.2.2020 Exclusive: Germany ran world's largest current account surplus in 2019: Ifo. www.reuters.com/article/us-germany-economy-currentaccount-exclus/exclusive-germany-ran-worlds-largest-current-account-surplus-in-2019-ifo-idUSKBN1ZW0UZ.

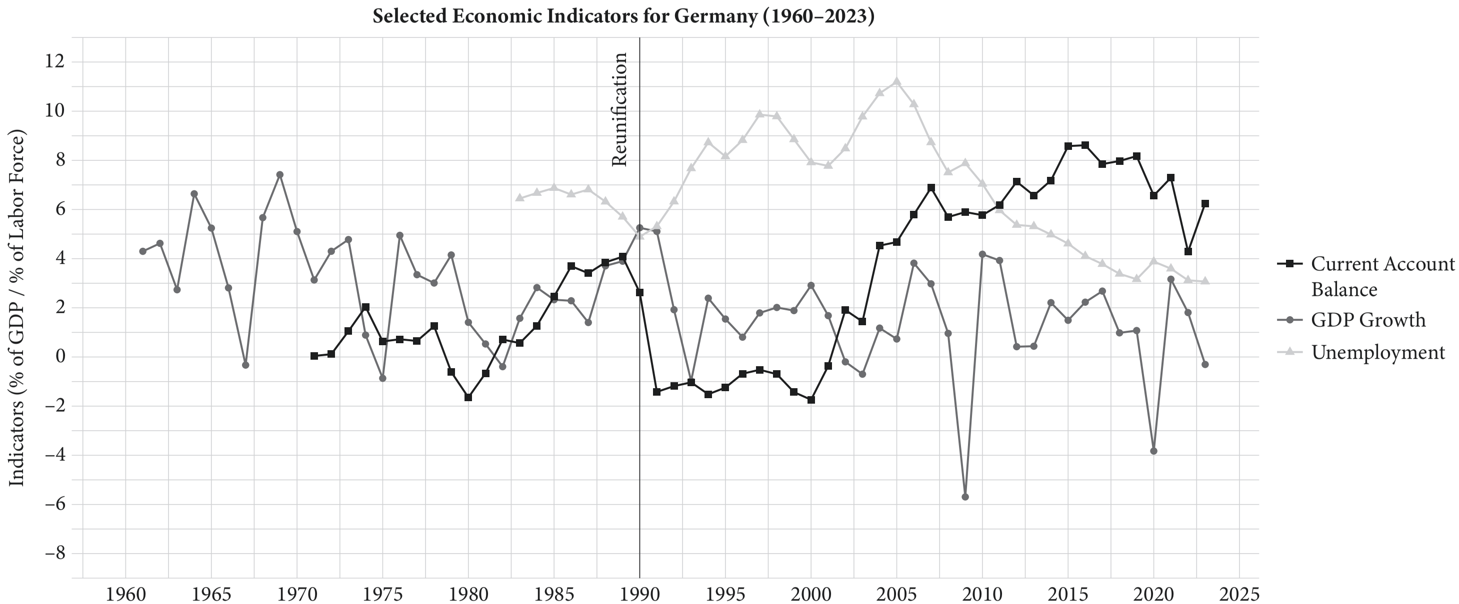

Figure 2.1 Selected economic indicators for the German economy, 1960–2023: current account balance, GDP growth, and unemployment.
Source: Authors' elaboration based on World Bank data.

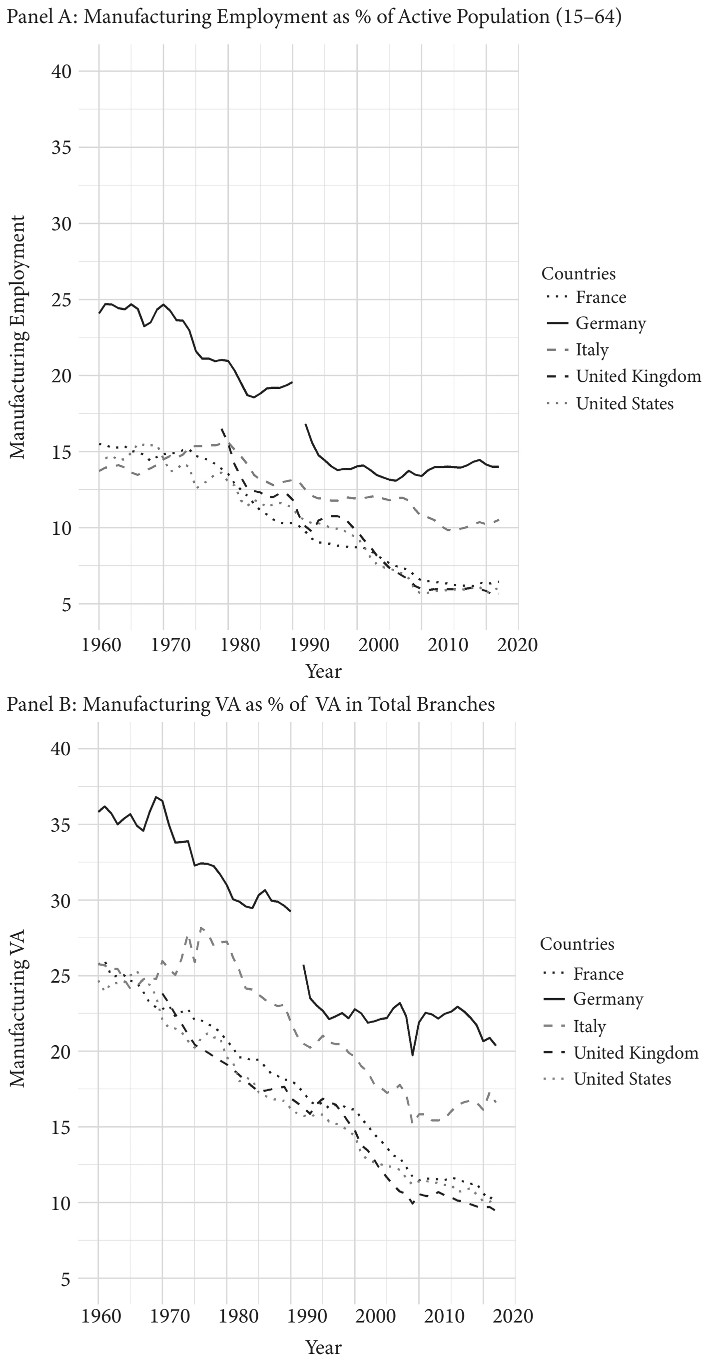

Figure 2.2 Manufacturing employment as a percentage of the active population (Panel A) and manufacturing value-added as a percentage of total value-added in total branches (Panel B), selected OECD countries (1960–2022).

Source: Authors' elaboration based on AMECO data.

shifted toward a reliance on highly skilled science, technology, engineering, and mathematics (STEM)-educated workers. This shift reflects employers' strategies to meet the demands of ICT-intensive production and sustain competitiveness in the knowledge economy (Diessner et al. 2021). German companies specialize in high-quality niche markets, particularly in engineering, car manufacturing, chemicals and pharmaceuticals. The German labor market is not fluid but segmented as high investments in initial skills lead to demand for job security (Estevez-Abe et al. 2001).

In addition, and in contrast to the Nordic countries, unionization and collective bargaining occur at the sectoral rather than peak level. Trade unions' organizations in manufacturing, private services, and the public sector are separated, and no *formal* wage-setting coordination takes place between unions and employees across the different sectors (Di Carlo 2020). Because of close cooperative relations between core workers and employers in the manufacturing sector, unions have remained relatively strong in manufacturing—despite relatively low unionization rates—but are weak both in private and public services. Again, in contrast to the Nordic and also Anglo-American countries, unionization is heavily concentrated among labor market insiders, generally men (Hassel 2015). Collective bargaining is dominated by manufacturing, which has been tied to a strategy of long-term wage restraint based on collaborative relations at the plant level. Moreover, public sector employment is relatively small, and many social services are delivered through welfare organizations, which are not bound by public sector collective agreements.

Finally, the German welfare state is insurance-based, conservative, and part of a fiscally decentralized state (Hassel 2017). The role of social insurance has long been a key component of the German political economy and welfare state. The role of insurance mechanisms for protecting specific skills is complementary to the production regime (Estevez-Abe et al. 2001). The insurance nature of the German welfare regime makes it responsive to the requests of the core contributors (the core manufacturing, male workforce). Social spending is targeted to direct social benefits and not to social services. This puts a lid on the financing of social services. Moreover, the comparatively large share of social contributions as part of tax revenues combined with fiscal decentralization restricts the room for maneuvering for central government spending on social investment but also public employment. Politically, social insurance was part of the political exchange that underpinned German corporatism, as it traded real wage increases for social expenditure (Manow and Seils 2000). Rising contribution rates meant that German workers paid for the expansion of the welfare state by forgoing wage increases.

