Is corporatism clean or dirty? Examining the effects of corporatism on climate policy

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Abstract

The effect of corporatism on climate policy – which has received renewed attention as the literature on climate politics has taken an *institutional turn* – is theoretically disputed and empirical ambiguous. Given that, this paper seeks to revisit the relationship between corporatism and climate policy theoretically and empirically. Theoretically, I will defend two sets of claims. First, I argue that corporatism is, *ceteris paribus*, detrimental to stringent climate policy when the carbon-intensive industry's economic heft is high, while the reverse holds when electoral competition from pro-climate green parties is high. Second, corporatism, I submit, has a tendency to impose a relatively greater share of costs on consumers than producers, especially when the economy is highly open. Yet, high electoral competitiveness, in particular when driven by green parties, counteracts this tendency. Empirically, I extend existing analyses and leverage newly available data to provide evidence for these hypotheses by estimating a series of fixed-effects specifications.

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1 Introduction

One, if not the, central political challenge for climate policy is that it requires policymakers to impose concentrated costs in the short-term – in the form of, for instance, re-allocation or, even, job losses in carbon-intensive industries – in exchange for diffuse long-term gains – in the form of avoided climate damages (e.g. lower frequency of extreme weather events). The climate-related political economy literature has traditionally tackled this challenge from three perspectives. The first examines how (and if) the design and sequencing of policy instruments – notably carbon taxes, emissions trading schemes, feed-in tariffs for renewables, clean-energy subsidies, and industrial policy more broadly – can help policymakers strike the balance between economic efficiency and political feasibility.[1] The second perspective zeros in on the elite level, especially the effect of lobbying power of business groups on climate policy ambition (Meckling, 2011; Stokes, 2020) and their role in shaping politicians' incentives to choose some instruments (prices and taxes) over others (subsidies and standards). The third perspective focuses on the mass level. The public's climate policy preferences (Schaffer et al., 2022) and the potential for compensation to boost acceptability (Gaikwad et al., 2022; Gazmararian and Tingley, 2023) are prominent themes in this body of work.

More recently, however, another perspective has emerged, with interest having shifted to the role of political and economic institutions in shaping how policymakers grapple with the challenge of concentrated short-term costs and diffuse long-term benefits (Dubash et al., 2021; Dubash, 2021; Finnegan, 2022; Meckling and Nahm, 2022; Meckling et al., 2022; Meckling and Karplus, 2023; Guy et al., 2023; Srivastav and Rafaty, 2023; Zwar et al., 2023). Among the institutions that has received a good deal of attention is corporatism and, specifically, structures for tripartite concertation between governments as well as organised business and labour. Concertation gives the latter two groups guaranteed access to policymaking (Munk Christiansen, 2020). While there is agreement in this new climate 'institutionalist' literature that concertation matters for climate policy, there is disagreement about the direction of the effect.

There are, roughly speaking, two competing perspectives that are most clearly articu-

[1] See: Keohane et al. 1998; Aidt and Dutta 2004; Goulder and Parry 2008; MacKenzie and Ohndorf 2012; Pahle et al. 2018; Andersen 2019; Levi et al. 2020; Dolphin et al. 2020; Edenhofer et al. 2021; Metcalf 2021, 2023; Stavins 2022; Steinebach 2022; Linsenmeier et al. 2023; Blanchard et al. 2023; Juhász and Lane 2024; Allan and Nahm 2024; van den Bergh and Botzen 2024; Edmondson and Flachsland 2024.

lated by Mildenberger (2020) and Finnegan (2022), respectively. In keeping with work on long-term policymaking and the earlier literature on the corporatism-climate link, Finnegan (2022) argues that corporatism is conducive to climate policy. The reason is that corporatist concertation enables governments to credibly commit to compensating (the politically powerful) losers of climate policy (e.g. workers and businesses in carbon-intensive sectors). Credible commitment, in turn, results from the veto power that concertation grants to organised business and labour – they can credibly threaten to veto future government initiatives if the latter reneges on its compensatory promises. Mildenberger (2020), by contrast, maintains that corporatism is detrimental to climate policy because it institutionalises the 'double representation' of dirty capital and labour. That is, corporatism allows for a coalition between workers and businesses in carbon-intensive industries to block (more) ambitious climate policy.

The importance of this theoretical disagreement is reinforced by the fact that the empirical evidence on the corporatism-climate link is mixed and, above all, old: most analyses are based on samples ending in the late 1990s or early 2000s. This, as Figure A1 bears out, means that our empirical evidence is based solely on observations during the low-ambition climate policy period. While Figure A1 and Table A1 suggest that corporatist systems have both more and more stringent climate policies, a closer inspection reveals that there also exist significant differences in many plausible confounding factors, such as the economic importance of the manufacturing sector, between more and less corporatist systems. This implies that we need to go beyond simple (bivariate) correlations to adjudicate between these two theoretical perspectives.

Against the backdrop of theoretical disagreement and empirical ambiguity, this paper seeks to make a theoretical and an empirical contribution. Theoretically, my aim is to develop a more nuanced perspective that integrates the insights from Finnegan- and Mildenberger-type arguments. Crucially, I advance two arguments. First, I maintain that corporatism is *ceteris paribus* conducive to more stringent climate policy when (i) the economic potency of carbon-intensive industries is low and (ii) electoral competition from pro-climate green parties is high. Second, I argue that corporatist structures have a tendency to impose a relatively greater share of costs on consumers than producers when the economy is highly open, whereas high electoral competitiveness counteracts this tendency. Empirically, I employ the data by Finnegan (2022) and on newly available OECD data (Nachtigall et al., 2024) to test these hypotheses. While the empirical analysis below is tentative and non-causal, these data allow me to estimate more demanding fixed-effects models than typically used in the literature and therefore document more robust correlations.

To that end, the remainder of this paper is structured as follows. In Section 2, I will survey the relevant literature. Doing so will pave the way for setting out my theoretical contribution in Section 3. Section 4 is devoted to testing my theoretical hypotheses empirically. In Section 5, I summarise this paper's overall contribution and reflect on the broader relevance of my findings.

2 Situating the argument in the literature: Mixed empirical results and two contrasting theoretical perspectives

There is a considerable body of work on the link between corporatism and climate policy. The early contributions to the literature were almost entirely empirical, focused on estimating the reduced-form[2] relationship between corporatism and carbon emissions (Scruggs, 1999, 2001, 2003; Jahn, 1998, 2016b). While these cross-country regressions yielded mostly, albeit not unambiguously, positive results, two factors cast doubt on the causal nature of this positive correlation: the likely presence of unobserved confounders and the under-theorised link between corporatism and emissions, or, more broadly, the stringency of climate policy. Overall, the empirical evidence on the reduced-form link is rather inconclusive, with results varying substantially from study to study.

