Original Manuscript

Competition & Change

Competition & Change
2024, Vol. 0(0) 1–19

DOI: 10.1177/10245294241286925
journals.sagepub.com/home/cch
Sage

Winning the transition: Strategic state action in France and Germany amid the low carbon transition and energy shock

Sean McDaniel
University of Leeds, Leeds, UK

Daniel Bailey
Manchester Metropolitan University, Manchester, UK

Abstract

European economies are in flux, destabilized by the low carbon transition (LCT) and post-Ukraine energy shock. How are states responding to this instability? This article contributes to emerging environmentally focused Comparative Capitalisms (CC) scholarship by developing a novel framework for analysing how state action is shaped by the demand-competitiveness-energy nexus. We comparatively examine the cases of France and Germany since 2022, drawing upon 19 elite interviews and documentary analysis of stakeholder accounts, to advance three arguments. First, it is essential for CC frameworks to integrate energy supply dynamics to understand state action and processes of capitalist development. Second, the asymmetric impact of the LCT on France and Germany has shaped distinct state-led capitalist restructuring designed to protect and extend national competitive advantages. For Germany, this has primarily involved 'greening' its existing export-led model of growth, whereas French state actors are attempting to advance its interests via the 'strategic autonomy' (SA) agenda at the domestic and regional levels. Finally, the energy shock has initiated more interventionist state action in Germany that exposes critical instabilities in its export-led growth model. This analysis has significant implications for CC scholarship and its understanding of capitalist development by illustrating the significance of energy supply dynamics and advancing understanding of how disequilibrium can be theorized within the literature.

Keywords

Comparative capitalisms, comparative political economy, climate change, energy, decarbonization, Germany, France

Corresponding author:
Dr Sean McDaniel, School of Politics and International Studies (POLIS), University of Leeds, Social Sciences Building, Leeds LS2 9JT, UK.
Email: s.mcdaniel@leeds.ac.uk

Introduction

Economies throughout Europe and beyond are in flux. The climate crisis is instigating incremental but mutually reinforcing changes to consumer preferences, regulatory frameworks, corporate strategies, systems of industrial production and patterns of private and public investment towards low carbon or 'greenwashed' products. These issues affect a series of major sectors in the global economy, creating instability and opening up new forms of global competition for market share in the putative 'green' economy, and will also present much more profound medium-term implications if environmental targets are not met (Newell, 2019). This results in increased pressure on state actors to pursue a low carbon transition (LCT): not solely to limit carbon emissions, but also to maintain the economic competitiveness that underpins growth and living standards in a future 'green' economy. More immediately destabilizing, Russia's invasion of Ukraine in February 2022 disrupted global energy supply chains, instigating a fossil fuel price shock that threatened the productive capacities of some European economies and increases the pressure on government to secure alternative, more secure energy sources. The question at the heart of this article is, how are European states responding to these instabilities?

This article examines this question by comparatively analysing action taken by state actors in France and Germany, the European Union's (EU) two largest economies and most politically important member states, to protect economic growth and competitiveness at the domestic and regional levels. To do so, our analysis draws on a range of Comparative Capitalisms (CC) scholarship that focuses on the differing strategic roles of states in promoting capitalist development (e.g. Bulfone, 2023; Clift, 2012; Clift and McDaniel, 2019; Hall, 1986; Schmidt, 2003; Shonfield, 1969). CC scholarship is valuable for enabling us to develop a critical ontology of the state that is sensitized to the demand- and supply-side dynamics of each political economy. Historically, however, CC scholarship has not engaged sufficiently with the fundamental embeddedness of economies in planetary ecosystems (Polanyi, 2001 [1944], Paterson, 2021; Green, 2022), or the regional and global economic systems that determine, amongst many other things, the supply of energy essential to domestic patterns of production and consumption (Newell, 2021; Schwartz and Blyth, 2022; Thompson, 2022). This is changing; however, this article's analysis represents a significant contribution to an emerging environmentally focused CC literature (see Driscoll, 2024; Nahm, 2022) through its integration of energy supply dynamics into its framework for analysis, which advances understanding of how disequilibrium can be theorized in CC scholarship.

Drawing upon 19 semi-structured elite interviews in Berlin and Paris and documentary analysis of stakeholder accounts[1], the article advances three core arguments. First, that integrating *energy supply dynamics* into CC frameworks is critical for understanding differentiated patterns of state action and national capitalist development, especially considering the need to transition towards low carbon energy sources. Second, that the conjunctural pressures associated with the LCT have instigated and accelerated *distinct state strategies of capitalist restructuring driven by attempts to protect and extend national competitive advantages*. These strategies are shaped by the distinct relationship between the demand regime, energy supply dynamics and state institutions in each case. In the German case, we find that the state, supported by firms and unions who share a collective interest in maintaining Germany's status as '*Exportweltmeister'* (or 'export world champion'), is seeking to facilitate systemic changes to manufacturing production to decarbonize 'business as usual'. France's demand regime, on the other hand, is less directly impacted by the LCT. In this context, French state actors are utilizing the asymmetric nature of these shocks to advance a broader strategy by pushing the 'strategic autonomy' (SA) agenda at the domestic and European Union (EU) levels. The SA agenda seeks to rehabilitate Keynesian and *dirigiste* economic policy tools and

reorient eurozone policies, which will not only help decarbonize industry but also re-establish French competitive advantages and securitize key sectors amidst global economic fragmentation. Strategic state action in both cases is thus being taken to 'win the transition', to secure (or re-establish) ongoing economic competitiveness amid the turbulence of the current conjuncture. Our third claim is that the impact of the post-Ukraine energy shock on energy-intensive production, alongside the passage of the USA's Inflation Reduction Act (IRA) in 2022, has instigated *shifts in Germany's strategic response that point to emerging tensions and instabilities within its existing export-led model of growth*.

This analysis contributes to the CC scholarship through both developing a novel framework for integrating energy supply dynamics into accounts of capitalist development which can underpin future research and advancing the literature's conception of institutional disequilibrium and crisis tendencies. The article begins by exploring the CC scholarship and uses this discussion to develop the article's framework for analysing state action, before setting out the case design and methodological approach. Three key empirical sections document the article's core arguments, before the conclusion draws together our analysis and points to its central contributions.

Comparative capitalisms and the economy-energy supply dynamic

Three dominant strands of CC research have influenced the discipline's foci of analysis over time. Reflecting the post-War Keynesian settlement, formative contributions to the field analysed the role of the state in shaping economic outcomes, including through industrial strategy and different patterns of corporatist relations (Hall, 1986; Katzenstein, 1977; Shonfield, 1969; Zysman, 1983). Following the rise of economic globalization in the 1980s and 1990s, a second wave of scholarship – Varieties of Capitalism (VoC) – examined ongoing capitalist diversity in the face of economic globalization. This scholarship successfully demonstrated how variegated institutional arrangements on the supply-side (e.g. corporatist relations, education and training systems) produce different 'comparative institutional advantages' amongst Liberal (LMEs) and Coordinated Market Economies (CMEs) (Hall and Soskice, 2001; Hay and Bailey, 2019).[2] In light of the 2008 crisis, post-Keynesian-influenced macro-oriented CC scholars developed a third wave of CC scholarship that emphasizes the demand-side, mapping out the distinct new regimes of demand generation that have emerged following the collapse of 'wage-led growth' (Fordism) in the 1970s (Baccaro and Pontusson, 2016; Streeck, 2016). This work has valuably highlighted the centrality of demand regimes in shaping economic development and how political coalitions and policy are built around maintaining and expanding such demand and protecting key domestic producer groups (Baccaro and Pontusson, 2016; Baccaro and Pontusson, 2016). It points to two chief growth models: 'consumption-led growth', financed either by rising wages or more likely cheap credit, and 'export-led growth'.