Because of the strong role of social insurance and the manufacturing sector in the German growth and welfare regime, social policies have targeted predominantly those in secure employment and manufacturing industries. Full-time workers in core industries, in particular engineering, car manufacturing, chemical and pharmaceutical industries, are far better protected in terms of wages, occupational pensions, and fringe benefits compared to workers in the service sectors. For a long time, particularly between 1994 and 2008, wage restraint was particularly enforced in both the private and public service economy. Low wage growth in the service economy sharpened dualism and helped to keep the REER down. Dualism, centered on the selective protection of core workers, had thus become an integral part of Germany's growth strategy, which was underpinned by a closely knit coalition of export-oriented manufacturing firms, manufacturing trade unions, and governing centrist parties.

3. First Period of Change: Coping with Reunification (1990–2009)

During the first period of change, 1990–2007, the German growth strategy focused on restoring competitiveness through wage restraint and welfare reforms. Reunification in 1990 was the toughest challenge to the German growth regime since the end of World War II. The East German command economy collapsed within a couple of months and unemployment levels in East Germany rose to more than 30 percent. This required massive public spending on the eastern Länder for employment programs and early retirement schemes. During the first two decades since reunification, about 4 percent of GDP or 70–80 billion euros were transferred from West to East Germany annually (Ragnitz 2009), funded through higher taxes (the solidarity surcharge), social security contributions, and public debt. Public debt rose from 40 percent to 60 percent of GDP within one decade between 1990 and 2000.

While the funding of reunification was, in fact, a major boost to domestic demand, the government responded to increasing public debt, high unemployment, and low employment rates initially by expanding welfare coverage for East Germany's workers. Throughout the 1990s, manufacturing companies restructured their business models to remain competitive. This was supported by a shift in collective bargaining toward plant-level agreements and the derogation from higher-level agreements at the expense of workers (Rehder 2003; Baccaro and Benassi 2016). Plant-level concession bargaining was used to exchange employment guarantees for wage restraint and competitiveness gains (Palier and Thelen 2010; Hassel 2014). This strategy of firm-level corporatism, combined with the Kohl government's continued commitment to high levels of social spending, was characteristic of the 1990s.

The change of government in 1998, the burst of the dot-com bubble, and the low growth at the end of the 1990s led to various discussions on new growth strategies. Moreover, since reunification had been financed in part by increasing social contributions (Manow and Seils 2000), the high costs imposed by payroll taxes on producers came to be identified as a major hindrance to service sector employment creation (Scharpf 2000) and, more generally, to the competitiveness of Germany as a production site (*Standortdebatte*). Already in the mid-1990s, the Kohl government engaged in capital market reforms. Also, the Schröder government contemplated new growth policies by activating the labor market and cutting social spending. In the following, we look at key policy changes that illustrate the German growth strategy: controlling public spending through the restructuring of the public sector and the imposition of wage restraint therein; labor market activation; and controlling non-wage labor costs. We also look at a brief case of failed financialization in the period between 1995 and 2001.

3.1 A Brief Encounter with Financialization

After a brief reunification boom, economic pressure started to mount in the second half of the 1990s. The German export model was seen as exhausted. At the time, many policymakers were actively considering a shift of the growth strategy toward a more liberal and Anglo-Saxon model. For instance, in the late 1990s, the Kohl government introduced several laws promoting capital markets. The government encouraged venture capital for new tech companies by establishing in 1997 a "new market," modeled on the US Nasdaq. The Schröder government embraced the financialization agenda by further measures: it abolished the tax on sales of company stocks which encouraged companies to unravel the system of cross-shareholdings. This aimed at encouraging a stronger market for corporate control (Höpner and Krempel 2004). Second, the Schröder government introduced the largest income tax reform in postwar history in July 2000. The central aim of the reform was to stimulate private consumption and investment to foster economic growth and reduce the high marginal tax rates for the labor supply (Steiner and Haan 2004). In principle, both measures were meant to engineer higher levels of financialization in Germany.

In addition, the privatization of pensions and public housing were put on the public agenda. Financialization was also pursued by increasing proposals for pension privatization. Forecasts on public spending on public pensions mounted already during the 1980s. When the Berlin Wall fell in 1989, the German government was on the brink of a major pension reform. The reform was postponed and, during the 1990s, public pension entitlements were increased to accommodate high unemployment levels. However, at the end of the decade, pension privatization was on the agenda again. The Schröder government had pledged a ceiling on non-labor costs of 40 percent to relieve companies from high labor costs. To keep the 40 percent limit, pension spending had to be reined in.

In this context, the Schröder government (1998–2005) launched a new pension reform in 2001 that included both cuts to the public pension scheme and the possibility of compensation through subsidized private or occupational pension schemes (e.g. "Riester" pension) (Bonoli and Palier 2007; Naczyk and Hassel 2020). Reduced public spending on pensions would allow for the stabilization of non-wage labor costs such as old-age social insurance contributions, with a target of 20 percent of wages by 2020 and 22 percent by 2030.

During the reform of public pensions, subsidized private pension schemes were introduced to compensate for cuts in public pensions. Private pension funds lobbied to enter the German market, and the Schröder government saw the potential of financial markets as an engine for growth. However, during the political discourse, mutual funds and other financial market actors were not strong enough to push for Anglo-Saxon-style pension funds as an alternative to public pensions, and new private pensions became highly regulated saving schemes, which were owned primarily by insurance companies (Naczyk and Hassel 2020). These savings accounts turned out to be a bad investment as returns were dismal. Only the occupational schemes that were negotiated by the social partners guaranteed top-up pensions; these were, however, only available in the manufacturing sectors and large firms. Consequently, pension privatization fed into the dualization mechanism—instead of financialization—and served mostly to compensate workers in the export sector for the public pension retrenchment, while the rest of the population received no compensation at all (Seeleib-Kaiser et al. 2012).

3.2 The Hartz Reforms

The Hartz reforms, focused on the labor market and unemployment insurance system and implemented in 2005 under Gerhard Schröder's government, marked a pivotal shift in the development of the German welfare state. These reforms fundamentally altered a cornerstone of the Bismarckian welfare model, transitioning it away from its traditional focus on insurance-based and status-protective welfare provisions. By enlarging the share of tax-funded and flat-rate benefits for the long-term unemployed, social insurance lost importance for labor market outsiders. The gap between labor market insiders, protected by insurance-based benefits, and labor market outsiders, who had to rely on universal but low social protection, widened as a result of the reforms (Palier and Thelen 2010; Hassel 2014).

The first aim of the Hartz reforms was to introduce financial incentives for the long-term unemployed in East Germany to seek work by lowering the reservation wage (Hassel and Schiller 2010). Many long-term unemployed received unemployment benefits that were higher than wages in newly created jobs in a depressed labor market and therefore reluctant to take these jobs. Second, like the pension reforms, the labor market reforms aimed to cut the financial burden of high unemployment costs in both East and West Germany. Third, activation aimed to increase the employment rate in general (Avlijas et al. 2021). The reforms cut the duration of unemployment insurance benefits and introduced low means-tested benefits for the long-term unemployed. The shift from insurance-based benefits to means-tested benefits placed manufacturing workers in a precarious position, exposing them to the risk of poverty if they experienced long-term unemployment. Finally, the Hartz reforms deliberately shifted the high costs of long-term unemployment from the local to the federal authorities, providing financial relief to local governments, particularly in West Germany (Hassel and Schiller 2010).

While the Hartz reforms targeted primarily the East German labor market, they indirectly affected concession bargaining across West German firms (Hassel and Schiller 2010). Trade unions and works councils became even more focused on employment guarantees when negotiating with big manufacturing firms. Firms engaged with the unemployment fears of their workforces by forgoing redundancies. One major effect of the Hartz reforms on unemployment was that firms were more reluctant to shed labor (Jung et al. 2019). The price for employment guarantees in West German manufacturing firms was an even stronger commitment to wage restraint.

In addition, the Hartz reforms included various other labor market liberalization measures, reinforcing insider and outsider divisions in the labor market by further facilitating temporary agencies, contract work, unprotected mini and midi jobs, and the like (Palier and Thelen 2010; Hassel 2014). These reforms again were targeted to create jobs by increasing flexibility in the labor market and increased the dualization of the welfare state by increasing the gulf between labor market insiders and outsiders.