More recent work has tried to address these theoretical and empirical shortcomings. Before summarising this work, however, two caveats are in order. First, despite (marked) differences in the theoretical approaches and empirical findings of works in that newer literature, they all exhibit one commonality – they focus on the stringency of climate policies, rather than emissions, as their dependent variable of interest. Stringency refers, roughly speaking, to the level of ambition of some climate policy (Nachtigall et al., 2024). For instance, a carbon tax of £20 per tonne CO_2 is less stringent than a tax rate of £100 per tonne.

Second, the more recent literature (implicitly) assumes governments' interests *for*[3] climate policy to be given exogenously. Given some exogenous pressure to ramp up the stringency of climate policy, this body of scholarship seeks to theorise how corporatist

[2] I use this term to indicate that these works do not explore the mechanisms through which corporatism affects emissions (Haile, 2018).

[3] Conversely, the assumption is that those whose material interests are threatened by decarbonisation oppose it, at least initially, i.e. need to be compensated in some way.

structures – institutionalised fora where labour, business, and the government bargain with one another – moderate[4] that pressure, whether they hinder or help governments with (temporarily) pro-climate objectives. Although not discussed explicitly in the literature, one important rationale for this assumption is that governments are bound by international obligations, notably climate treaties, such as the 2015 Paris Agreement, and/or affected by decisions taken at the inter- or even supranational levels, particularly the EU one. The *European Effort Sharing Regulation*[5] (ESR) was, for example, a major reason why the German government introduced an emissions trading scheme for the transport and heating sectors in 2019, as, inter alia, Fesenfeld et al. (2024) argue.[6]

Bearing these two caveats in mind, let me turn to the two dominant approaches – most prominently articulated by Finnegan (2022) and Mildenberger (2020) respectively – in the more recent literature on the link between corporatism and climate policy. Theoretically, Finnegan-type approaches draw on two literatures: the comparative political economy literature on corporatism (Olson, 1982; Landesmann and Vartiainen, 1992; Landesmann, 1992; Hicks and Kenworthy, 1998; Iversen, 1999; Iversen et al., 2000; Swank, 2002; Wallerstein, 2008; Seidl, 2023) and that on long-term policymaking (Jacobs, 2011, 2016; Jacobs and Matthews, 2012, 2017; Lindvall, 2010, 2017; Andersson and Lindvall, 2018; Jacques, 2022; Birch, 2023; Sheffer et al., 2024; Hale, 2024).

Accordingly, these authors argue that corporatism is conducive to more stringent climate policy because it allows politicians to credibly promise to compensate the losers of the structural transformation associated with decarbonisation (Finnegan, 2022). This follows from corporatism providing labour and capital with institutionalised access to policymaking (see Section 1) and the folk-theorem logic of repeated games.[7] That is, concertation in corporatist systems means that capital, labour, and the government interact repeatedly with one another in formally institutionalised settings. Adversely affected segments of the economy, notably workers and businesses in carbon-intensive industries, can then credibly

[4]Following the causal inference literature (Bueno de Mesquita and Fowler, 2021), I distinguish between between *mediated* and *moderated*. An effect is mediated by some variable if this variable is the mechanism through which the effect engenders a certain outcome, whereas it is moderated when some intervening variable changes the marginal effect of an explanatory variable on the outcome of interest.

[5]The ESR, adopted in 2018, stipulates emission reduction targets for all EU member states in sectors not covered by the EU emissions trading system (domestic transport (excluding aviation), buildings, agriculture, small industry, and waste). Crucially, non-compliance entails hefty financial sanctions.

[6]Specifically, the German government realised that without additional measures it would violate its obligations under the ESR and have to pay considerable fines, which it wanted to avoid.

[7]The 'folk theorems' of repeated games show that, with sufficiently low discount rates, any feasible outcome can be supported as a subgame-perfect equilibrium (Tadelis, 2013, 211).

threaten to punish governments for reneging on their promise to compensate them by (effectively) vetoing any government's proposals in the 'next round'. This logic is powerfully illustrated by free allocations or allowances in emissions trading systems, which effectively exempt some emitters from that form of carbon pricing. If governments rescinded these exemptions after promising them to certain producers, those with access to corporatist concertation fora could then 'punish' the government by blocking future increases of the carbon price.[8] If, as is the case with EU governments because of the ESR, the failure to let carbon prices rise increases the risk of failing to meet emissions reduction targets and thus hefty financial sanctions, this kind of punishment is particularly credible. In sum, because corporatist structures increase the credibility of compensation, the argument goes (Finnegan, 2022), they enable governments to impose short-term costs in pursuit of the long-term gains generated by climate policy.

Empirically, the literature provides some qualitative and quantitative evidence for the stringency-enhancing effect of corporatism. On the quantitative side, Finnegan (2022), for instance, improves on the early 'reduced-form' studies by employing more fine-grained and longer-term data as well as more demanding fixed-effects models. As a result, we have somewhat more robust evidence for a positive reduced-form link between corporatism and climate policy. That said, the case for causal identification remains relatively weak and none of the large-N analyses extend beyond 2009.[9] By contrast, the qualitative (comparative) case studies (Gronow et al., 2019; Kronsell et al., 2019) shed light on the causal mechanisms through which corporatism boosts the stringency of climate policy and thus rectify the lack of attention to mechanisms in 'reduced-form' quantitative work. These studies highlight the importance of repeated and institutionalised interactions between the government and potential losers of climate policy – in the form of trade unions and peak business or employers associations – for introducing and sustaining ambitious climate policy.

As part of this renewed interest in the corporatism-climate-policy nexus, however, a competing perspective has emerged, which sees corporatism as impeding stringent climate policy. Mildenberger (2020), the best-known proponent of this view, argues that concertation gives both 'dirty' capital and labour – workers and businesses in carbon-intensive

[8] As Sato et al. (2022, 3) write: "Today, all emissions trading systems covering industry offer some form of exemption or 'compensation' in the form of free allocation, which to varying degrees enable emitters to carry on with limited adjustment."

[9] This is because the data on shadow carbon prices, compiled by Althammer and Hille (2016) and used by Finnegan (2022) as a proxy for the stringency of climate policy, are only available for the period from 1995 to 2009.

sectors – guaranteed access to policymaking ('double representation'), which, in turn, allows them to either block the adoption of climate policy or reduce its stringency. On this account, then, corporatist structures enable carbon-intensive producers to pursue their interests more effectively (than they could in pluralist interest group systems) by virtue of granting these actors a great deal of veto power. Unlike proponents of the corporatism-as-credible-compensation view, however, Mildenberger (2020) does not offer any large-N empirical evidence for his hypothesis, instead relying on a series of qualitative case studies.

The preceding shows that at least two gaps remain in the literature: one theoretical and the other empirical. Theoretically, there is a need for a more nuanced framework, in particular one that can integrate both the compensation and the double-representation logics. Achieving this objective requires us to relax the assumption that governments' preferences for climate policy are exogenous to the political system and more carefully theorise how corporatist actors' interests are aggregated into overall policies. Doing so is necessary for specifying when the anti-climate preferences of carbon-intensive producers are likely to prevail and what that means, i.e. whether this manifests itself in less stringent climate policy or producers being shielded of the costs of climate policy.