Today in Europe, we appear to be entering a new critical juncture – some would say 'post-neoliberal' era (Davies and Gane, 2021) – characterized by significant state-led political and policy action including trade wars, huge 'green' subsidy programmes and the re-emergence of industrial strategy. While states have consistently played market-shaping and market-making roles in capitalist development in both 'emerging' and Western economies (Schmidt, 2002; Clift, 2012; Clift and Woll, 2012; Ornston and Vail, 2016; Brazys and Regan, 2017), a growing literature recognizes it is imperative today for political economy scholarship to re-focus attention on the strategic action being taken by states (Alami and Dixon, 2020; Bulfone, 2023; Green, 2022; Hay and Bailey, 2019). This renewed focus on planning and industrial strategy revisits some of the themes and analytical focal points of first-generation CC scholarship but can also be enriched by an appreciation of the

supply- and demand-side dynamics of the national economy, as well as historically constituted governance tendencies, as found in second and third wave CC scholarship (see Brazys and Regan, 2017; Clift and Woll, 2012; Hancké et al., 2008; Ornston and Vail, 2016; Schmidt, 2016). Both the prevailing model of demand generation and the institutional arrangements of the state – and the domestic interests to whom they afford structural power – profoundly shape economic governance as state institutions strategically seek to aid the competitiveness of nationally significant industries (Coates, 2000; Gourevitch, 1986; Jessop, 1990), 'entangling' the state in these interests and shaping its behaviour (Rademacher, 2022).

A key limitation of the CC scholarship, however, has been its tendency to overlook the fact that national economies are embedded in planetary ecosystems (Polanyi, 2001 [1944], Paterson, 2021; Green, 2022). The climate and the environment have historically been viewed as features *exogenous* to the economy and economic growth within much CC work. This requires rectifying; national economies, their growth and the competitiveness of key firms are *fundamentally* dependent upon the environment in which they occur (in the form of fossil fuel consumption, resource extraction, land use, etc.), and, in turn, are responsible for specific ecological footprints. Such concerns have recently made valuable excursions into the CC scholarship (Driscoll, 2024; Green, 2022; Lachapelle and Paterson, 2013; Mikler and Harrison, 2012; Nahm, 2022; Ćetković and Buzogány, 2016). It is vital that CC continues to consider the relationship between national economies and the environment, especially as the ensuing climate and ecological crisis presents threats to the legitimacy and profitability of growth regimes and exposes capitalist contradictions in the attempt to reconcile maintaining existing patterns of production, distribution and consumption with the imperative to remain within safe planetary boundaries (Newell, 2019; 2021: 9–10).

Perhaps the most obvious way in which CC scholarship can incorporate such dynamics is by considering the energy supply dynamics found within national economies. International Political Economy (IPE) scholarship has successfully linked historical shifts in energy production and supply to the development of different capitalist epochs and geo-political fault lines (e.g. the relationship between access to coal and the industrial revolution or the rise of Middle Eastern influence following the 1973 oil shock) (Newell and Paterson, 2010; Newell, 2019; 2021; Thompson, 2022). Such insights can usefully be applied at the level of the national economy for CC purposes, as access to and consumption of fuel sources, determined by domestic production and the security of supply within regional and global supply chains, is integral to the continued growth of every economy (Schwartz and Blyth, 2022). Grappling with the relationship between national economies and energy supply will, furthermore, be extremely important in an age marked by new energy supply constraints, resulting from geo-political instability, and the environmental imperative to transition away from fossil fuels. The economy-energy supply dynamic must, therefore, be a critical feature of CC work in understanding national capitalist development today.

The demand-competitiveness-energy nexus

To analyse state action in the current conjuncture requires drawing from across the different CC traditions and IPE, building upon their strengths and combining their insights into both the demand- and supply-side dynamics of economies. Here we develop a three-pronged framework – the demand-competitiveness-energy nexus – to do this.

First and foremost, as per the GMP, this demand-competitiveness-energy nexus framework recognizes that the maintenance, protection and extension of the demand regime are the *core* concern for state actors. This is due to the centrality of demand generation to maintaining both the wealth-producing and redistributive functions of the economy essential for the legitimacy of the

state and its relationship to key producer groups at the heart of the demand regime (Baccaro and Pontusson, 2016). As a result, we must therefore understand that instabilities in the material environment come to destabilize the conditions of demand that have hitherto characterized national economies and the state's relationship to key producer groups, as this will be a crucial determinant in shaping action from the state to uphold and extend demand, and those protect key producer groups.

The second aspect of this framework also draws upon earlier CC work to situate its account of state action within its specific institutional setting. Supply-side state institutions – from education and training to industrial relations – shape national economic competitiveness and are critical to understanding capitalist development. Institutions often exist in relation to a particular demand regime (e.g. strong corporatists institutions support manufacturing-based export-led growth) and this can produce stability and coherence that underpins competitiveness and growth (Hope and Soskice, 2016; Hall, 2022). However, institutions also lock-in path dependent behaviours in national political settings. As a result, such institutions exert an independent influence that shapes how state actors pursue capitalist restructuring (e.g. weak corporatist institutions and training regimes may make it difficult to transition towards export-led growth) (Clift and McDaniel, 2022). Resultingly, while institutions *may* be complementary to other features of the economy, they may also come to establish conditions of instability through, for example, undermining competitiveness and/or restricting the scope of state action as the wider macro environment alters. This insight thus pushes us to consider capitalist development diachronically, accounting for both the relationship between the national economy and external global economic forces and the relationship between them over time.

Drawing upon insights from the IPE scholarship (e.g. Newell and Paterson, 1998), the final aspect of this demand-competitiveness-energy nexus is the supply of energy into the national economy. The secure supply of energy plays a critical function in sustaining production and consumption and is thus a crucial determinant of growth and competitiveness. Disruption to energy supply lines can have significant implications for undermining the basis of the demand regime by either raising production costs, thus generating inflation and reducing competitiveness, or even undermining productive capacities altogether. Energy supply has its own distinct national character profile, too, given the differences in domestic energy production and consumption we see across cases, which make it an important and separate feature of our framework. Understanding the energy supply dynamics of national economies is, moreover, particularly apt in a context marked Russia's invasion of Ukraine, which has constrained the supply of oil and gas into Europe, and the LCT, which necessitates a shift away from fossil fuels towards renewable energy sources.

Case selection and methodology

In the sections below, we apply this demand-competitiveness-energy nexus framework to a comparative case study analysis of state action in response to the LCT and energy shock in France and Germany since 2022. We focus on the role that the state plays in the economy in relation to industrial strategy in this period and how this has been shaped by the demand-competitiveness-energy nexus. We utilize 'instrumental' cross-case analysis, designed to provide insight into an issue and interrogate theoretical assumptions through the generation of in-depth knowledge, both within the cases and across them (Stake, 2005: 445; George and Bennett, 2005: 19; Weller and Barnes, 2016: 2; Priya, 2021: 100). This approach is used to examine the idea – central to our conception of the demand-competitiveness-energy nexus – that energy supply dynamics play a critical role in shaping state action and capitalist restructuring. A comparison of France and Germany is particularly instructive for understanding this given their distinct energy supply dynamics and broader

economic structures. As explored in more detail below, Germany's export-oriented economy is heavily dependent upon cheap imported fossil fuel energy to prop up its competitiveness, while France is less significantly bound up with fossil fuels and energy imports due to its smaller industrial base and large domestic nuclear power capacity. The two states and economies also have markedly different developmental trajectories and associated sets of interests, institutions and ideologies attached. While this comparative case study of two highly different systems does not support generalizations to be made or highly specific claims concerning causal relationships, it does permit us to explore whether and how the theorized relationship between the economy and energy supply dynamics plays out in two distinct contexts, which holds some broader relevance to other ostensibly similar cases in Europe and beyond (Gerring, 2007: 89, 97–100; Stake, 2005: 445). France and Germany are, therefore, valuable cases for understanding the nature of the demand-competitiveness-energy nexus and how it shapes state action and capitalist restructuring.