3.3 The Restructuring of the German Public Sector

In the aftermath of reunification, a two-decade process of public sector restructuring has taken place in Germany. As a result of this process, today Germany combines one of the smallest public sectors in the world (OECD 2019, p. 85) with a deflationary public sector wage-setting regime, which has produced and continues to produce remarkable wage restraint over time (Di Carlo 2020, 2023).

In employment terms, West Germany never had a very large public sector compared to other Western economies (Rose et al. 1985). Yet today Germany is worlds apart from the Nordic countries, with around 10 percent of public employees as a percentage of total employment (Figure 2.3). German reunification triggered a process of unprecedented downscaling of the state. Large employment reductions were motivated partly by the need to purify the administration from employees

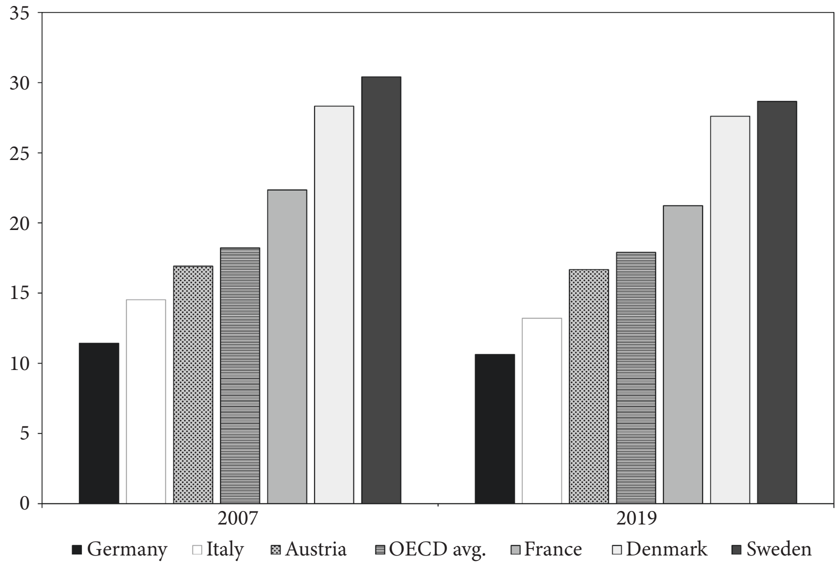

Figure 2.3 Employment in general government as a percentage of total employment, in selected countries, 2007 and 2019.

Source: Authors' elaboration based on data from OECD Government at a Glance, 2021 edition.

previously affiliated with the eastern communist regime and, most importantly, by the need for fiscal retrenchment in light of the fiscal crisis of the German state at the time (Keller 1999). Reductions occurred mostly at the level of the states and municipalities and among salaried employees. To put things into perspective, by 2015 Germany had some 300,000 fewer public employees than West Germany had in 1989, after having absorbed 16 million people from East Germany. A smaller state has shifted employment away from the public sector's "model employer" (Morgan and Allington 2002) capable of offering better employment conditions and generating a public sector wage premium, especially for low-income occupations (Dickson, Postel-Vinay, and Turon 2014) with a higher propensity to consume. Thus, contrary to the Nordic countries' strategy of public sector expansion during the process of tertiarization of the economy (Iversen and Wren 1997; Afonso 2019a), Germany's adjustment process has instead enlarged the reserve army of labor available to the private sector's employers. The widespread use of atypical forms of employment has contributed to the emergence of a dualized labor market even *within* the public sector (Keller and Seifert 2015).

Employment reductions went hand in hand with a general deterioration of employment conditions and the imposition of wage restraint by state employers. Germany features a hybrid system of employment relations whereby public employees are regulated by collective bargaining while civil servants (*Beamte*) are subjected to the state's unilateral regulation (Schmidt and Müller 2018; Keller 2020). Until the mid-2000s, collective bargaining was centralized at the federal level thanks to an informal bargaining coalition between the Federal Ministry of the Interior and the States (*TdL*) and municipal (*VKA*) employers' associations. At the same time, the legislative competence to regulate civil servants was centralized under the remits of the federal parliament. This centralized system ensured homogenous employment and wage conditions across the whole public sector (Keller 2011).

During the mid-1990s, wage restraint was forced onto the unions under the aegis of the Federal Finance Ministry. In the mid-1990s, it became clear that Germany would have failed to meet the Maastricht convergence criteria and then-Finance Minister Theo Waigel pushed through wage restraint to rein in budget deficits and overcome the SPD-led opposition's veto on other fiscal measures in the *Bundesrat* (Di Carlo 2019, ch. 6). When Schröder's tax reform entered into force in 2000, the fiscal crisis of the German state deteriorated further under the burden of lower revenues and higher social expenditures (Streeck 2007). Under great fiscal distress, the states terminated the historical public employers' coalition and pulled out of centralized bargaining to extend working hours and impose wage restraints to extract fiscal savings. This led to a double process of organized decentralization of collective bargaining and the decentralization of the civil servants' legislative competence.

In 2005, the new collective agreement of the public sector (*TVöD*) was introduced to regulate jointly public employees from the federal and municipal levels. In 2006, the *TV-L* contract was established as a second tier to regulate collective bargaining across the Länder. Simultaneously, the rich Länder lobbied for the decentralization of the legislative competence on civil servants' wage setting to introduce an element of competitive federalism within the public sector's labor markets, which they obtained through the first fiscal federalism reform. Ahead of these reforms, the state employers—especially from municipalities and Länder—had threatened to privatize/outsource public services (Dribbusch and Schulten 2007) and/or exit multi-employer collective bargaining to impose local-level austerity. This exit option, coupled with a sense of emergency concerning public finances' poor status, tilted the balance of power in favor of public sector employers. By forcing unions into concessionary bargaining, the public sector employers were able to impose wage restraint, extend working hours, and rationalize employment benefits over the period 2003–2008. This led to a major deterioration of employment conditions in the public sector. The increasingly assertive stance of the public sector employers in the face of budgetary problems in the early 2000s generated a marked trajectory of public sector wage restraint, which contributed to keeping demand and price inflation subdued ahead of the 2008 financial crisis (Di Carlo 2023).

3.4 The Sectoral Dualization of the Wage Structure

The decentralization of collective bargaining and public sector restructuring had strong effects on the development of wages in different sectors. Figure 2.4 shows the trajectory of sectoral wage dualization in Germany. Since reunification (1991–2019), nominal wages in the export-oriented manufacturing sector have grown approximately in line with the so-called "distributionally neutral margin for wage growth" (here termed pattern bargaining index). This pattern bargaining index is given by the sum of the economy's total labor productivity and national price inflation (consumer price index, CPI) and functions as the benchmark against which German wage setters (especially trade unions) generally calibrate their demands for sectoral wage increases to arrive at an equal distribution between capital and labor of the wealth generated in the economy (WSI 2022, p. 3). The bulk of Germany's wage restraint was rooted in the low-end private services, the construction sector, and the public sector.

Within the EMU, this trajectory of sensational public sector wage restraint is unique to Germany and stems from public sector employers' fiscal distress rather

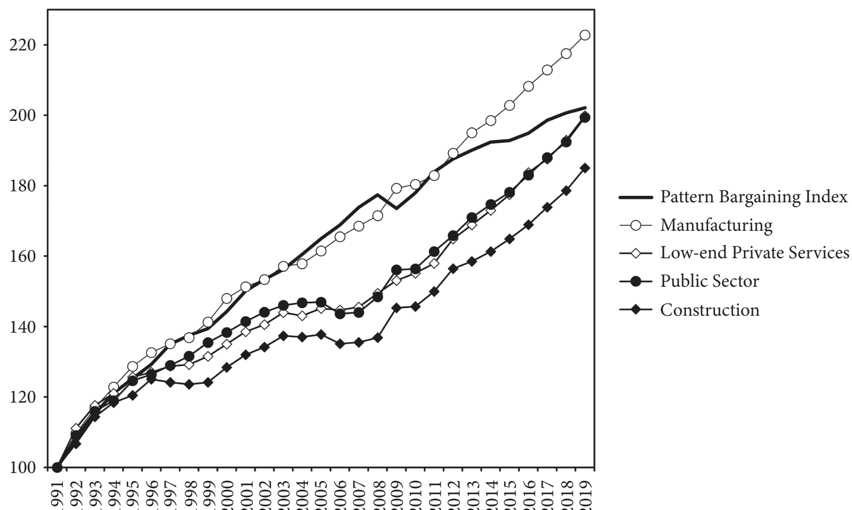

Figure 2.4 Germany, index of nominal hourly labor costs (compensation of employees) by economic sector plotted against the Pattern Bargaining Index, 1991–2019 (1991=100).