Empirically, it is important not only to conduct large-N tests of the predictions yielded by such a framework, but also to do so using more granular (i.e. disaggregated by sector and instrument type) data covering the past 15 years or so. After all, this was the period when most climate policies were adopted, as Figure A2 bears out. Figure A3 reinforces this point. It also shows that cross-sectoral climate policies, notably the adoption of greenhouse gas (GHG) emission reduction targets (column three in Figure A4), only became widespread after 2009 and are thus excluded from previous analyses. Finally, Figure A5 brings home that there exists considerable variation in the number and stringency of climate policies between sectors and instrument types (market-based vs. non-market-based ones). To reduce the likelihood of the positive corporatism-climate-policy correlation being spurious, i.e. being driven by sectoral or instrument-specific characteristics, disaggregated data are crucial because they allow us to net out time-invariant (un)observed confounders at the sectoral and/or instrument-type level.

3 Theoretical framework

In this section, I take the first step towards filling these gaps by, first, dwelling on the conceptualisation of my independent and dependent variables, respectively, (Section 3.1) and then outlining my theoretical framework (Section 3.2).

3.1 Preliminaries: Defining the dependent and independent variables

My key independent variable, corporatism, is, as Siaroff (1999) and Jahn (2016a) point out, a complex concept. Given that, it is crucial to specify what aspects of corporatism constitute the theoretical quantity of interest. I will, as hinted at above, mainly focus on the (tripartite) concertation dimension of corporatism, as opposed to other important dimensions, such as the coverage of wage-setting agreements (Bhuller et al., 2022). By concertation, I mean, following Munk Christiansen (2020, 161), (formal) structures that institutionalise the integration of representatives of labour (e.g. trade unions) and capital (e.g. peak business associations) in the formulation and, potentially, implementation of the government's (economic) policy. While some conceptual fuzziness remains,[10] this definition of concertation is sufficient to bring out its central characteristic – the granting of institutionalised access to government policymaking to organised labour and capital. A case in point is, as Nasiritousi and Grimm (2022) and Zwar et al. (2023, p. 28 and footnote 28) note, the *Fossil Free Sweden* initiative – a government-led forum, where trade unions and business associations come together to develop transition plans for the different sectors of the economy.

The reason for zeroing in on concertation is twofold. First, concertation is a feature shared by all corporatist systems, which maximises the scope of my theoretical claims, at least within the group of corporatist countries. Second, concertation captures the structure and frequency of interactions between representatives of capital and labour, on the one hand, and governments, on the other. It is with these patterns of interactions that the two contrasting perspectives in the literature are concerned.

As for my dependent variables, I am interested in two distinct climate policy outcomes. On the one hand, I will analyse the overall (relative) stringency of climate policy (see Section 2), which Nachtigall et al. (2024) define as the ambition of a given policy, relative to the ambition level of the same type of policy in all other countries in the same year. Relying on

[10] If the objective was to develop easily replicable coding rules – rules implying a high probability that different coders classify the same institutional structures as corporatist (Clark et al., 2017, 166) – one would have to specify more carefully which policy domains fall within the remit of corporatist policymaking.

overall stringency importantly implies that I theoretically ignore instrument choice (standards vs. subsidies vs. taxes) and focus on the ambitiousness of the overall policy mix. This is mainly because the corporatism-climate literature focuses on overall stringency. While extending the theoretical framework below to account for instrument choice might well be a promising avenue for further research, it is beyond the scope of this paper.[11] On the other hand, I will examine the distribution of the costs of climate policy between consumers and producers. These are conceptually distinct because similarly stringent or ambitious climate policies can entail a very different distribution of costs and benefits.

3.2 Hypotheses

With these conceptual preliminaries in place, let me now turn to my theoretical hypotheses. To explain these, it is helpful to consider Figure 1, which offers an overview of my argument. The top and bottom rows, respectively, explicate the two theoretical perspectives – the Finnegan- and Mildenberger-type arguments – I discussed in Section 2. Integrating both perspectives yields the hypotheses that, as Figure 1 shows, the main[12] effect of corporatism on climate policy stringency is theoretically ambiguous (H0): it depends on the relative strength of the credible-compensation effect à la Finnegan vis-à-vis the double-representation effect à la Mildenberger. If the former dominates the latter, corporatism will result in more stringent climate policy, and vice versa. These two countervailing effects also help us make sense of the fact that, as noted in Section 2, the empirical findings regarding the corporatism-climate-policy link are inconclusive and variable. For if the sign of corporatism's overall effect depends on the relative strength of the Mildenberger- and Finnegan-type effects, then it is possible that for some sample of countries and certain time periods one dominates the other, while the reverse is true for other samples and time periods.

The reason for the main effect's theoretical ambiguity is that, in developing an integrated framework, I depart in two ways from the way in which the two theoretical perspectives conceptualise the aggregation of interests in corporatist systems. First, unlike Mildenberger (see Section 2), I do not assume that carbon-intensive interests will invariably block the adoption of more stringent policies, nor that doing so is necessarily their best response.

[11] See also Fetzer et al. (2024).

[12] In a regression set-up, this would be the coefficient on the corporatism measure without any interaction terms.

They will do so only if the value of blocking climate policies outweighs the value of the concessions they can extract from the government. Second, unlike Finnegan, I do not assume that just because governments *can* credibly compensate the prospective losers of climate policy they will do so. This is because compensation is costly – in terms of time and fiscal means. When the pressure to act is sufficiently low, the gains from ratcheting up stringency are lower than the costs of making compensation work. Only when the pressure is sufficiently high for the governments is the reverse true. Put differently, I do not treat the government as a passive actor in corporatist bargaining whose interests are (entirely) exogenous (see Section 2).