To develop the case studies, we utilize a mixed-methods approach involving elite interviews and documentary analysis designed to map stakeholder interests and trace through key developments in state action since 2022 in response to the LCT and post-Ukraine energy shock (Weller and Barnes, 2016: 2–3; George and Bennett, 2005; Bennett, 2010). In doing so, the approach serves to establish understanding of the distinct characteristics of the demand-competitiveness-energy nexus in each case and render strategic state action explicable in relation to it. The data used comes predominantly from 19 semi-structured elite interviews with key economic and environmental stakeholders conducted in Berlin, Paris and online in May and June 2022. Participants were selected via a combination of 'purposive' and 'snowballing' sampling methods; economic and environmental stakeholders were 'mapped' in each case, and initial meetings were used to recruit additional participants. Interviews were conducted across government (e.g. Germany's Federal Ministry for Economic Affairs and Climate Action [BMWK] and France's Ministry of Ecological Transition), industry (e.g. the German Association of the Automotive Industry [VDA]), major trade unions involved in the transition (e.g. France's Confédération Générale du Travail [CGT] and Germany's IG Metall), as well as think tanks and non-governmental organizations (NGOs) (e.g. WWF Germany, Greenpeace France and E3G). See Appendix A for a full list of interviews. This interview data is triangulated with policy and documentary analysis of English, French and German language stakeholder accounts. These stakeholder accounts were reports and policy briefs focused on a discussion of state action in response to both the LCT and post-Ukraine energy shock, published by government, industry associations, labour unions and NGOs since Russia's invasion of Ukraine in February 2022.

Economic and energy disruption and the protection of industry incumbents

In this section, our aim is to document the asymmetric impact of the LCT and energy shock on the demand regime and energy supply in France and Germany and the way in which, despite pressures to minimize the environmental impact of production, the demand regime and key producer groups are ultimately prioritized and protected to maintain growth and competitiveness.

Germany is, in VoC terms, an archetypal CME wherein economic activity is more coordinated through non-market mechanisms such institutionalized corporatist relationships and strong vocational training, necessary for gaining a competitive edge in high-end export-led manufacturing and industry (Hall and Soskice, 2001; Hassel, 2014a). These institutions underpin its 'export-led' growth model (Baccaro and Pontusson, 2016: 14). The 'ordoliberal' German state helps to maintain a rules-based liberal order – through, for example, the constitutionally enshrined

'debt brake' – which facilitates a low inflationary environment necessary for export orientation (Baccaro and Benassi, 2017; Baccaro and Pontusson, 2016; Bonefeld, 2012; Hassel, 2014a). As a result of the highly carbon-intensive nature of its key export-oriented industries (steel, chemicals, automobile manufacturing, etc.), the German economy is heavily dependent upon fossil fuel consumption, with a significant reliance upon cheap imported oil and gas to prop up competitiveness (Bouacida et al. 2022).

The use of cheap fossil fuel energy is thus directly bound up with German competitiveness and consequently there has long been difficulty in phasing out, for example, domestic coal mines when compared to less energy-intensive economies such as the United Kingdom (Green, 2022: 341). The country's prized automotive sector, which accounts for almost 10% of value added and over 7% total employment (Puls and Fritsch, 2020), is central to the way in which the LCT threatens to disrupt Germany's extant economic model. The country's status as an export powerhouse has boosted growth and material living standards and the economy performed well following the 2008 financial crisis in comparison to many of its European neighbours. Public support is particularly robust in some of Germany's regions, such as lower Saxony where employment and raising living standards are strongly supported by the operations of Volkswagen. Indeed, the geographic concentration of these powerful export-focused producer groups, such as automobile manufacturers, has provided key firms with strong feed-ins to the policymaking arena, historically 'entangling' political parties, regional governments and the German state in these interests (Rademacher, 2022).

The heart of the German export-led model, however, faces huge challenges as a result of the LCT. Measured as the sum of the lifecycle GHG emissions of the cars sold in a given year, the carbon footprint of just three automobile companies (VW, Daimler and BMW) is greater than that of the rest of the German economy (Greenpeace, 2019). Shifting production towards electric vehicle (EV) production – which itself is, of course, subject to debate over its purported green credentials – is seen as a key part of the industrial decarbonization of this sector, necessitated both by the need to lower carbon emissions and by the economic threat posed by emerging competitors such as China, which is establishing market dominance in the EV sector. Systemic changes to production resulting from the LCT will nonetheless prompt relocations of production and reconfigure the geographic division of labour, as sites that produce wind turbines and electric batteries may not be located in the same sites that currently manufacture ICE vehicles or steel (Lachapelle et al., 2017; While and Eadson, 2022).[3] IG Metall, which represents over two million workers across German industry, is concerned that a low carbon transition that proceeds too quickly raises the prospects of structural unemployment, reminiscent of the effects of British deindustrialization in the 1980s, a fear exacerbated by the disruptive effects of the Ukraine war.[4] In addition, a host of smaller companies in the *Mittelstand* have also built their business models around providing parts and services to the larger corporations on the basis of existing production practices and will struggle to adapt to foreseeable technological and geographical changes.[5]

The post-Ukraine energy shock has also had profound implications for Germany. The competitiveness of German manufacturing and industry has been long been sustained on the back of a continued supply of cheap fossil fuel energy from Russia, from which Germany was receiving 55% of its gas, 35% of its oil and nearly half of its coal before the invasion of Ukraine (Bouacida et al., 2022). Energy supply shocks resulting from the war compounded with previous supply chain pressures that surfaced during the pandemic (e.g. for silicon chips) and contributed towards Germany recording a trade deficit in May 2022 for the first time since 1991 due to import costs soaring and reduced demand for exports (Arnold and Chazan, 2022). The rising cost of energy and broader supply chain disruptions have created severe inflationary pressures for German

manufacturers by raising prices for inputs and adding economy-wide pressures to raise wages, which threaten to undermine competitiveness.