Note: Pattern Bargaining index = Total Economy Hourly Labor Productivity + Price Inflation (CPI). Low-end Services = Wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities [G–I]. Public Sector = Public administration and defense; compulsory social security; education; human health and social work activities [O–Q].

Source: Authors' elaboration based on OECD STAN data.

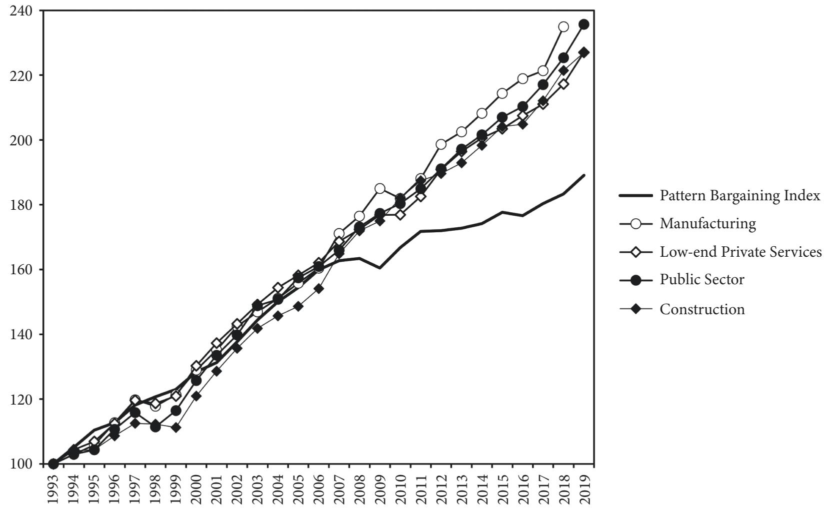

Figure 2.5 Sweden, index of nominal hourly labor costs (compensation of employees) by economic sector plotted against the Pattern Bargaining Index, 1991–2019 (1991=100).

Note: Pattern Bargaining index = Total Economy Hourly Labor Productivity + Price Inflation (CPI). Low-end Services = Wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities [G–I]. Public Sector = Public administration and defense; compulsory social security; education; human health and social work activities [O–Q].

Source: Authors' elaboration based on OECD STAN data.

than the dominance of export sector actors in inter-sectoral wage coordination (Di Carlo 2020). As opposed to, for example, Sweden—a similar case with a pattern bargaining system of inter-sectoral wage coordination (Ibsen 2016)—where the sustained growth of wages in the public sector kept up with other economic sectors (Figure 2.5), in Germany public sector wages started to lag from the mid-1990s. Wage restraint reached its apex in the mid-2000s under the strains of the subnational governments' public finances (Di Carlo 2023).

3.5 Summary of the Period 1990–2007

Between 1990 and 2007, the German export-led growth regime was first threatened by the reunification boom, exploding unemployment in East Germany, and high public spending. Moreover, the decision of the Bundesbank to tighten monetary policy engineered a depression whose effects were to be felt for a decade (Bibow 2003). High public spending on labor market policies put pressure on non-wage labor costs at a time when companies struggled to adjust to the fall of the Berlin Wall. With slow economic growth, high unemployment, budget deficits, and social expenditures, Germany, then the sick man of the Euro, repeatedly violated the Stability and Growth Pact. The Schröder government reacted by embracing several liberalizing reforms, which were not primarily intended to foster export-led growth but contributed to the dualization of the German labor market. The Hartz reforms were in line with activation and liberalization. The tax reform and corporate governance reforms were instead a bet on financialization. The government also considered introducing pension funds in 2001 to strengthen financial markets. The Hartz reforms helped lower wage costs and further entrenched dualization. Private pensions did not take off, while social housing was slowly phased out. Dualization of the German welfare regime peaked in 2005. From then, the labor market recovered primarily because global demand for German goods picked up (Carlin et al. 2015). As policies toward financialization and the expansion of the public sector were unfeasible, export-led growth became the key growth strategy and labor market reforms coupled with wage restraint supported the strategy.

4. Second Period of Change: The Mild Recalibration of the Growth Regime (2009–2020)

Despite massive criticism of the Hartz reforms and the collapse of the Schröder government in 2005, the German economy's subsequent development was, overall, positive. Positive developments in economic growth and the labor market reinforced a widespread perception among policymakers that Germany's export-led growth model was broadly beneficial, particularly after the country weathered the late 2000s financial crisis relatively well. Unlike many other European nations, Germany responded swiftly and effectively to the crisis through a combination of fiscal stabilization measures and strategic labor market policies. On the fiscal side, the government implemented a robust response to stabilize the banking system and support key industries, such as the automotive sector, through programs like the "cash for clunkers" scheme (*Abwrackprämie*) (Zohlnhöfer 2011). On the labor market front, policies such as publicly subsidized short-time working schemes (*Kurzarbeit*) allowed companies to retain employees during the sharp GDP contraction of over 5 percent in 2009. These measures minimized job losses, enabling firms to recover quickly as the economy rebounded. As a result, Germany recovered relatively swiftly, with economic growth returning to a moderate upward trajectory and unemployment steadily declining throughout the 2010s. As shown in Figure 2.2, total employment increased steadily, boosted especially by part-time employment.

By 2009, the German government's stance in economic policymaking had reached its maturity compared to the 1990s, with the export-oriented growth strategy gaining widespread acceptance among policymakers. This shift occurred despite several persistent challenges facing the German economy. First, overall economic growth remained modest in comparative terms. Second, the low-pay sector expanded to an unprecedented degree, raising concerns about income inequality and job quality. Third, chronic underinvestment in public infrastructure weakened Germany's capacity to modernize, particularly in embracing digitalization. Fourth, demographic change became a pressing issue following the financial crisis, with projections indicating a 10 percent decline in the workforce by 2050, even accounting for positive net immigration (*Statistisches Bundesamt* 2009). The shrinking number of school leavers has exacerbated labor shortages, particularly at the high end of the skill distribution, highlighting the urgency of facilitating full-time careers for working mothers and addressing broader work–life balance issues.

During the 2010s, the German government began to address each of these challenges with targeted policy measures. It introduced a mild reregulation of the labor market, increased investment in childcare, and addressed work-life balance and gender equality issues. Additionally, the persistent wage inequality between manufacturing and service sectors, coupled with the lasting political impact of the Hartz reforms on the Social Democrats, prompted initiatives aimed at improving conditions in the low-paid segment of the labor market.

4.1 Reregulating the Labor Market

After 2010 and in contrast to virtually all other countries, Germany did not pursue any further retrenchment policies. Robust labor market developments and increasing public revenues facilitated welfare expansion and the reregulation of the labor market (Eichhorst and Hassel 2018). Two policy reforms were indicative of the trend toward a mild rebalancing: the reregulation of temporary agency work and the introduction of the minimum wage.

Temporary agency work had been an important policy to weaken employment protection in the 1990s. In 2011, the government reregulated temporary agency work and introduced equal pay and equal treatment of temporary workers compared to regular workers. Differing conditions for temporary workers could only be achieved via collective agreements, increasing collective bargaining coverage. In 2017 temporary agencies were again regulated by reintroducing an assignment period of 18 months and equal pay after 9 months.

During this period, the most important labor market policy was the introduction of the minimum wage. After long and intense political battles, in 2015 the government introduced a statutory minimum wage, initially at €8.50 per hour, about 50 percent of the median wage. The politics of the minimum wage already emphasized an important shift among Germany's economic elites: for a long time, manufacturing unions opposed the minimum wage as they feared it would undermine their collective bargaining practices (Meyer 2016). However, mounting economic insecurity, increasing competition in the low-pay sector, and widespread labor market flexibility led manufacturing unions to reconsider their positions (Marx and Starke 2017). Employers were eventually unable to fend off the minimum wage regulation (Mabbett 2016).

However, activation policies for the long-term unemployed have largely remained intact despite the continuous criticism of the Hartz regimes. Benefit levels are perceived as excessively low; the sanctions for non-compliance with job centers' expectations too harsh; and the financial incentives to accept jobs too meager. Despite these criticisms, the main pillars of the social assistance regime have remained largely intact.