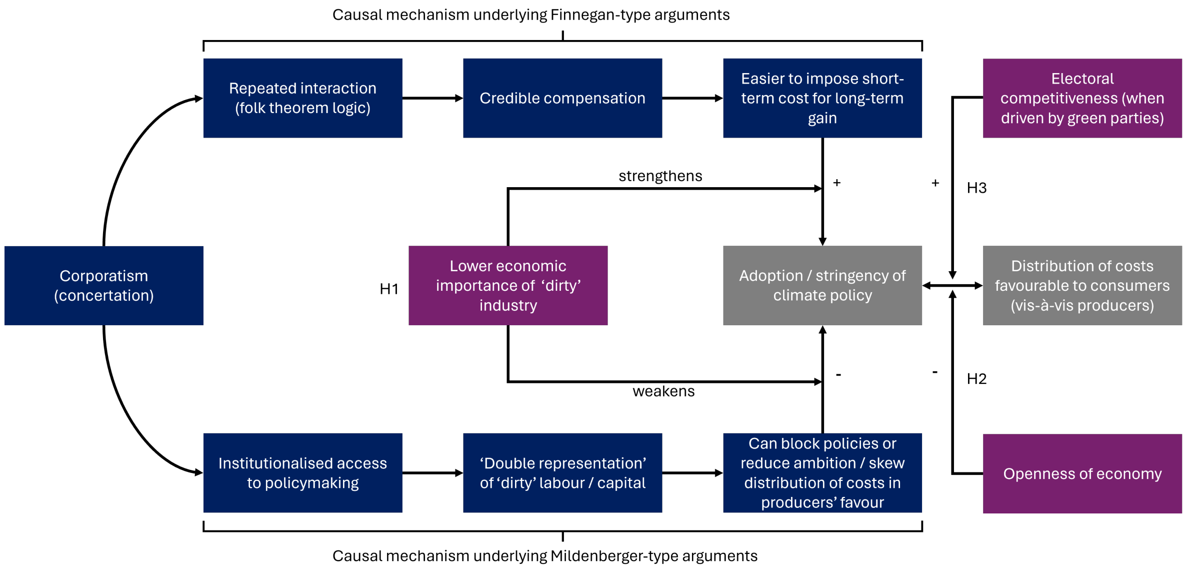


Figure 1: Overview of the theoretical framework

Notes: Purple boxes represent moderating variables, whilst grey boxes refer to my dependent variables of interest. The other boxes are merely coloured for emphasis. Finally, note that indirect effects are not visualised here for simplicity's sake.

If the main effect of corporatism on climate policy is indeed ambiguous, then answering the following question becomes all the more[13] important: what does the effect of corporatism depend on? Hypotheses H1 to H3 aim to answer that question, with the first[14] two focusing on important determinants of the relative bargaining power of anti-climate-policy interests (holding the government's preference for climate policy constant).

[13]This question is important, even if one disagrees that the main effect is unambiguously signed.

[14]In an earlier version, I argued that corporatism's effect is moderated by pro-climate public opinion – the degree to which the population or electorate is in favour of climate policy. I omit this hypothesis here because I was persuaded by the criticism, articulated by several people, that a key aspect of corporatism is the fact that (policy) outcomes are determined largely by tripartite bargaining at the elite level, rather than by public opinion. I will leave it to future research to examine this further.

H1 has two parts. The first part holds that – all else, particularly the government's preference for climate policy, constant – corporatism's effect on climate policy stringency declines as the economic importance of the carbon-intensive industry increases. This hypothesis rests on the assumption that the relative bargaining power of the carbon-intensive industry is proportional to its economic potency. If so, then the strength of the double-representation effect grows (Figure 1), relative to the compensation one, as the carbon-intensive industry's economic heft increases, all else equal. The second part of H1 is that, when climate policies are adopted for whatever reason (e.g. supra- or international pressure), the distribution of its costs will be more favourable to producers (relative to consumers), the greater the economic heft of 'dirty' manufacturing. This expectation reflects the discussion above – that, as their relative bargaining power rises, carbon-intensive interests can extract more valuable concessions, which in this context come (at least[15] partially) in the form of shifting the costs of climate policy to consumers.

Before proceeding to H2, it is worth pausing to explain why the two grey boxes are connected by a bi-directional arrow. For one, any level of climate policy stringency entails costs, which are then split (either deliberately or de facto) in some way between consumers and producers. This explains the left-to-right direction of the arrow. Its right-to-left direction indicates that factors affecting the distribution of costs can also impact stringency.[16] If politicians find it difficult for some reason (e.g. next election looms large) to shift costs to consumers and there is no way to avoid a significant share of the costs of climate falling on consumers, this will reduce the level of stringency – in the extreme case to zero, meaning that the policy will not be adopted.

H2 has a Katzensteinian flavour. In more open economies, competitiveness is an important political consideration (Katzenstein, 1985). Unilateral climate policies tend to hurt competitiveness (Böhringer et al., 2012; Egger et al., 2021; Weisbach et al., 2023; Ambec et al., 2024; Richter et al., 2024), and this is bad for both capital and labour in carbon-intensive industries. As a result, they will use corporatist structures to lobby governments (i.e. extract concessions) to let consumers bear the brunt of the costs of decarbonisation. Therefore, greater openness should, *ceteris paribus*, result in a distribution of costs more favourable to producers.

Unlike for H1, I maintain that the effect of greater openness on climate policy is am-

[15] Concessions can also relate to non-climate policy domains, such as employment protection.

[16] In a two-stage (extensive-form) game, this is the logic backward induction would require players to apply.

biguous because of (at least) two countervailing effects. The first effect stems from climate mitigation being a global collective action problem (Barrett, 1994, 2003, 2007; Harstad, 2012, 2016; Battaglini and Harstad, 2020; Kornek and Edenhofer, 2020; Buchholz and Sandler, 2021). That is, even pro-climate governments have incentives to avoid saddling their domestic industry with the costs of decarbonisation if other countries do not follow suit. Less ambitious climate policy then reflects uncertainty about the cooperation of other countries. The second effect of openness is that it can increase the probability of the diffusion of clean technologies (Dolphin and Pollitt, 2021) and climate policies (Linsenmeier et al., 2023).[17] In that instance, increased policy stringency is due to countries with more open economies having better access to clean technologies and being able to better learn from other countries' policies. Given that these two effects are countervailing, the overall effect of openness is theoretically ambiguous.

My third hypothesis, H3, addresses the gap that governments' preferences for climate policy are treated as completely exogenous (see Section 2) by theorising the effect of electoral competitiveness. The first part of H3 draws on work in international political economy (Rogowski and Kayser, 2002; Chang et al., 2010) and argues that increased electoral competitiveness reduces the willingness of politicians to impose costs on consumers because doing so would harm their electoral prospects. As a result, they will use their clout in corporatist structures to reduce the burden climate policies place on consumers, thus resulting in a distribution of costs more favourable to consumers.

The second part of H3 concerns the stringency of climate policy, which the first part holds constant. As discussed above, for climate policy the stringency to increase, two conditions have to be met: the value of the concessions carbon-intensive interests can extract from the government must exceed the value of vetoing policy change and the cost of these concessions for the government must be lower than the value of ratcheting up stringency. H3 states that these conditions are more likely to obtain when the degree of degree of electoral competition by pro-climate green parties is high and vice versa. This hypothesis implicitly assumes that government parties follow an accommodationist logic, i.e. respond to the growing popularity of green parties by doing more on climate.[18]

[17] Trade relations can also spur diffusion by incorporating environmental provisions into trade agreements (Harstad, 2024) or adjusting tariff regimes, which is the whole raison d'etre of the climate-club literature (Lessmann et al., 2009; Nordhaus, 2015; Clausing and Wolfram, 2023; Böhringer et al., 2022; Farrokhi and Lashkaripour, 2024).