Given Germany's corporatist institutional arrangements, key producer groups at the heart of Germany's economy enjoy significant influence. Numerous interviewees stressed that the BDI (Federation of German Industries), the VDA (German Association of the Automotive Industry) and certain major manufacturing corporations, as well as trade unions such as IG Metall who represent car manufacturer workers, powerfully assert their interests in discussions within key government ministries. Such groups are seen to represent the perceived 'national interest' and underpin the '*Exportweltmeister'* (export 'world champion') model. Consequently, German state actors have consistently sought to defend the interests of car manufacturers by seeking to delay the EU's planned phase out of ICE vehicles by 2035 (Miller and Hancock, 2022), something which has been supported by industry groups including the VDA and BDI, as well as IG Metall, who represent workers in car manufacturing plants. It has also lobbied its EU partners to also include gas – crucial for maintaining the competitiveness of German producers – within the bloc's new EU sustainable finance taxonomy as a 'bridging technology', despite it being a fossil fuel (Hancock, 2022), a move widely supported across the political spectrum as well as by industry and unions.[6]

France, on the other hand, is a more mixed system, noted for its market and non-market forms of coordination (Hassel, 2014b) and idiosyncratic 'state-led' characteristics and the influence of post-*dirigiste* economic tools, including activist industrial planning, in how French state actors seek to shape national economic development (Clift, 2003, 2012; Clift and McDaniel, 2019; Schmidt, 2003, 2016). France does not possess a clear 'growth model'; manufacturing accounts for just 10% of economic activity, but there is a stronger role for public administration and state spending in supporting demand than is found in market-oriented economies such as the United Kingdom. These attributes also mask the political significance of sectors such as agriculture, automobile manufacturing and aviation given their historical roles in the French economy and the strong interpersonal connections between the state and business leaders in these sectors. While these sectors have significant energy demands, in comparison to Germany, the French economy is less bound up with fossil fuel energy due to a smaller industrial base (13.4% VA in France versus 23.5% VA in Germany) and France's large nuclear power capacity, which supplies over 70% of its electricity (Eurostat, 2022).

While France's demand regime is less directly tied to fossil fuel energy than Germany's, it remains true that important elements of the French economy such as the agricultural, aviation and automotive (as in Germany) sectors represent formidable decarbonization challenges. The agricultural sector is not only highly dependent upon land and natural resources but relies upon imported fossil fuels to power machinery and is highly polluting, accounting for 17% of total French GHG emissions, the highest in the EU (Mielcarek-Bocheńska and Rzeźnik, 2021). Without fundamental reduction in meat and dairy consumption – which itself threatens the sector – it is also extremely difficult to envisage a path towards agriculture being decarbonized. However, French farming has huge cultural significance in the country, and despite the lack of formal corporatist institutions, the state is highly sensitized to the needs of key producer groups via longstanding informal connections (Schmidt, 2012: 162). The power of agricultural lobby group FNSEA was noted by multiple interviews who compared its political influence with Germany's car industry.[7] This is reflected in France's longstanding opposition to reform of the EU's Common Agricultural Policy (CAP), which is often criticized by for its environmentally damaging subsidies. France's 2023–2027 national agriculture plan, for instance, promotes the status-quo on the CAP, to the dismay of French environmental groups (Pistorius, 2021). The aviation sector too, which employs 263,000 people and has wider implications for France's tourism sector via the presence of key firms such as AirFrance

(Morénillas, 2021; IATA, n.d), lacks a clear technological pathway to decarbonization, with civil servants recognizing that President Macron's touted development of hydrogen planes is not a realistic option in the short term.[8] The industry is seen to have 'a direct route' to the government and benefits from informal relationships with high functionaries in the French state.[9] These relationships and the importance of the industry to the French economy have largely protected it from enforcement of 'green conditionalities' attached to a €7bn COVID-era bailout, with state actors arguing they could not impose onerous costs on already fragile French firms.[10]

The energy shock created by Russia's invasion of Ukraine also provides evidence of the asymmetric nature of these pressures across the two cases. France has been comparatively insulated from energy price inflation due to its nuclear power capacity. The country possesses over half of the EU's nuclear reactors and produces around 60% of all nuclear power in the EU-27 (Eurotam, 2021: 43). Nuclear has been pursued by French policymakers historically as a way of ensuring energy security (it was scaled up dramatically amid the 1973 oil crisis) and providing cheap – and incidentally low carbon – electricity to its firms. This nuclear capacity relies on imported uranium, which comes from countries such as Niger, Kazakhstan, Australia and Canada, and as such the idea of French energy 'independence' has been seen as something of a 'red herring' (Hird, 2022). Nonetheless the invasion of Ukraine and its associated energy shock has been far less disruptive in France than it has been in Germany.

Securing competitive advantages amidst the LCT

Protecting the short-term interests of key producer groups is, however, only one aspect of the state action we see. In Germany, we also find a widespread acceptance of the need to reorient the country's pre-existing successful export-led model for a 'green' age across the state, key producer groups and unions. Evolving perceptions of competitiveness, based on faith in technological innovations and nascent market shifts, have forged a broad consensus amongst stakeholders on the need for capitalist restructuring as a competitive imperative. Major corporations, political actors and trade unions appear to have agreed in principle to, and have invested in, a technology-centric vision of a low carbon transition designed to shore up competitiveness in the putative 'green economy'.[11] This includes shifts to EV production in the automotive sector and the upscaling of renewable energy production in the energy sector most obviously (Haas, 2021), but other nascent technologies will also be adapted and deployed via technical and systemic changes in the German economy and greater investment will be required in the technological development of green hydrogen and batteries for aviation.

As such, Germany has embraced systemic changes to production to maintain, but 'green', its existing demand regime. As a representative of the German economy ministry put it, 'this is about greening the economic model that we have rather than abandoning it or radically changing it'.[12] Indeed, a commonly held view amongst our interviewees was that even many big corporations and employers (e.g. the DAX companies and the BDA and BDI) are no longer a significant 'barrier' to decarbonization.[13] Increasingly, it is suggested, industry groups and firms have accepted the business case to decarbonize – even if their view of decarbonization could be criticized for a lack of ambition in both scale and timeframe. The automotive sector is symbolic of this shift, which for them is about becoming market leaders in EVs. According to a representative of the German Association of the Automotive Industry (VDA), the big car manufacturers have 'completely changed their production plans in the last few years' in order to prepare for the switch to EVs and are now pressuring the government to invest in EV charging points and renewable energy generation in order to decarbonize their production and products.[14] They have reoriented their operations to such

an extent that even the representative of the WWF suggests that: 'the car industry is not even that big a problem anymore'.[15] This aligns with Nahm's (2022) finding that carbon-intensive industries at the heart of export-led growth models will decarbonize more rapidly due to profitable opportunities in 'green' products.

This is not to say that the LCT is viewed as being swift or pain free. Systemic changes will prompt relocations of production and reconfigure the geographic division of labour, as sites that produce wind turbines and electric batteries may not be located in the same sites that currently manufacture ICE vehicles or steel (Lachapelle et al., 2017; While and Eadson, 2022).[16] This raises concerns amongst trade unions over a rise in structural unemployment resulting from the transition[17], while many *Mittelstand* companies are fearful of their products and services becoming irrelevant in a future green economy.[18] This generates fierce regional resistance to decarbonization. Central to how the transition will be managed therefore is the German state and the coordinated institutions of its 'social market economy' which are viewed as being able to, to some degree at least, mediate and mitigate the inherent conflicts of transition. A representative of IG Metall highlighted the need to address the risk of structural unemployment through bolstering Germany's existing strong educational and training institutions and retraining its domestic workforce with the new skills necessitated by systemic changes to production.[19]

Unlike Germany, where there is a dominant export-oriented demand regime that is clearly and directly impacted by the LCT, the French economy has a more varied sectoral make up which results in a less clear conception of how to 'green' the existing model. In this context, and in the absence of more formal institutional channels of stakeholder input, the post-*dirigiste* French state has a more top-down role to play in responding to this critical juncture. So-called 'economic realists' within the economy and finance ministries, who have historically been ambivalent about the climate crisis, are increasingly receptive towards the economic case for decarbonizing rapidly.[20] Moreover, liberal conceptions of market-based transition are increasingly being pushed aside in favour of more interventionist stances which, 'look back at France's industrial past' and suggest that the state needs to once again play a significant role in financing and engineering the LCT.[21] Such ideas are being promoted through the strategic autonomy (SA) agenda at the domestic and European levels. SA is a geo-political strategy which promotes securing greater independence for France and the EU through reducing external dependencies and enhancing the bloc's internal coordination mechanisms. This would see, for instance, 'critical' industries brought back into European territories, allowing for greater regional control of supply chains for important manufactured products including low carbon energy equipment and components, medicines, food and other essential items (Lavery et al., 2022). SA is legitimized with reference to the need to facilitate a more rapid process of industrial decarbonization and transition to low carbon energy sources, to break Europe's reliance upon autocratic oil and gas producing states, while simultaneously bolstering the competitiveness of French firms vis-à-vis global rivals.