4.2 Tackling the Demographic Problem: Changes in Family Policy

The conservative nature of the West German welfare state was closely tied to its traditional views on women's roles in the labor market. Policies and societal attitudes framed mothers as primary caregivers and secondary earners, with opinion surveys consistently showing stronger support in Germany (and Austria) than in other OECD countries for the belief that women with small children should stay home (Fleckenstein 2022). West German family policies reflected this perspective, offering long but low-paid parental leave and providing limited public childcare services (Zoch and Schober 2018). Additionally, joint taxation and family health insurance systems incentivized women to remain at home or take small-scale part-time jobs. In contrast, family policy in East Germany was markedly different, characterized by shorter parental leave and extensive formal childcare options for young children (Rosenfeld, Trappe, and Gornick 2004). After reunification, employment patterns of working mothers began to converge, though part-time work remained the dominant option for mothers (Konietzka and Kreyenfeld 2010).

However, demographic changes and increasing labor shortages since the mid-2000s prompted significant policy reforms. These reforms aimed to encourage mothers to re-enter the workforce and promote greater involvement by fathers. In 2007, the government introduced income-related parental leave benefits for 12 months, with an additional 2 months reserved for partners, leading to a shift toward a more balanced approach to caregiving responsibilities.

The government also invested heavily in the provision of public early childhood education and care (ECEC). In 2005, the Daycare Expansion Act (*Tagesbetreuungsausbaugesetz*) introduced additional funding and better access for children with working parents. In 2008, the Child and Youth Welfare Act (*Kinderförderungsgesetz*) introduced a legal right to childcare from August 2013 for all children above the age of one (Zoch and Schober 2018).

The new family policy reforms significantly increased the provision of ECEC, although territorial disparities between East and West Germany remained substantial. In West Germany, the attendance rate for children under the age of three rose from 8 percent to 27 percent, while in East Germany, where ECEC provision was historically stronger, the rate increased from 40 percent to 52 percent (Strunz 2015). Additionally, children in East Germany spent significantly more time in childcare compared to those in the West (Zoch and Schober 2018). Labor force participation among mothers with young children rose from 60 percent to 67 percent between 2007 and 2015 across Germany. However, the relatively generous parental leave benefit—amounting to 60 percent of net income, capped at €1,800—has made mothers less likely to return to work within the first year after giving birth. Employment in part-time jobs of 20 to 36 hours per week increased notably, from 16 percent to 29 percent during the same period. Despite these shifts, the share of mothers with children under the age of three working full-time remains relatively low (Zoch and Schober 2018).

Remarkably, the longstanding normative orientation that mothers with small children should not work, or should only engage in small part-time jobs, has begun to shift, resulting in higher employment rates for women and longer working hours in both East and West Germany. This transformation has been accompanied by increasingly proactive policy measures aimed at promoting gender equality. Two key policy changes stand out: first, the introduction of a quota for women on supervisory boards in 2015 (Weckes 2019); and second, the establishment of the *Entgelttransparenzgesetz* in 2018, granting employees the right to seek information about potential pay discrimination. These measures represent significant steps toward facilitating career opportunities for women. However, early evaluations suggest that their implementation has had only a limited impact on the career progression of professional women (Peichl et al. 2019; Weckes 2019).

Overall, reforms in parental leave, early childcare provision, and gender equality policies reflect a broader shift toward a social investment approach (Di Carlo et al. 2024a), as evidenced by increased spending on early childhood education (see Chapter 13 for additional data).

4.3 Rebalancing Wage Setting and Reversing the REER Depreciation

After the financial crisis, internal devaluations and labor markets' liberalization have been pursued under the aegis of the European Central Bank and the European Commission across the demand-oriented Southern economies of the Euro area (Scharpf 2016; Afonso 2019b; Braun et al. 2024). Germany has instead moved in the opposite direction vis-à-vis its EMU peers, featuring real wage growth in conjunction with labor market reregulation (see Section 4.1).

Since 2010, nominal wages in Germany have exceeded the pattern bargaining index, indicating a reversal of the previous trajectory of wage restraint, which had characterized the export-oriented strategy since the mid-1990s (Figure 2.4). Wage increases in the low-end service sector have been supported by steady economic growth and labor shortages in increasingly tight labor markets. Meanwhile, the construction sector has experienced sustained wage growth, benefiting from its continuous expansion since 2008 (KfW 2018), fueled by persistently low or even negative real interest rates. Additionally, the introduction of a statutory minimum wage has established a wage floor, covering approximately 1.4 million jobs nationwide. After 2015, various increases in the minimum wage have consistently outpaced inflation, contributing significantly to wage growth at the lower end of the income distribution.

Wage growth has remained stable in the exporting manufacturing sector where the decentralization of wage setting, ongoing since the mid-1990s, has institutionalized practices of firm-level competitive corporatism (Hassel 2014; Carlin et al. 2015). Within plants, cooperative industrial relations underpin a "political exchange" between local managers and works councils: wage restraint sustains the competitiveness of the firm in international markets, which in turn guarantees employment and gradual improvements in wages and other qualitative aspects of the employment relation.

In the public sector, wage growth gained momentum between 2011 and 2019, supported by consistent budget surpluses and recruitment challenges reported by public employers (PwC 2018). However, excessive wage inflation in the public sector is curbed by the fiscal constraints imposed by Germany's fiscal federalism system on subnational governments. Because of limited fiscal autonomy at the Länder and municipal levels, public sector wage growth is negotiated cooperatively by wage setters, resulting in a low-wage policy that represents the least common denominator. This approach ensures that public finances in poorer states and municipalities are not jeopardized (Di Carlo 2019, 2023).

In all, the trajectory of marked internal devaluation, which had started in the mid-1990s, has at least changed course since the financial crisis. Germany's REER appreciated by around 15 percent between 2007 and 2024 (see Figure 2.6). During the 2010s, wage growth, especially in the domestic service sector, contributed to the appreciation of the REER. This shift represents a notable change in Germany if compared to the marked internal devaluation that followed the Bundesbank's decision to tighten monetary policy in the aftermath of reunification.

4.4 Restrictive Fiscal Policy and the Public Investment Gap

After two decades of stubborn budget deficits during the 1990s (Figure 2.7, Panel B), Germany's fiscal policy in the aftermath of the 2008 financial crisis

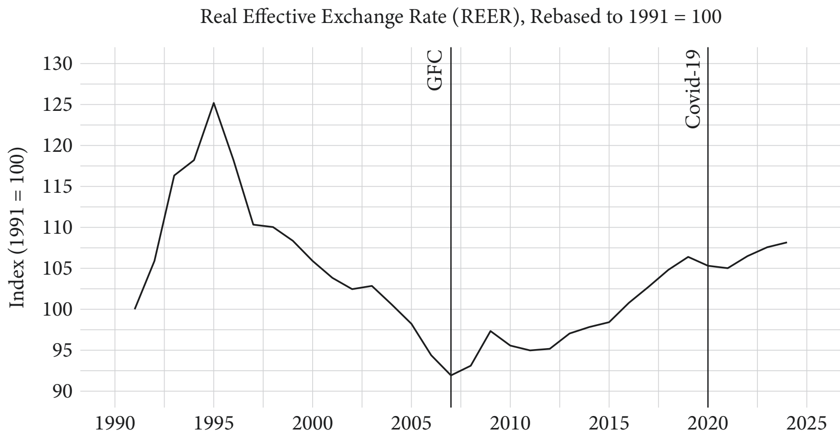

Figure 2.6 Germany, real effective exchange rates based on unit labour costs (total economy), relative to the rest of the former EU-15 countries, double export weights (REER), index 1991=100.

Source: Authors' elaboration based on data from AMECO.

turned restrictive. In times of economic growth and almost full employment, since 2012 Germany has run budget surpluses aimed at reducing the debt accumulated since the country's reunification. Budget surpluses have been driven primarily by a solid expansion of fiscal revenues from the buoyant economy while governments' expenditures remained relatively flat during the mid-2010s (Figure 2.7, Panel A).