[18] Abou-Chadi (2016) argues against the logic, noting that the incentives for mainstream parties to accommodate green parties are blunted by (i) climate being a valence issue and (ii) green parties being issue owners.

4 Empirical analysis

Next, I turn to testing[19] these hypotheses empirically, i.e. addressing the second gap in the literature. I do so by discussing the measures and data on which my analysis is based (Section 4.1), then setting out my methodology and results (Section 4.2), and finally dwelling on their robustness and limitations (Section 4.3).

4.1 Data and variables

Table 1 summarises how I operationalise the dependent and independent variables of the hypotheses derived in the previous section. The final column indicates the sources from which the respective variables are drawn.

Three brief comments about Table 1 are in order. First, I use the climate policy stringency measure by Nachtigall et al. (2024) because it covers both the longest time period (1990-2022) of available measures – which increases statistical power – and disaggregates stringency scores by instrument type and sector (see Figures A3 and A5). This enables me to mitigate the legitimate worry that composite stringency scores (e.g. the *Environmental Policy Stringency Index*) have a low degree of reproducibility, i.e. assigning and aggregating these scores across sectors and instrument types involves many judgement calls (Lieberman and Ross, 2024). Given the CAPMF's greater granularity, I can eliminate measurement error that arises from aggregation. Similarly, there are two major drawbacks associated with following Finnegan (2022) by using shadow carbon prices as a measure of the costs of climate policy. On the one hand, the data only run from 1995 to 2009, i.e. they end before the 'great' ratcheting up in climate policy after 2009 (see Figure A3). On the other hand, the measure mainly captures variation in energy prices and policies,[20] which, albeit important for climate policy, are a noisy proxy. Despite these limitations, both measures are suitable second-best substitutes for the preliminary analysis below.

Second, the operationalisation of the corporatism variable also comes with a trade-off.

Recently, however, he pointed out that this has changed in the past decade or so. My argument is that the non-acccommodationist issue ownership logic is only plausible in a world where the climate targets government committed themselves to can be achieved at relatively low cost and entail few trade-offs. Only then can mainstream parties afford to de-emphasise climate policy. When that is not the case, however, the incentives for accommodation, i.e. proposing some bundle of climate policies, will rise – at least for all party families other than the radical right. Theorising the temporal (see also Grant and Tilley (2019)) and party-family-specific aspects of H3 definitely merits further research, but is beyond the scope of this paper.

[19] The replication files are available at: `https://github.com/jacob-edenhofer/Research-paper-CPEAD`.

[20] I am indebted to Christian Flachsland for this observation.

Variable	Operationalisation	Data source(s)
Dependent variables		
Climate policy stringency	Ambition level, relative to all other countries in a given year	Stringency variable, OECD CAPMF database (Nachtigall et al., 2024)
	Overall costs of climate policy	Finnegan (2022)
Distribution of costs between consumers and producers	Shadow carbon prices for consumers and producers	Althammer and Hille (2016), Finnegan (2022)
Independent variable		
Corporatism	(Smoothed) corporatism index	Jahn's time-varying index (Jahn, 2016a,b)
	Tripartite concertation dummy	ICTWSS database
	Concertation index	Finnegan (2022)
Moderating variables		
Economic importance of carbon-intensive industry	% of GDP/value added	CPDS (Armingeon et al., 2023), WDI
Electoral competitiveness	Probability of losing/winning office	Kayser and Lindstädt (2015)
	Coalition inclusion probability by green party/parties	Kayser and Rehmert (2021), Kayser et al. (2023)
Openness of the economy	Total trade as % of GDP	CPDS (Armingeon et al., 2023), WDI
	Trade CO_2 share	OWID

* CAPMF = Climate Actions and Policies Measurement Framework, CPDS = Comparative Political Dataset, ICTWSS = Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts, WDI = World Development Indicators, OWID = Our World in Data

Table 1: Summary of variables and their operationalisation

Employing Jahn's time-varying (annual basis) corporatism measure boosts statistical power, while potentially impinging on my concept validity. As noted in Section 3.1, I am mainly interested in the concertation dimension of corporatism. But it could be that the variation in Jahn's measure is driven mainly by other dimensions, such as the nature of wage bargaining. To mitigate this concern, I demonstrate that my results are robust to using the concertation dummy from the ICTWSS database, which varies less frequently. That notwithstanding, the ideal way to operationalise this variable would be a time-varying measure of concertation.

Third, I draw on a set of recent papers (Kayser and Lindstädt, 2015; Kayser and Rehmert, 2021; Kayser et al., 2023) to operationalise electoral competitiveness. Specifically, I rely on the *coalition inclusion probability* of green parties (Kayser et al., 2023) to capture times when incumbent governments face intense pro-climate competition. Although it is beyond this paper's scope to discuss the drawbacks of this measure,[21] I readily acknowledge that it rests

[21] See, for instance, Cox et al. (2020).

on several potentially contentious methodological decisions. As a second-best substitute, however, it is eminently suitable. Finally, note that the other moderating variables are operationalised via conventionally used measures and that summary statistics are reported in Table A2.

4.2 Estimation and results

Having clarified how I operationalise my dependent, independent, and moderating variables of interest, I will next expand on my estimation strategy and present the results (Sections 4.2.1 and 4.2.2).

The key challenge associated with estimating the effect of corporatism on climate policy is that the latter (the 'treatment') is not randomly assigned across countries (or over time) – and that this is not even true conditional on a rich set of observables. Put differently, (macro-level) institutional variables tend to exhibit relatively little variation over time and very little, if any, portion of that variation is plausibly exogenous to the outcome of interest (Przeworski, 2007). To alleviate, though by no means conclusively address, concerns about the presence of (un)observable confounders, I estimate a rather demanding series of fixed-effects specifications. The granularity of my data enables me to probe the robustness of my findings more rigorously than done in the existing literature. Nevertheless, the absence of quasi-random variation means that this estimation strategy is very unlikely to yield unbiased estimates of the true causal effects. The results below should therefore be interpreted as tentative (see Section 4.3).