We can see this state strategy in action in the context of its 'France 2030' industrial investment strategy and calls for the EU to support its *Planification écologique* with increased funding. France 2030, a strategy launched in October 2021, was part of a broader shift in the thinking of French state actors during the COVID-19 pandemic, which served to 'shift the political centre' away from laissez faire economics[22] and saw economic orthodoxy 'abandoned'.[23] France 2030 seeks to transform and pioneer new industrial methods of producing green hydrogen, nuclear power generation systems, electric vehicles, low carbon aircraft and sustainable food with the stated ambition of helping France to become a global leader in green innovation (Business France, 2021). As part of this strategy, France has lobbied the EU to loosen its state aid rules and retain a more relaxed approach to fiscal surveillance to permit France achieve its aims of creating a new age of green manufacturing and

industry (Macron, 2022). This strategy, as the following section illustrates, has only been amplified by two events of geo-political and economic significance – Russia's invasion of Ukraine in February 2022 and subsequent fossil fuel energy shock and the introduction of the Inflation Reduction Act (IRA) in the United States some six months later.

The energy shock and strategic reorientation of state action

In France, the energy shock has emboldened pre-existing ideas around the need for SA, both domestically and at the European level. Domestically, we can see evidence of this in France's approach to its energy sector. Nuclear power became a central part of the French state's energy autonomy strategy following the 1973 oil crisis, known as the Messmer plan, and has long delivered cheap (and low carbon) electricity to the wider economy, providing a competitive advantage for French firms. Despite EDF being privatized in 2004 (though with the state as the major shareholder) under EU Common Market regulation, several interviewees attested to the ongoing strong personal relationships between the company and the French state. One anonymous source from the environment ministry described the EDF CEO, Jean-Bernard Lévy, as the 'real head of the Energy Ministry'.[24,25] Despite this, the future of nuclear looked uncertain for many years. The ageing nuclear fleet is increasingly unreliable and thus costly, even forcing France to begin importing electricity in late 2022 as a result. President Macron was even initially elected on a platform to reduce the share of nuclear in France's electricity generation mix.

Recognizing the shifting geo-politics of energy, however, Macron has reversed this position. The war in Ukraine has further increased convictions in the French state of the need to reduce the country's exposure to the whims of foreign states and supply shocks.[26] As a result, Macron has promised to build at least six new nuclear reactors in the decades to come (Eurotam, 2021: 44–45), while also fully nationalizing EDF in late 2022 to facilitate this at a cost of €9.7bn. The state-controlled uranium producer Orano SA also announced in late 2023 that it will invest €1.7bn to increase its domestic uranium-enrichment capacity and cut reliance on imports (Shaw, 2023). The post-*dirigiste* French state is thus playing an increasingly interventionist role in securing and developing its nuclear infrastructure, which it feels can provide a cheaper, low carbon and more secure form of energy, all while serving to re-establish French economic competitiveness (especially vis-à-vis the gas and oil-reliant Germany).

The energy shock has also revived longstanding French ambitions to export its ideas and strategies for European governance and it appears that the energy shock may have helped compound the case for SA (see Lavery, 2023). This can be seen with the EU adopting the Temporary Crisis and Transition Framework (TCTF) in March 2022, in response to Russia's invasion of Ukraine. The TCTF liberalizes the bloc's state aid rules and allows for much greater investment into the low carbon economy, such as in the processing of critical raw materials and manufacture of batteries and renewable energy equipment and components. The introduction of the IRA, which pledges almost $400bn worth of subsidies to consumers and firms to shift behaviour and production towards 'greener' technologies, has heightened anxiety across Europe that a subsidies arms race could lead to a loss of competitiveness and capital investment. In response, France has continued to advocate for the SA agenda. In a letter in January 2023, Macron called on the EU to respond directly to the IRA by accelerating production targets, further liberalizing state aid regulation targeted to the photovoltaics, batteries, hydrogen and critical materials sectors, and establishing an emergency sovereignty fund to support EU-based industries (Tamma and Stolton, 2023).

Under the weight of instabilities generated by the energy shock and the growth of green subsidies, we have seen shifts in the nature of the German state's strategic action. Given Germany's

huge exposure to Russian energy supply, it embraced the shifting economic strategy of the European Commission. It has drawn on the TCTF more than any other country by some distance: accounting for 76% of total state aid granted under the measures in 2022 (€71.29bn) (European Commission, 2023: 2). In September 2022, Germany's Economy ministry announced a €200bn commitment to subsidize business and household energy bills (the energy 'price shield'). The IRA has had a big effect on Germany, home to many of the EU's largest manufacturing firms that may find US investment attractive. In May 2023, Germany further committed to subsidizing 80% of the electricity cost for energy-intensive companies until 2030. These measures were pursued with explicit reference to their ability to counteract inflationary pressures on the German economy to ensure the continued cost competitiveness of German firms (Hansen and Knolle, 2022) and as a response to 'tough international competition' in sectors where competition was 'not taking place on a level playing field' (Pitel et al., 2023). Such polices come on top of the pausing of the debt brake during the pandemic and the re-allocation of €60 billion of unused emergency pandemic money towards the climate and transformation fund by the SPD-led Coalition government. Furthermore, in February 2023 Chancellor Scholz defended Commission plans – criticized by other member states – to further liberalize state aid rules in response to the IRA under the Green Deal Industrial Plan (von Der Burchard, 2023).

Germany's actions to secure its own competitive advantages in the context of the energy shock and LCT are thus evolving in ways that appear at odds with the traditional ordoliberal norms and institutions designed to support its export-led model of growth. Fiscal conservatism has been a cornerstone of the ordoliberal state's management of the country's export-led growth model. The politics of *schwarze Null* (literally 'black zero', or a current account surplus) holds not only a political significance but manifests itself in a constitutionally enshrined mechanism (the debt brake) that attempts to ensure low domestic inflation and thus ongoing export competitiveness. However, as numerous interviewees identified, it is increasingly seen as a block on the financing of Germany's LCT and this is becoming increasingly problematic in an age marked by the need to shift away from fossil fuels, energy supply insecurity and growing 'green' competition globally that threatens to undermine Germany's position as *Exportweltmeister*.[27] This challenge appears to have sparked a new political struggle over the fiscal politics of the LCT. While an advisory board from the BMWK (2023) has set out a case for reforming the debt brake to create fiscal capacity to invest public funds in the transition, in November 2023 a German constitutional court ruling found the Coalition government's increased spending related to the LCT and energy shock has been 'unconstitutional'. Senior civil servants at the BMWK admit that these challenges have provoked fundamental questions amongst state actors around the sustainability of the pre-existing German model that require deeper consideration of the need to rebalance the economy away from its export orientation and towards domestic consumption.[28]