Germany's fiscal policy has adhered to the Keynesian principle of running budget deficits in hard times (i.e., the 1990s and early 2000s) while turning to budget surpluses and reducing public debt during economic upswings (in the 2010s). However, an excessive focus on balanced budgets has hindered the country from taking full advantage of favorable interest rates to address its backlog in public investment (Roth and Wolff 2018). Gross public investment has been in steady decline since the Bundesbank's monetary tightening in 1992 (Figure 2.8), which forced a reversal of the previously expansionary fiscal policy (Zohlnhöfer 2003, 2007). This decline has been most pronounced at the municipal level, with significant disparities between wealthy and cash-strapped municipalities (Bremer et al. 2023). The situation worsened after Schröder's tax reforms in the early 2000s, which further strained subnational governments' public finances. By the mid-2000s, both public sector wage restraint and reduced public investment spending had become central to the fiscal consolidation strategy that successfully brought down the deficit by 2007. Following the financial crisis, public investment spending experienced a modest recovery, rising by approximately 0.6 percent of GDP between 2007 and 2019. However, this increase has fallen short of

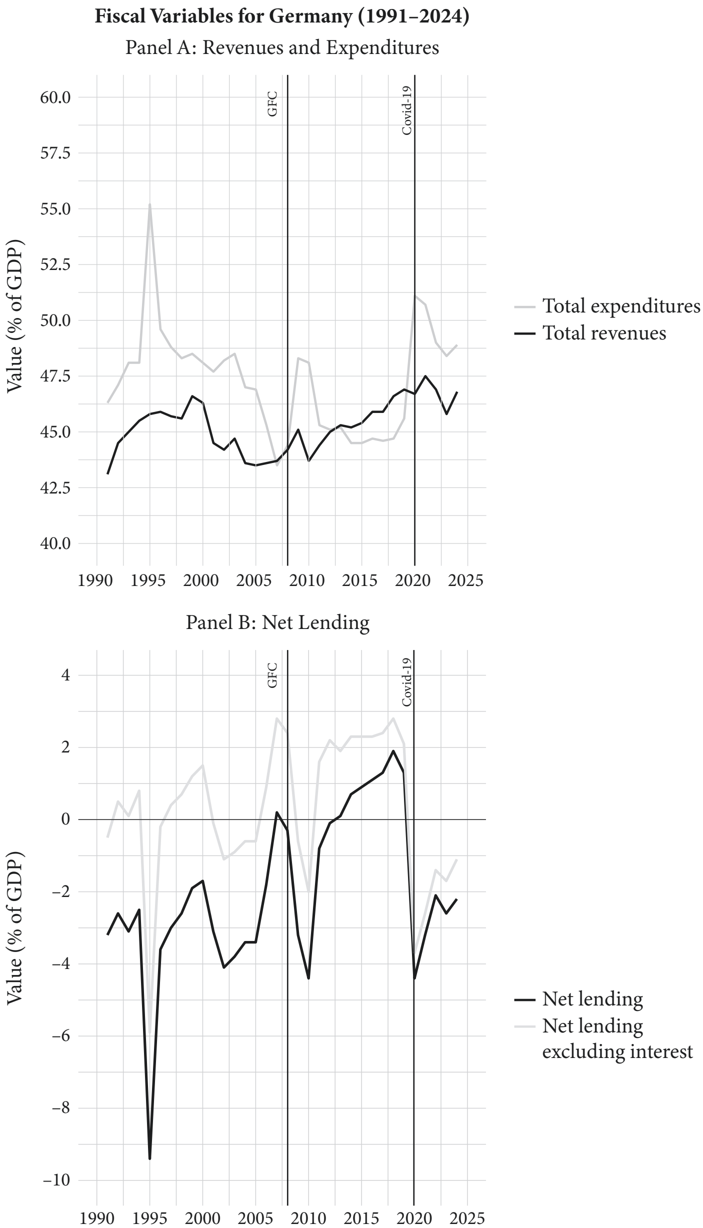

Figure 2.7 Germany: fiscal revenues and expenditures as a percentage of GDP (Panel A) and the government's total net lending, and net lending excluding interest repayments on sovereign borrowing (Panel B), 1991–2024.

Source: Authors' calculations based on data from AMECO. Data from the year 1995 includes the incorporation of the Treuhand's debt by the Federal government

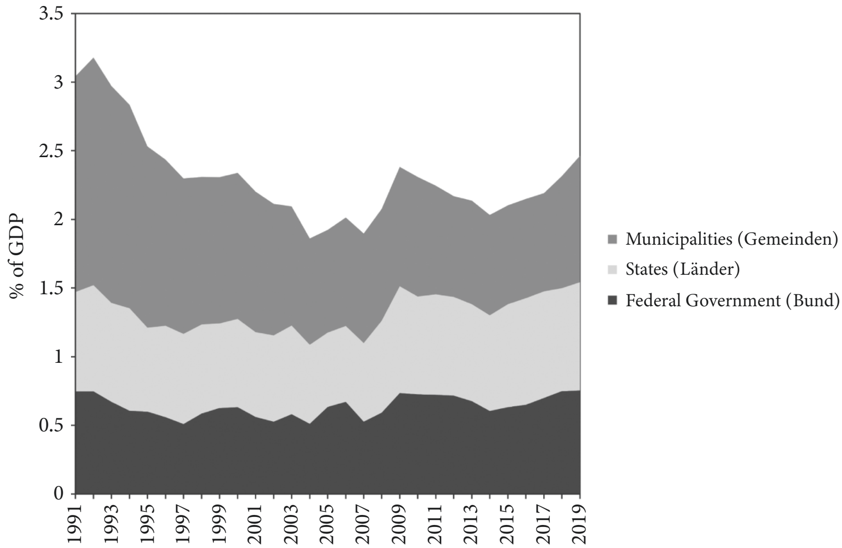

Figure 2.8 Germany, gross public investment as a percentage of national GDP by tier of government within the federal polity, 1991–2019.
Source: Authors' calculations from Destatis data.

addressing the significant investment backlog, hampered by weak administrative and planning capacities at the subnational level and bottlenecks in the construction sector (KfW 2019).

5. Third Period of Change: Crisis Management from 2020 Onwards

Since 2020, the German government has faced three interconnected crises: the COVID-19 pandemic, the energy crisis precipitated by Russia's invasion of Ukraine, and the escalating environmental crisis. These extraordinary challenges have catalyzed a new phase in Germany's economic policymaking, which blends traditional strategies—such as competitive wage restraint and countercyclical fiscal expansion during economic downturns—with more innovative approaches, including activist industrial policy. However, despite these strategic policy shifts, the fundamental objective of sustaining export-oriented growth centered on core manufacturing sectors has remained firmly intact (Di Carlo et al. 2024b).

Two key considerations emerge from the analysis of Germany's approach to managing the political economy during times of crisis. First, as in the 2008 financial crisis, the German government responded swiftly to the COVID-19 pandemic with a comprehensive stabilization program designed to mitigate the economic fallout. This strategy prioritized protecting households and minimizing job losses across the economy and was subsequently extended to address the energy crisis in 2022. Second, throughout these crises, the primary concern of Germany's economic elites remained safeguarding the competitiveness of the country's core export industries. This was achieved by shielding core workers from economic shocks and maintaining strategic wage restraint, even in the face of significant inflationary pressures. Consequently, Germany's crisis-era economic adjustments have reinforced its export-oriented growth strategy.

5.1 Stabilization Programs and Protective Welfare Provisions in Hard Times

The outbreak of the COVID-19 pandemic triggered swift lockdowns domestically and internationally, leading to the collapse in domestic and foreign demand and widespread disruption of supply chains across Europe. In April 2020, German passenger car production plummeted by 97 percent compared to the previous year (VDA 2020). With the economy projected to contract by approximately 6 percent of GDP, the grand coalition quickly enacted a comprehensive stimulus plan to bolster domestic demand, support struggling businesses, and protect citizens and workers from the economic fallout (Chazan 2020).

The total stimulus package was estimated at around 40 percent of GDP, including a direct fiscal impulse—comprising additional government spending and foregone revenues—of more than 8 percent of GDP (see Figure 2.9).[3] Other key measures included deferrals equivalent to over 7 percent of GDP, allowing for delays in tax and social contribution payments to improve liquidity for individuals and businesses. Additionally, liquidity provisions and special guarantees for German companies amounted to more than 24 percent of GDP. These measures included export guarantees, liquidity assistance, and credit lines facilitated by the German national promotional bank, KfW (Mertens, Rubio, and Thiemann 2020).

The German government responded swiftly to the economic challenges posed by the COVID-19 pandemic by adopting a supplementary budget of €156 billion. This budget included significant investments in health care, hospital capacity, and COVID-related research and development. Drawing on strategies used during the 2008 financial crisis, the government expanded the subsidization of short-term work (*Kurzarbeit*) to safeguard jobs and sustain workers' incomes. Additional measures included enhanced childcare benefits for low-income parents and simplified access to basic income support for the self-employed.

[3] This section triangulates data and information from three institutional sources: the OECD's "Covid-19 Policy Tracker," the International Monetary Fund's tracker of "Policy Responses to Covid-19," and Bruegel's dataset on "The fiscal response to the economic fallout from the coronavirus."