In the Appendix, Section A.1.1, I discuss the estimation strategy for H0. The results show that, as expected, the main effect of corporatism on climate policy is variable and inconsistent. To assess the hypotheses related to the moderating variables (H1 to H3), I estimate a series of specifications of the following form:

$$Y_{it} = \beta_1 C_{it-1} + \beta_2 M_{it-1} + \beta_3 C_{it-1} \times M_{it-1} + \zeta \mathbf{X}_{it-1}^T + \eta_i + \gamma_{t(k)} + \epsilon_{it}$$

In this equation, Y_{it} denotes the stringency of climate policy in country i in year t, while C_{it-1} refers to the value of the corporatism measure in the previous year. Similarly, M_{it-1} captures the moderating variable of interest (see Table 1). η_i and $\gamma_{t(k)}$ represent country and year fixed effects, respectively, with the former netting out all country-specific, time-invariant (e.g. cross-country cultural differences) confounders and the latter all periodspecific, country-invariant (e.g. common economic shocks) ones. The k subscript in parentheses indicates that, for some specifications, I replace the year fixed effects with half-decade ones. ϵ_{it} denotes the error term, which I cluster at the country level.[22] $\mathbf{X}_{it}$ denotes the vector[23] of controls that are lagged by one year.[24]

Hypothesis	**Dependent variable**	**Moderating variable**	**Expected sign for β_3**
H1	Costs for consumers	Economic importance of carbon-intensive industry	$\beta_3 > 0$
	Policy stringency		$\beta_3 < 0$
H2	Costs for consumers	Openness of economy	$\beta_3 > 0$
	Policy stringency		ambiguous
H3	Costs for consumers	Electoral competitiveness	$\beta_3 < 0$
	Policy stringency	Competition by green parties	$\beta_3 > 0$

Table 2: Translating the theoretical hypotheses into parameter signs

The theoretical parameter of interest is β_3, which captures how the expected marginal 'effect'[25] of corporatism on climate policy stringency/costs differs for a unit-difference of the moderating variable, M_{it-1}, holding the vector of controls constant (and including separate intercepts for countries and years or half decades).[26] Bearing this in mind, Table 2 translates the hypotheses set out in Section 3.2 into expected signs for the parameter of interest.

Next, I present the results in two steps. Given that I have to make do with Finnegan's data on the distribution of climate policy's costs, I, first, test the cost-related hypotheses and, in doing so, extend his analysis. The low number of observations in his dataset reduces statistical power, which is particularly problematic when the main theoretical quantity of interest is an interaction term. As a result, I rely on the CAPMF data whenever possible.

[22] All results hold when using heteroscedasticity-robust standard errors. See the relevant tables in "06 Figures and tables/Tables/Finnegan" in the GitHub repository.

[23] In the estimating equation, I use the transpose of the vector, as indicated by the T superscript, because matrix multiplication requires the row dimension of the second term of any product to be equal to the column dimension of the first term.

[24] See Appendix, Section A.1.1 for a justification of the control variables used below.

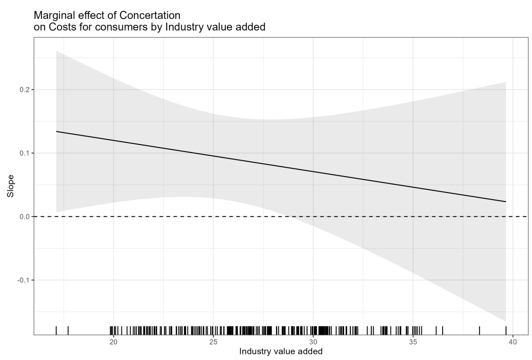
[25] Quotation marks are used to indicate that causal effects are not implied; the term is used solely for readability's sake.

[26] Formally, β_3 is simply the cross partial derivative of Y_{it} with respect to C_{it-1} and M_{it-1}. Recalling that any regression is a way of making comparisons by estimating the conditional expectation (Gailmard, 2014) enables us to derive a somewhat more intuitive, yet equivalent interpretation, with $\beta_3 = \mathbb{E}\left(\frac{\partial Y_{it}}{\partial C_{it-1}} \,\middle|\, M^{High}_{it-1}, \mathbf{X}_{it-1}, i, t(k)\right) - \mathbb{E}\left(\frac{\partial Y_{it}}{\partial C_{it-1}} \,\middle|\, M^{Low}_{it-1}, \mathbf{X}_{it-1}, i, t(k)\right)$, assuming that $M^{High}_{it-1} - M^{Low}_{it-1}$ represents a unit change in the moderating variable.

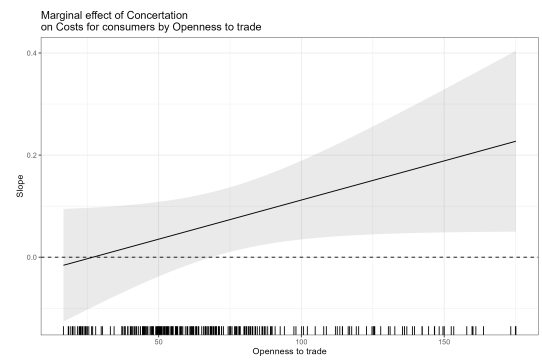
Secondly, I therefore test the stringency-related hypotheses using that dataset.

4.2.1 Extending the results in Finnegan (2022)

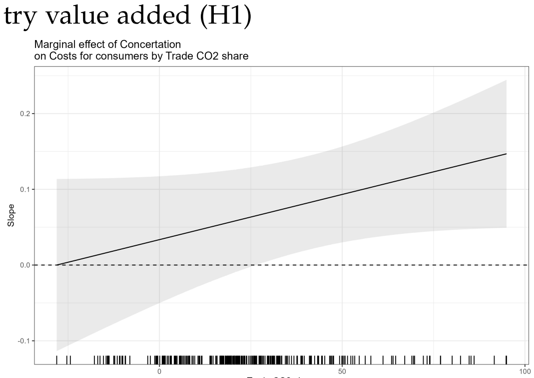
Figure 2 presents the results obtained from estimating two-way (country and year) fixed-effects specifications with a relatively (considering that the number of observations is just below 300) rich vector of conventions controls (see Notes and Section A.1.1).[27] Since my objective is to extend the results in Finnegan (2022), I use, as indicated in Table 1, his concertation variable as my measure for the independent variable.



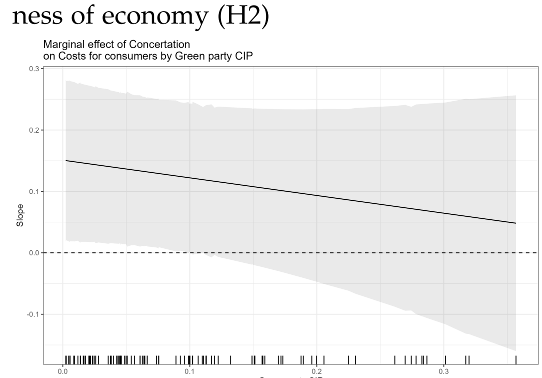
(a) Marginal ’effect’ of concertation by industry value added (H1)



(b) Marginal ’effect’ of concertation by openness of economy (H2)



(c) Marginal ’effect’ of concertation by CO_2 emissions embedded in trade (H2)



(d) Marginal ’effect’ of concertation by green party CIP (H3)

Figure 2: Marginal ’effect’ of concertation on costs of climate policy borne by consumers

Notes: The Figures are based on two-way fixed effects (country and year) regressions that include the following covariates: fossil fuel production per capita, real GDP growth, the unemployment rate, the share of the population older than 65, and aggregate public opinion, measured on the left-right scale. See the Appendix, Section A.1.1 for an explanation of the estimation strategy and a justification of the controls. The quotation marks for ’effect’ indicate that I do not claim that these effects are causal, but using the word improves readability considerably. CIP refers to coalition inclusion probability (Kayser et al., 2023).