Conclusion

This article has sought to understand how two major European states, France and Germany, are responding to the instabilities created by the LCT and energy shock. In both cases, we see an attempt to 'win the transition', that is, to secure (or re-establish) ongoing economic competitiveness amid the turbulence of the current conjuncture. In Germany, in response to the LCT, which threatens to undermine the basis of its carbon-intensive demand regime, we found that the state, supported by firms and unions who share a collective interest in maintaining Germany's status as '*Exportweltmeister*' (or 'export world champion'), is seeking to 'green business as usual'. However, the inflationary consequences of the energy shock created by Russia's invasion of Ukraine, alongside

the growth of global 'green' subsidies, have rapidly undermined German competitiveness and resulted in an interventionist shift in Germany's strategic response that highlights instability and disequilibrium in its existing export-led model of growth. France's demand regime, on the other hand, is less directly impacted by the LCT, while it has been shielded from the energy shock by its domestic nuclear capacity. In this context, French state actors are utilizing the asymmetric nature of these shocks on Germany to advance its SA strategy at the domestic and EU levels, to not only help decarbonize its industry but also re-establish French competitive advantages and securitize key sectors amidst global economic fragmentation. In doing so, the state is exploiting vestiges of the *dirigiste* state, including state control over major energy corporations and strong inter-personal relations with industry chiefs, to help mobilize this strategy.

Our analysis contributes to the CC scholarship in three important ways. First, it has developed a novel analytical framework – the demand-competitiveness-energy nexus – that opens up new lines of investigation for CC research. It combines insights from across the CC scholarship and IPE to understand how state action is mediated not just by the demand regime and supply-side institutional arrangements of an economy, but also the dynamics of energy supply. The secure supply of energy plays a critical function in sustaining production and consumption and is thus a crucial determinant of growth and competitiveness. Our analysis has demonstrated how the disruption of energy supply lines can have significant implications for undermining the basis of the demand regime by either raising production costs, thus generating inflation and reducing competitiveness, or even undermining productive capacities altogether. Given that each national economy has its own distinct energy supply dynamics, it is important for CC scholarship to advance understanding of the demand-competitiveness-energy nexus, especially in a context marked by geo-political (and thus energy supply chain) instability and the environmental imperative to shift away from fossil fuels towards renewable energy sources.

At the same time, our analysis responds to a growing call within CC scholarship to move beyond synchronic accounts of institutional equilibrium in CC frameworks to integrate more directly an understanding of institutional disequilibrium and crisis dynamics (Hall and Thelen, 2009; Clift and McDaniel, 2022; Green, 2022). The demand-competitiveness-energy nexus opens the door to a more contingent conception of capitalist institutional development and state action at key historical junctures. We can see this particularly in our analysis of the German case. The pressures associated with the energy shock have instigated shifts in strategic state action that appear at odds with traditional notions of German ordoliberalism and the institutions that underpin its export-led model of growth. This dichotomy reflects the way in which institutions of the state (in this case the German debt brake), may be suited to a specific demand regime (manufacturing-based export-led growth) at a certain historical conjuncture (liberal, free-trade globalization), but come to be outmoded by broader macroeconomic and environmental developments (global fragmentation, supply chain disruption, climate change). While we may be seeing the return of austerity across Europe, the pressures of the LCT and energy security – both environmental and economic – will not dissipate any time soon. As such, our framework of analysis offers CC scholarship a valuable tool as it seeks to understand capitalist development and instability in the contemporary period.

Finally, while it was beyond the scope of this article to interrogate European integrative dynamics, our analysis points us towards the need for future work to appreciate more fully how national level dynamics influence changes in regional governance at moments of instability and crisis. This is important especially in the cases we have analysed here given the historic influence of the Franco-German relationship in the EU and the dominance of German ordoliberal thinking in the design of the eurozone (Clift and Ryner, 2014), as well as the integration of some Eastern European economies (e.g. Poland and Hungary) into Germany's export regime. Joint shifts in French and

German conceptions of how best to protect and extend their own national competitiveness are liable, therefore, to have significant implications for European governance if we see increased agreement on the need for greater European protectionism and a broader shift away from the ideal of the EU being at the heart of a liberal, free-trading order. As such, CC scholarship can build upon this article to further draw links between national dynamics and an emerging European studies literature on how major instabilities are shaping the future of European integration (e.g. Schmidt, 2020; Schoeller and Heidebrecht, 2023).

Acknowledgements

We gratefully acknowledge feedback on this article from numerous colleagues and participants at the Sussex Energy Group seminar, University of Sussex. We would also like to thank the reviewers for their detailed and constructive feedback.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Manchester Metropolitan University; Future Economies Research Centre internal seed corn funding.

ORCID iD

Sean McDaniel https://orcid.org/0000-0003-2553-0836

Notes

1. See section below, 'Case selection and methodology', for more on this and Appendix A for a full list of interviews.
2. Further elaborations on the framework expanded the framework out to consider more state-oriented varieties (see Schmidt 2003, 2016) and 'mixed market' models (Hancké et al., 2008).
3. VDA representative, online, 20 May 2022.
4. IG Metall representative, Berlin, 12 May 2022.
5. E3G representative, Berlin, 11 May 2022.
6. Deutscher Naturschutzring (DNR) representative, online, 12 May 2022.
7. Sentiment expressed in interviews with I4CE and La Fabrique Écologique representatives, Paris, 24 and 25 May 2022.
8. French Environment Ministry representative, Paris, 27 May 2022.
9. Anonymous advisor at French Environment Ministry, interview in Paris, 27 May 2022.
10. I4CE; Anonymous advisor at French Environment Ministry, interview in Paris, 27 May 2022
11. German Federal Ministry for Economic Affairs and Energy (BMWK) representative, Berlin, 10 May 2022; sentiment also repeated by E3G representative, Berlin, 12 May 2022.
12. BMWK representative, Berlin, 10 May 2022.
13. This argument was made in interviews by representatives of the DNR, WWF Deutschland, E3G and the BMWK.
14. VDA representative, online, 20 May 2022.

15. WWF Deutschland representative, Berlin, 10 May 2022.
16. VDA representative, online, 20 May 2022.
17. IG Metall representative, Berlin, 12 May 2022.
18. E3G Berlin representative, Berlin, 12 May 2022.
19. IG Metall representative, Berlin, 12 May 2022; sentiment also reflected by VDA representative, online, 20 May 2022.
20. Sentiment expressed in interviews with La Fabrique Écologique and I4CE.
21. I4CE representatives, Paris, 25 May 2022.
22. I4CE representative, Paris, 25 May 2022.
23. La Fabrique Écologique representatives, Paris, 24 May 2022.
24. French Environment Ministry representative.
25. Fabrique Écologique representatives, Paris, 24 May 2022.
26. ADEME representative, Paris, 25 May 2022.
27. IG Metall representative, Berlin, 12 May 2022.
28. Sentiment expressed in different interviews with two senior BMWK representatives.

References

Alami I and Dixon A (2020) State capitalism (s) redux? Theories, tensions, controversies. *Competition & Change* 24(1): 70–94.

Arnold M and Chazan G (2022) Germany warns of 'historic challenge' as trade slides into deficit. *Financial Times*, 4 July 2022.

Baccaro L and Benassi C (2017) Throwing out the ballast: growth models and the liberalization of German industrial relations. *Socio-Economic Review* 15(1): 85–115.

Baccaro L and Pontusson J (2016) Rethinking comparative political economy: the growth model perspective. *Politics & Society* 44(2): 175–207.