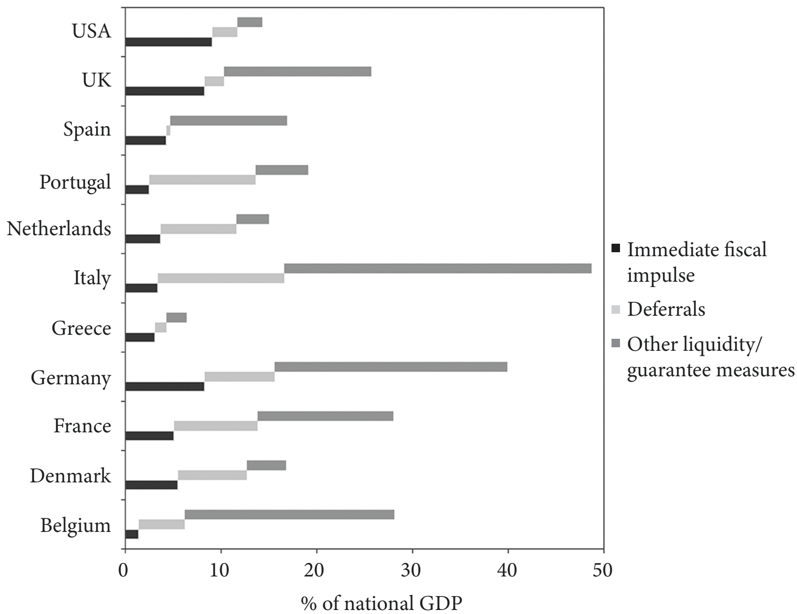

Figure 2.9 Comparative fiscal responses to the economic fallout from the COVID-19 pandemic as a percentage of national GDP, 2020 (includes measures updated until November 24, 2020).

Note: Bruegel calculated the ratio of the 2020 measures to the 2019 GDP due to the then uncertainties over the 2020 GDP outlook.

Source: Bruegel's dataset: "The fiscal response to the economic fallout from the coronavirus."

In June 2020, the German government approved an additional €130 billion stimulus package centered on three main pillars: fiscal and social measures, funding and subsidy programs, and support for public investment (Dorn et al. 2020, p. 39). Fiscal measures included a six-month temporary reduction in value-added tax (VAT), a cap on social security contributions at 40 percent to limit the rise in non-wage labor costs for both employers and employees, relief on electricity costs through reduced levies on renewables, child bonuses for families, and research allowances for firms. Funding and subsidy programs featured increased premiums for the purchase of electric and hybrid vehicles, support for replacing older vehicles with environmentally friendly alternatives, and incentives for small and medium-sized enterprises (SMEs) to maintain apprenticeships. Public investment measures focused on the digitalization of public administration, advancements in future technologies (e.g., hydrogen technology, artificial intelligence, and ICT), development in electromobility (e.g., building charging stations), modernization of railways, and social investment in expanding daycare centers, nurseries, all-day care, and schooling. Lastly, the federal government introduced the "Municipal Solidarity Pact 2020," allocating €12.5 billion in direct financial assistance to municipalities. This measure aimed to offset revenue losses from local business taxes (*Gewerbesteuer*) and public transport systems while addressing increased expenditures for social assistance (*Sozialhilfe*).

The energy crisis triggered by Russia's invasion of Ukraine posed a severe challenge to Germany's economy, exacerbating inflationary pressures and threatening the stability of its energy-intensive industrial base. In response, the German government swiftly implemented a series of measures to stabilize the economy, protect vulnerable households, and sustain its export-led growth model. Between February and September 2022, the government enacted three comprehensive relief packages totaling nearly €95 billion. These interventions targeted vulnerable households, the general population, and energy-intensive firms, employing a mix of tax measures, social benefits, and subsidies to mitigate the effects of skyrocketing energy costs (Di Carlo et al. 2023).

The *first relief package*, introduced in February 2022 with an estimated budget of €16 billion, prioritized vulnerable households and individuals. Its key measures included tax reforms to protect net incomes, targeted social benefits such as heating cost allowances, and adjustments to the commuting lump sum to offset increased transportation costs. This package aimed to provide immediate financial relief to the most affected groups, ensuring that essential household expenses remained manageable amid rising energy prices.

The *second relief package*, rolled out in March 2022, allocated €14 billion to the general population. Designed to reduce energy consumption costs, this package included several innovative measures. A one-time energy allowance was granted to taxpayers and one-off benefits were provided to welfare recipients and families with children. The government also reduced excise taxes on fuel and introduced a highly popular €9 monthly public transport ticket, which not only helped alleviate commuting costs but also encouraged the use of sustainable transportation. These measures underscored the government's commitment to easing the economic burden on citizens while promoting energy efficiency.

By September 2022, with energy prices continuing to rise and inflationary pressures mounting, the government launched a *third relief package* valued at €65 billion. This comprehensive plan expanded its focus to include both vulnerable households and energy-intensive firms. For households, the government implemented a set of social benefits, including one-time payments to pensioners and students, an increase in child allowances, and the introduction of a citizen's basic income.

5.2 Wage Restraint through the Crises

The inflationary pressures brought about by the energy crisis risked fueling a price-wage spiral, which could have jeopardized the viability of Germany's export-led growth model. Because of the principle of collective bargaining autonomy (*Tarifautonomie*), the government in Germany cannot directly intervene in private-sector wage negotiations, which are exclusively managed by social partners. Yet, far from remaining passive, the government swiftly adopted an indirect approach to help firms contain rising labor costs and prevent a potential price-wage spiral, balancing the dual objectives of maintaining cost competitiveness and protecting workers' purchasing power.

The German government adopted a dual strategy to address inflationary pressures and maintain its export-oriented growth model during the energy crisis. First, it compensated households for real income losses through a mix of targeted and untargeted measures (see table 1 in Di Carlo et al. 2024b). These measures alleviated economic pressures on workers, enabling sectoral wage setters to adhere to wage moderation without significant pushback. Second, the government incentivized the use of untaxed, one-off inflation bonuses at the firm level as an alternative to permanent wage increases in sectoral collective bargaining. These bonuses provided a flexible and cost-effective mechanism to sustain workers' purchasing power while mitigating the long-term inflationary risks associated with permanent wage hikes enshrined in collective agreements.

The chemical sector played a pivotal role in this inflation management strategy. Known for its culture of compromise, the sector set a precedent in October 2022 by forgoing wage increases and instead agreeing to a one-time payment of €1,400 for workers. Chancellor Scholz endorsed this approach as a pragmatic response to rising prices and promoted the adoption of similar untaxed, fixed-sum payments across other sectors of the economy (for further details, see Di Carlo et al. 2024b, pp. 18–22). To facilitate this, the government leveraged its fiscal capacity to fund tax and social security exemptions for inflation bonuses of up to €3,000 at the firm level. This strategy proved effective in stabilizing wage-push inflation. Sectoral collective bargaining agreements resulted in moderate settlements with low nominal wage increases (see table 1, p. 4, in Höpner et al. 2024). Combined with inflation bonuses and broader social policy measures, this approach reduced pressure on union leaders and enabled firms to maintain cost competitiveness. As a result, Germany successfully contained the growth of ULC in line with Eurozone averages, avoiding the steep cost escalations experienced by countries like the Baltic states, which were also highly exposed to the energy shock. It was in the service sector where the fight to prevent real wage losses was particularly pronounced. Service sector unions focused on the protection of incomes, especially for low-paid workers in low-productivity sectors such as hospitality where workers could secure real wage gains during 2019–2022 (Höpner et al. 2024, pp. 15–16).

Overall, the combination of indirect government interventions, targeted fiscal policies, and collaborative sectoral agreements enabled Germany to navigate the inflation shock effectively while preserving its cost competitiveness. Despite significant economic vulnerabilities, the country's REER remained stable, pointing to the resilience of its export-led growth model even in the face of a major inflationary crisis.

5.3 Germany's New Industrial Policy

Besides the renewed emphasis on wage restraint during times of economic hardship, a defining feature of Germany's growth strategy over the past decade has been a strategic shift toward more interventionist national industrial policies (Schneider 2022) and its collaboration with France in supporting interventionist industrial policy also at the European level (Di Carlo and Schmitz 2023).