All panels, save for 2a, show that the coefficient estimates point in the predicted direc-

[27] See the Appendix, Section A.1.2 for the corresponding regression tables of Figures 2 and 3.

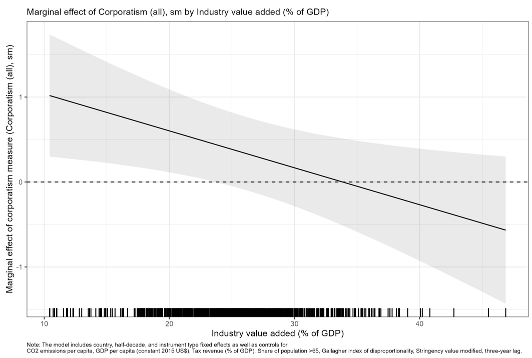
tion. In the one instance, where this is not the case, the coefficient estimate is statistically indistinguishable from zero, meaning that – at least with the power afforded by the Finnegan (2022) data – there is no support for the first part of H1. By contrast, panels 2b and 2c provide strong support for H2, i.e. as the openness of the economy increases the costs of climate policy are shifted from producers to consumers. Panel 2d shows that, as predicted by H3, governments become less likely to saddle consumers with costs, the more likely green parties are to be included in coalitions (Kayser and Rehmert, 2021). It is not surprising that the association is not statistically significant since the measure for the moderating variable is not available for all observations ($N < 289$). Finally, Figure A6 demonstrates that the stringency-related predictions also hold up: as the economic importance of the industrial sector rises, stringency decreases, with the reverse true for electoral competitiveness, especially when driven by green parties.

4.2.2 Testing the theory on more fine-grained data

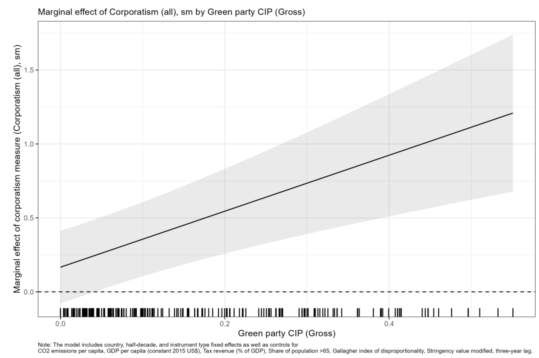
In light of the various limitations of Finnegan's data (low number of observations, potential measurement error, inauspicious temporal coverage), it is imperative to examine the results in A6 more closely. To that end, Figure 3 visualises the results from estimating three-way fixed-effects (country, half-decade, and policy/instrument type) specifications using the CAPMF data by Nachtigall et al. (2024).

The most important observation is that all panels strongly support the theoretical hypotheses discussed above, despite the demandingness of the three-way fixed-effects specifications. Panel 3a, drawing on Jahn's time-varying corporatism index (see Table 1), shows that the latter's effect on the probability of policy adoption declines significantly as the share of GDP that the industry sector accounts for increases. The reason for using policy adoption, as opposed to stringency, as the dependent variable is that the moderating variable exhibits relatively little within-country variation over time. Since this limits statistical power and makes it harder to pick up the relatively subtle changes in stringency, it makes more sense to use a binary dependent variable here.[28] Substantively, Panel 3a speaks to the importance of theorising how interests are aggregated in corporatist systems (see Section 3.2). It also reinforces the conclusion that the lack of statistical significance for H1 in A6 is due to the low power implied by Finnegan's data.

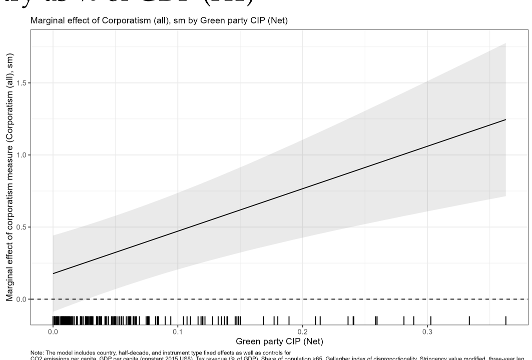
[28]The estimate comes from a linear probability model. The GitHub repository shows that the results remain substantively unchanged when using a logit estimator.



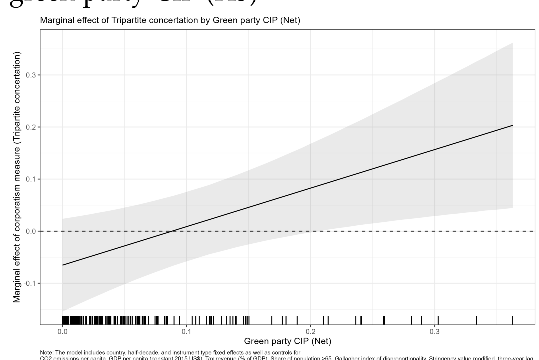
(a) Marginal ’effect’ of corporatism by industry as % of GDP (H1)



(b) Marginal ’effect’ of corporatism by gross green party CIP (H3)



(c) Marginal ’effect’ of corporatism by net green party CIP (H3)



(d) Marginal ’effect’ of tripartite concertation by net green party CIP (H3)

Figure 3: Marginal ’effect’ of corporatism on stringency/policy adoption

Notes: The Figures are based on three-way fixed effects specifications that include the following controls: CO2 per capita, GDP per capita, tax revenue as a share of GDP, the share of the population older than 65, Gallagher’s disproportionality index, and a four-year lag of the dependent variable. See the Appendix, Section A.1.1 for a justification of the controls. The quotation marks for ’effect’ indicate that I do not claim that these effects are causal, but using the word improves readability considerably. CIP refers to coalition inclusion probability (Kayser et al., 2023). H2 is omitted because no clear theoretical expectations were derived.

Panels 3b and 3c show that, as governments face more intense competition from pro-climate (green) parties, higher corporatism scores are associated with more stringent climate policy. While in line with H3, one might be concerned about measurement error in the independent variable: the results could be driven by the non-concertation-related dimensions of Jahn's corporatism index (e.g. the nature of wage bargaining). Panel 3d allays such worries by demonstrating that the results are robust to using the tripartite concertation dummy – which, as the last Table in the Appendix, Section A.1.3 shows, also holds when using instrument-type fixed effects.[29]

4.3 Limitations

While the preceding provides preliminary evidence in support of my theoretical hypotheses, several limitations remain – of which I wish to highlight four. First, the analysis documents fairly robust correlations, but I do not claim that these are causal. Ideally, one would be able to come up with a research design that allows for tight causal identification. Second, as elaborated on in Section 4.1, the operationalisation of the outcome variables is imperfect. Although true, I hasten to add that the measures used here are at least as good – and in the case of the CAPMF dataset – decidedly better than the ones other work employs. Third and relatedly, there is room for probing the robustness of my findings more extensively, such as using conventional (multiple imputation) and newer approaches (Lall and Robinson, 2022) to imputing missing values. Fourth, my analysis is entirely reduced-form, which means that I do not examine causal mechanisms, particularly whether and to what extent the ones hypothesised by Mildenberger (2020) and Finnegan (2022) are at play (see Figure 1). Complementing a more robust version of the above reduced-form analysis with qualitative analysis (e.g. Bayesian process tracing à la Humphreys and Jacobs (2023)) is therefore an important avenue for further research.