Bennett A (2010) Process tracing and causal inference. In: Brady H and Collier D (eds) *Rethinking Social Inquiry: Diverse Tools, Shared Standards*. Plymouth: Rowman and Littlefield Publishers, 207–220.

BMWK (2023) 'Finanzierung von Staatsaufgaben: Herausforderungen und Empfehlungen für eine nachhaltige Finanzpolitik', December 2023, BMWK.

Bonefeld W (2012) Freedom and the strong state: on German ordoliberalism. *New Political Economy* 17(5): 633–656.

Bouacida I, Gagnebin M and Rüdinger A (2022) Breaking dependency on Russian gas', IDDRI. available here: https://www.iddri.org/en/publications-and-events/blog-post/breaking-dependency-russian-gas-perspectives-france-and-germany#:~:text=Germanyisparticularlydependenton,respectivelyforFrancein2020 (last accessed 02/12/2022.

Brazys S and Regan A (2017) The politics of capitalist diversity in Europe: explaining Ireland's divergent recovery from the euro crisis. *Perspectives on Politics* 15(2): 411–427.

Bulfone F (2023) Industrial policy and comparative political economy: a literature review and research agenda. *Competition & Change* 27(1): 22–43.

Business France (2021) Presentation of the "France 2030" plan. 15 October 2021, available here: https://www.businessfrance.fr/discover-france-news-presentation-of-the-france-2030-plan (last accessed 15/01/24).

Ćetković S and Buzogány A (2016) Varieties of capitalism and clean energy transitions in the European Union. *Climate Policy* 16(5): 642–657.

Clift B (2003) The changing political economy of France: *dirigisme* under duress. In: Ryner M and Cafruny A (eds) *A Ruined Fortress?* New York: Rowman & Littlefield.

Clift B (2012) Comparative capitalisms, ideational political economy and French post-*dirigiste* responses to the global financial crisis. *New Political Economy* 17(5): 565–590.

Clift B and McDaniel S (2019) Capitalist convergence? European (dis?)Integration and the post-crash restructuring of French and European capitalisms. *New Political Economy* 26(1): 1–19.

Clift B and McDaniel S (2022) The politics of the British model of capitalism's flatlining productivity and anaemic growth: lessons for the growth models perspective. *The British Journal of Politics and International Relations* 24(4): 631–648.

Clift B and Ryner M (2014) Joined at the Hip But Pulling Apart? Franco-German Relations, the Eurozone Crisis and the Politics of Austerity. *French Politics* 12(2): 136–163.

Clift B and Woll C (2012) Economic patriotism: reinventing control over open markets. *Journal of European Public Policy* 19(3): 307–323.

Coates D (2000) *Models of Capitalism*. Cambridge, UK: Polity.

Davies W and Gane N (2021) Post-neoliberalism? An introduction. *Theory, Culture & Society* 38(6): 3–28.

Driscoll D (2024) Comparative green advantage: growth regimes and public investment in renewable energy R&D. *Journal of Common Market Studies* 62(1): 285–294.

European Commission (2023) 'Competition State aid brief', Issue 1/2023 – July 2023.

Eurostat (2022) Greenhouse gas emissions per capita. Online Data Code: T2020_RD300, European Environment Agency (EEA) data, available here: https://ec.europa.eu/eurostat/databrowser/view/t2020_rd300/default/table (last accessed 02/12/2022).

Eurotam (2021) *Euratom Supply Agency Annual Report 2021*. Luxembourg: Publications Office of the European Union.

George AL and Bennett A (2005) *Case Studies and Theory Development in the Social Sciences*. Cambridge, Mass: MIT Press.

Gerring J (2007) *Case Study Research: Principles and Practices*. Cambridge, UK: Cambridge University Press.

Gourevitch P (1986) *Politics in Hard Times*. Ithaca,NY: Cornell University Press.

Green J (2022) Comparative capitalisms in the Anthropocene: a research agenda for green transition. *New Political Economy*: 1–18.

Greenpeace (2019) Crashing the climate: how the car industry is driving the climate crisis. September 2019, available: https://www.greenpeace.de/publikationen/CrashingtheClimateenglLF.pdf (last accessed 02/12/2022).

Haas T (2021) From green energy to the green car state? *New Political Economy* 26(4): 660–673.

Hall PA (1986) *Governing the Economy: The Politics of State Intervention in Britain and France*. Oxford: OUP.

Hall PA (2022) Growth regimes. *Business History Review*, available here: https://scholar.harvard.edu/hall/publications/growth-regimes

Hall PA and Soskice DW (2001) An introduction to varieties of capitalism. In: Hall PA and Soskice DW (eds) *Varieties of Capitalism: The Institutional Foundations of Competitiveness*. Oxford, UK: Oxford University Press, 1–68.

Hall P. A. and Thelen K (2009) Institutional change in varieties of capitalism Get access. *Socio-Economic Review* 7(1): 7–34.

Hancké B, Rhodes M and Thatcher M (eds) (2008) *Beyond Varieties of Capitalism*. Oxford: OUP.

Hancock A (2022) EU parliament votes to designate gas and nuclear as sustainable. *Financial Times*, 6 July 2022.

Hansen H and Knolle K (2022) Germany agrees 200bn euro package to shield against surging energy prices. *Reuters*, 29 September 2022, [available at: https://www.reuters.com/business/energy/german-govt-agrees-relief-package-response-soaring-energy-prices-sources-2022-09-29 (last accessed 30/01/2023).

Hassel A (2014a) The Paradox of Liberalization – understanding dualism and the recovery of the German political economy. *BJIR* 52(1): 57–71.

Hassel A (2014b) 'Adjustments in the eurozone: varieties of capitalism and the crisis in southern Europe', LEQS Paper No. 76/2014.

Hay C and Bailey D (eds) (2019) *Diverging Capitalisms: Britain, the City of London and Europe*. Basingstoke: Palgrave Macmillan.

Hird A (2022) Does France's emphasis on nuclear power guarantee its energy independence? rfi, available at: https://www.rfi.fr/en/france/20220223-does-nuclear-power-guarantee-france-s-energy-independence-uranium-imported-niger-macron-russia (last acessed 30/01/2023).

Hope D and Soskice D (2016) Growth models, varieties of capitalism and macroeconomics. *Politics and Society* 44(2): 209–226.

IATA, n.d. IATA (n.d.) The importance of air transport to France. IATA report, available here: https://www.iata.org/en/iata-repository/publications/economic-reports/france–value-of-aviation/(last accessed 02/12/2022).

Jessop B (1990) *State Theory: Putting the Capitalist State in its Place*. Cambridge: Polity.

Katzenstein PJ (1977) Introduction: domestic and international forces and strategies of foreign economic policy. *International Organization* 31(4): 587–606.

Lachapelle E and Paterson M (2013) Drivers of national climate policy. *Climate Policy* 13(5): 547–571.

Lachapelle E, MacNeil R and Paterson M (2017) The political economy of decarbonisation: from green energy 'race' to green 'division of labour. *New Political Economy* 22(3): 311–327.

Lavery S (2023) Rebuilding the fortress? Europe in a changing world economy. *Review of International Political Economy*: 1–24, [early online version].

Lavery S, McDaniel S and Schmid D (2022) European strategic autonomy: new agenda, old constraints. In: Babić M, Dixon AD and Liu IT (eds) *The Political Economy of Geoeconomics: Europe in a Changing World. Series: International Political Economy Series*. Springer, 57–80.