Before the pandemic, Germany's industrial policy primarily focused on protecting and supporting its export champions in global markets. In early 2019, CDU Economy Minister Peter Altmaier introduced the National Industry Strategy 2030 (Federal Ministry for Economic Affairs and Energy 2019; Germann 2022) to safeguard German companies amidst disruptive technological change. Reflecting concerns from the Federation of German Industries (BDI) about Chinese state-backed acquisitions of German high-tech firms (Financial Times 2019a), the strategy outlined three core objectives: boosting the competitiveness of Germany's industrial sector, accelerating the adoption of transformative technologies such as digitization, artificial intelligence, and battery cell manufacturing, and protecting national champions from hostile takeovers by US corporations and Chinese state-owned enterprises. To achieve the latter, the Economics Ministry directed Germany's national development bank, KfW, to acquire equity stakes in key domestic firms, blocking foreign acquisitions in sectors such as energy (Financial Times 2018) and, during the COVID-19 pandemic, the vaccine developer CureVac (Financial Times 2020a).

The economic disruption caused by the pandemic marked a historic turning point, prompting an unprecedented shift toward interventionism. The government leveraged the European Commission's temporary relaxation of state aid rules to provide direct grants, guarantees, and subsidized loans, distributed either directly or through KfW.

Among the pandemic-era measures, the €100 billion Economic Stabilization Fund (ESF) was established to recapitalize and acquire stakes in struggling companies. Additional interventions included €50 billion in direct grants to one-person businesses and micro-enterprises, expanded venture capital financing for start-ups and SMEs, and a €25 billion fund compensating up to 70 percent of fixed costs for loss-making companies, capped at €150,000 per firm. Furthermore, the €5.3 billion "Social Guarantee" protected employees' net incomes by stabilizing social contributions and enhancing firms' competitiveness. In its most prominent move, the government acquired a 20 percent stake in Lufthansa for €9 billion, representing the largest corporate bailout during the pandemic. By the end of 2020, Germany had approved €995 billion in state aid, equivalent to 30 percent of GDP, accounting for over half of all EU state aid measures during the period (Financial Times 2020b). These initiatives underscored Germany's decisive pivot toward interventionist policies in response to the crisis.

Following Russia's invasion of Ukraine in 2022, the German government further expanded its use of state aid, leveraging the European Commission's Temporary Crisis Framework (TCF) and the subsequent Temporary Crisis and Transition Framework (TCTF). The Economic Stabilization Fund (WSF) was repurposed to provide gas and electricity subsidies and recapitalize energy firms. Major beneficiaries included Uniper SE and SEFE GmbH, utility companies heavily exposed to Russian energy markets. Uniper received €33 billion in recapitalization and €16 billion in loans, while SEFE was recapitalized with €6.5 billion and received €13.8 billion in loans. These measures averted a systemic collapse of Germany's energy supply infrastructure, which would have had catastrophic economic consequences. Additional initiatives included a €189.6 million subsidized loan program for firms across sectors and a €100 billion credit facility to ensure liquidity for energy companies facing margin calls in electricity and gas markets. These measures enabled energy-intensive industries to continue operations despite market volatility.

Germany's state aid response during the energy crisis far exceeded that of other EU member states, accounting for 52 percent of all state aid granted in the EU between March 2022 and June 2023, equivalent to 1.23 percent of its GDP. While the government notified €356 billion in aid to the European Commission, only €73 billion was disbursed, highlighting both its readiness to intervene and firms' limited capacity to absorb these funds. Legal challenges, however, curtailed the scope of these interventions. In November 2023, the German Constitutional Court ruled that multi-year credit lines under the WSF could only be activated with a state of emergency declaration for each budget year. With the government opting not to declare a state of emergency in 2024, the government's access to WSF funds was eventually significantly restricted.

6. Conclusion: The German Growth Regime amidst Stable Economic Priorities but Adjusting Policy Instruments

Thirty years after the fall of the Berlin Wall, the German economy has undergone profound changes, reflecting its adaptation to various internal and external challenges. Before the pandemic hit in March 2020, Germany's economic indicators were strong: unemployment was at historic lows, the public budget was in surplus, and the current account surplus had been rising steadily for several years. The export-led growth regime, which has been the backbone of Germany's economic strategy, appeared to be thriving. Even the global financial crisis of 2008 only caused a slight economic setback compared to the prolonged recessions and austerity faced by Southern European countries.

Since reunification, Germany's growth strategy has been guided by three central priorities. The first and most prominent has been the protection and facilitation of export-led growth, perceived as the primary path to economic prosperity. The success of German manufacturing firms in global markets, particularly in highly specialized sectors, has solidified the government's commitment to sustaining this model, such that, during the Eurozone crisis, Germany advocated for this approach as a blueprint for other EU member states (Scharpf 2021). The second priority has been to increase labor market participation, particularly in the private service sector, through policies aimed at activating the unemployed. The Hartz reforms of 2005 played a pivotal role here, focusing on lowering reservation wages, especially in East Germany, to boost employment. Lastly, since the mid-2000s, fiscal consolidation has become a key objective. Reunification brought a significant fiscal shock, driving policymakers to prioritize public sector restructuring and decentralize public sector wage setting to control budget deficits, particularly at the subnational level (Di Carlo 2019).

While this growth strategy has delivered notable successes in public finance and employment terms, it has also revealed several structural weaknesses. In East Germany, job creation has often been concentrated in the low-wage sector, with the region's industrial base remaining underdeveloped. The liberalization of unemployment benefits and the introduction of activation policies have been politically divisive, leaving lasting scars on national politics. Beyond Germany's borders, the country's model of wage restraint and its significant current account surplus has contributed to economic imbalances within the Eurozone, raising concerns about the long-term sustainability of the single currency (Höpner and Lutter 2018; Scharpf 2021).

Domestically, austerity and underinvestment in public infrastructure have exacerbated vulnerabilities. Germany's lagging performance in areas such as broadband and transportation has been a direct consequence of insufficient public investment. Much of this underinvestment stems from the collapse of municipal-level spending, which is difficult to address effectively by the federal government due to fiscal federalism (Bremer et al. 2023). This pattern of low public investment has also raised concerns about the future competitiveness of Germany's industrial base, particularly in the context of decarbonization and digital transformation. A series of high-profile infrastructure failures, such as delays in the construction of Berlin Brandenburg Airport and chronic underperformance in rail maintenance, has further eroded confidence in public administration.

Labor shortages have emerged as another pressing challenge, particularly in the decades following reunification. Germany's already low birth rate was further suppressed by economic insecurity, while immigration—though significant following the EU's eastern enlargement—has not fully offset the demographic decline.

These shortages have heightened the urgency of policy responses, including family policies aimed at boosting fertility and workforce participation, particularly among women (Zoch and Schober 2018; Di Carlo et al. 2024a).

These challenges drove a gradual shift in Germany's growth strategy during the 2010s, moving from selective protection and labor market activation to more socially inclusive and public investment-oriented policies. After the financial crisis, structural vulnerabilities became more apparent, leading to a moderate recalibration of Germany's social and economic policy and a pivot toward gender equality and work–life balance in family policies. The introduction of a statutory minimum wage addressed some inequalities in the low-wage sector, while government programs pledged more public investment. However, administrative capacity, particularly in infrastructure planning and delivery, has often fallen short.

These adjustments have largely been reactive, driven by mounting problem loads rather than proactive policy vision. The centrist coalitions that have dominated German politics have minimized electoral competition and fostered incremental modernization but limited transformative reforms. Nonetheless, the connection between the growth regime and welfare state reforms remains evident. Wage restraint, facilitated by cooperative bargaining, has been a cornerstone of the model, while subsidies and protection schemes continue to favor traditional manufacturing over emerging sectors. Dualism—characterized by selective wage restraint and labor market liberalization—has not been a permanent feature of the German model but rather a response to specific challenges, particularly those arising from reunification. Over time, as fiscal conditions improved and new challenges, such as demographic decline and infrastructure deficits, gained prominence, the government shifted its focus to family policies, immigration, and public investment.

In recent years, crisis management has introduced new dynamics. The government's response to the pandemic and the subsequent energy crisis has focused on decarbonization, energy security, and subsidies for strategic manufacturing sectors. While these measures have provided short-term relief, they have relied heavily on fiscal buffers created during the pandemic, which are now depleted. Simultaneously, geopolitical shifts, including rising competition from China and potential trade conflicts with the United States, have exposed vulnerabilities in Germany's export-led growth model.

As of 2025, Germany's growth regime faces critical questions about its future direction. Whether it doubles down on its manufacturing strengths or transitions toward a more balanced and inclusive growth model remains uncertain. What is clear is that Germany's ability to navigate these challenges will not only shape its domestic economic trajectory but also have significant implications for the stability and cohesion of the European Union.

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