Macron E (2022) France Relance recovery plan: building the France of 2030. *France Diplomacy*, available here: https://www.diplomatie.gouv.fr/en/french-foreign-policy/economic-diplomacy-foreign-trade/promoting-france-s-attractiveness/france-relance-recovery-plan-building-the-france-of-2030/(last accessed 26/01/24).

Mielcarek-Bocheńska P and Rzeźnik W (2021) Greenhouse gas emissions from agriculture in EU countries. *Atmosphere* 12(1396): 1–18.

Mikler J and Harrison NE (2012) Varieties of capitalism and technological innovation for climate change mitigation. *New Political Economy* 17(2): 179–208.

Miller J and Hancock A (2022) '*German Finance Minister Rejects 2035 Combustion Engine Ban'*, Financial Times, 21 June 2022.

Morénillas (2021) 'The aerospace industry in France in 2020'. No 1882, Insee report, Paris.

Nahm J (2022) Green growth models. In: Baccaro L, Blyth M and Pontusson J (eds) *Diminishing Returns: The New Politics of Growth and Stagnation*. Oxford: OUP, 561–591.

Newell P (2019) *Trasformismo* or transformation? The global political economy of energy transitions. *Review of International Political Economy* 26(1): 25–48.

Newell P (2021) *Power Shift The Global Political Economy of Energy Transitions*. Cambridge, UK: Cambridge University Press.

Newell P and Paterson M (1998) A climate for business: global warming, the state and capital. *Review of International Political Economy* 5(4): 679–703.

Ornston D and Vail MI (2016) The developmental state in developed societies: power, partnership, and divergent patterns of intervention in France and Finland. *Comparative Politics* 49(1): 1–21.

Paterson M (2021) Climate change and international political economy: between collapse and transformation. *Review of International Political Economy* 28(2): 394–405.

Pistorius M (2021) 'French farmers split over agri-minister's 'status quo' approach to CAP reform. *Euractiv*, 27 May 2021 [available here: https://www.euractiv.com/section/agriculture-food/news/french-farmers-split-over-agri-ministers-status-quo-approach-to-cap-reform/] (last accessed: 20/01/2024).

Pitel L, Chazan G and Nilsson P (2023) 'Germany plans to subsidise power-hungry industries', *Financial Times*, 5 May 2023.

Polanyi K (2001 [1944) *The Great Transformation*. Boston: Beacon Press.

Priya A (2021) Case study methodology of qualitative research: key attributes and navigating the conundrums in its application. *Sociological Bulletin* 70(1): 94–110.

Puls T and Fritsch M (2020) *An Industry under Pressure: The Importance of the Automotive Industry for Germany*. Köln: German Economic Institute. IW-Report No. 43.

Rademacher I (2022) The entangled state: how state-business relations shaped the German corporate tax regime. *Competition & Change* 26(2): 220–241.

Schmidt V (2002) *The Futures of European Capitalism*. Oxford, UK: Oxford University Press.

Schmidt VA (2003) French capitalism transformed, yet still a third variety of capitalism. *Economy and Society* 32(4): 526–554.

Schmidt VA (2012) What happened to the state-influenced market economies (SMEs)? France, Italy, and Spain confront the crisis as the good, the bad, and the ugly. In: Grant W and Wilson GK (eds) *The Consequences of the Global Financial Crisis: The Rhetoric of Reform and Regulation*. Oxford, UK: OUP, 156–186.

Schmidt VA (2016) Varieties of Capitalism: a distinctly French model? In: Elgie R, Grossman E and Mazur AG (eds) *The Oxford Handbook of French Politics*. Oxford: OUP, 606–635.

Schmidt VA (2020) Theorizing institutional change and governance in European responses to the Covid-19 pandemic. *Journal of European Integration* 42(8): 1177–1193.

Schoeller M and Heidebrecht S (2023) Continuity despite crises: Germany's euro policy in the light of the pandemic, war and inflation. *Journal of European Public Policy*, [early online version].

Schwartz HM and Blyth M (2022) Four galtons and a minsky: growth models from an IPE perspective. In: Baccaro L, Blyth M and Pontusson J (eds) *Diminishing Returns: New Politics of Growth and Stagnation*. Oxford: OUP, 98–114.

Shaw A (2023) 'Orano to invest €1.7bn to extend uranium enrichment plant', Power Technology. available here: https://www.power-technology.com/news/orano-to-invest-in-extending-uranium-enrichment-plant-capacity/?cf-view (last accessed 26/01/24).

Shonfield A (1969) *Modern Capitalism: The Changing Balance of Public and Private Power*. Oxford: OUP.

Stake R (2005) Qualitative case studies. In: Denzin N and Lincoln Y (eds) *The Sage Handbook of Qualitative Research*. 3rd edition. Thousand Oaks, CA: Sage, 443–466.

Streeck W (2016) Varieties of varieties: "VoC" and the growth models. *Politics & Society* 44(2): 243–247.

Tamma P and Stolton S (2023) Revealed: France's massive 'Made in Europe' strategy. *Politico*, 13 January.

Thompson H (2022) *Disorder: Hard Times in the 21st Century*. Oxford, UK: Oxford University Press.

von der Burchard H (2023) 'Germany's Scholz seeks to placate Italian concerns over EU state aid changes. *Politico*, 03 February.

Weller N and Barnes N (2016) Pathway analysis and the search for causal mechanisms. *Sociological Methods and Research* 45(3): 424–457.

While A and Eadson W (2022) Zero carbon as economic restructuring. *New Political Economy* 27(3): 385–402.

Zysman J (1983) *Governments, Markets, and Growth: Financial Systems and the Politics of Industrial Change*. Oxford: Robertson.

Appendix

Appendix A: List of interviews

1. Anonymous Advisor at French Environment Ministry, Paris, 27 May 2022.
2. Anonymous Official at German Federal Ministry for Economic Affairs and Energy (BMWK), Berlin, 10 May 2022.
3. Anonymous representative from the Confédération française démocratique du travail (CFDT), online, 21 June 2022.
4. Anonymous representative from the Deutscher Naturschutzring (DNR), online, 12 May 2022.
5. Anonymous representative from the Paris Chamber of Commerce, Paris, 24 May 2022.
6. Clément Sénéchal, Climate spokesperson at Greenpeace France, Paris, 24 May 2022.
7. Dr Manuel Kallweit, Head of Economic Intelligence & Economics Department at Verband der Automobilindustrie (VDA), online, 20 May 2022.
8. Anonymous Official at German Federal Ministry for Economic Affairs and Energy (BMWK), online, 27 May 2022.
9. Erwann Kerrand, Institut de l'économie pour le climat (I4CE), Paris, 25 May 2022.
10. Hadrian Hainaut, Institut de l'économie pour le climat (I4CE), Paris, 25 May 2022.
11. Johannes Schroeten, Policy Advisor on Sustainable Finance at E3G, Berlin, 11.05.2022.
12. Lucile Schmid, la Fabrique Écologique, Paris, 24 May 2022.
13. Mathilde Boitias, la Fabrique Écologique, Paris, 24 May 2022.
14. Anonymous representative of ADEME - l'Agence de la transition écologique, Paris, 25 May 2022.
15. Anonymous representative of IG Metall, Berlin, 12 May 2022.
16. Anonymous representative of the Collège des Directeurs Du Développement Durable (C3D), online, 19 May 2022.
17. Solène Metayer, Institut de l'économie pour le climat (I4CE), Paris, 25 May 2022.
18. Viviane Raddatz, Head of Climate and Energy at WWF Deutschland, Berlin, 10 May 2022.
19. Wolfgang Lemb, IG Metall, online, 18 May 2022.