5 Conclusion

My objective in this paper was to examine the effect of corporatism on climate policy, both theoretically and empirically. In doing so, I showed how the two competing perspectives

[29] This means the *identifying variation* comes solely from sectoral variation in stringency for the same types of instruments (market-based or non-market-based) within the same country and half decade. Section A.1.3 also reports results that are decomposed by region.

by Mildenberger (2020) and Finnegan (2022) can be integrated into a coherent theoretical framework. On the empirical side, I leveraged existing and newly available data to test the hypotheses yielded by this framework. Given the greater temporal coverage and granularity of the CAPMF data, I did so in a more rigorous fashion than in the extant literature. Importantly, my empirical analysis also paves the way for more rigorous empirical work in the future.

While subject to limitations (see Section 4.3), the results show that the effects of corporatism on climate policy depend on the economic and political context – specifically the economic importance of carbon-intensive industries, the openness of the economy, and the degree of electoral competitiveness, particularly by pro-climate green parties. Corporatism tends to facilitate more stringent climate policy when (i) carbon-intensive industries account for a lower share of GDP or value added (and vice versa) and (ii) when governments face intense competition from pro-climate green parties. Aside from its effect on overall policy stringency, corporatism, I argued, also affects how the costs of climate policy are distributed between consumers and producers. To the extent that governments pursue climate policy, corporatism creates or strengthens their incentives to place a greater share of the costs on consumers when (i) the economy is highly open, (ii) carbon-intensive industries are economically important, and (iii) electoral competitiveness is low. Put simply: corporatism helps producers get their way when the (expected) electoral costs of saddling consumers with costs are low and concerns about international competitiveness loom large.

The broader relevance of this paper's argument is that the wider economic and political context matters for the effects of institutions, like corporatism, on climate policy. Whether or not these institutions enable policymakers to impose concentrated short-term costs and thus realise the long-term diffuse benefits of climate mitigation hinges on how the interplay between (formal) institutions and context affects the relative bargaining power of, inter alia, governments, organised labour, and business. Heeding this insight is crucial for better understanding (cross-country and temporal) variation in the types of climate policies that best balance economic efficiency and political feasibility.

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A Appendix

A.1 Additional tables

	Corporatism score (Jahn, 2016a)					
	Above median		Below median			
Variable	Mean	Std.Dev.	Mean	Std.Dev	Diff in means	p.value
Number of adopted policies	5.9	3.7	4.7	3.7	-1.2	<0.001
Stringency	1.5	1.2	1.2	1.1	-0.3	<0.001
Manufacturing value added (% of GDP)	15.5	4.5	16.4	5.0	0.9	0.003
Industry value added (% of GDP)	25.1	5.1	27.1	5.7	2.0	<0.001
CO2 emissions per capita	8.9	4.1	8.1	4.1	-0.8	<0.001
Fossil share electricity	51.7	31.0	64.3	24.7	12.7	<0.001
Fossil share energy	75.5	20.1	84.0	11.2	8.5	<0.001
Trade CO2 share	28.9	40.7	20.5	50.8	-8.4	0.002
Openness of economy	96.6	60.4	98.9	60.1	2.3	0.572
Gallagher's disproportionality index	5.1	4.6	8.0	4.7	3.0	<0.001

Table A1: Balance table for Figure A1

Notes: The Table and Figure A1 are based on the following sample of countries: The sample of countries is: Bulgaria, Estonia, Poland, Chile, Sweden, Norway, Croatia, Japan, Mexico, Türkiye, Slovak Republic, Greece, Latvia, France, Czech Republic, Luxembourg, Korea, Netherlands, Canada, Slovenia, Finland, Switzerland, South Africa, Argentina, Australia, Germany, Belgium, Austria, Israel, Malta, New Zealand, Romania, Spain, Ireland, Italy, Hungary, Denmark, United Kingdom, Lithuania, and Portugal. The p-values are generated via a two-sample (Welch) t-test.

	Mean	SD	Min	P25	P75	Max	N	% Missing
Stringency value	1.56	1.67	0.00	0.25	2.33	8.35	4851	4
Corporatism (all), sm	-0.10	0.72	-1.26	-0.72	0.51	1.24	3552	30
CO2 emissions per capita (metric tonnes)	7.43	4.51	0.65	4.15	9.44	30.37	4743	6
Tax on int'l trade (% of revenue)	3.32	4.91	-15.84	0.50	3.88	29.18	3030	40
Tax revenue (% of GDP)	18.90	7.26	2.31	13.41	23.56	62.50	4263	16
Trade (% of GDP)	82.63	55.38	13.75	49.47	98.66	388.12	4932	2
Industry value added (% of GDP)	27.31	7.55	10.43	22.45	30.48	66.43	4713	7
GDP per capita (constant 2015 US$)	25836.97	21327.95	528.90	8673.90	39106.39	112417.88	4935	2
GDP per capita growth (% annual)	2.23	3.81	-14.61	0.62	4.26	23.20	4899	3
Trade CO2 share	21.22	47.61	-60.51	-0.96	29.63	576.48	4761	6
Green party CIP (Gross)	0.15	0.14	0.00	0.04	0.25	0.55	684	86
Green party CIP (Net)	0.05	0.07	0.00	0.01	0.06	0.36	684	86
Openness to trade	95.53	60.02	16.01	57.91	119.23	408.36	3096	39
Real GDP growth	2.28	3.65	-21.29	1.03	4.10	25.36	3264	35
Share of population >65	15.93	3.03	10.29	13.72	17.86	28.63	3285	35
Gallagher index of disproportionality	6.25	4.85	0.32	2.78	8.43	26.42	3306	35

Table A2: Summary statistics

A.1.1 Corporatism's variable and inconsistent main effect (H0)

In this section, I assess corporatism's main effect. To that end, I proceed in two steps. First, I present an abridged version of the corporatism-related results in Finnegan (2022). Second, I employ the OECD CAPMF data to show that the positive effect in Finnegan (2022) is *not* robust to using more granular data that cover a longer time period.

As regards the first step, I take my cue from Finnegan (2022) by estimating a series of two-way fixed effects specifications of the following form:

$$Y_{it} = \beta C_{it} + \zeta \mathbf{X}_{it}^{T} + \eta_i + \gamma_t + \epsilon_{it}$$

In this equation, Y_{it} denotes the stringency of climate policy in country i in year t. η_i and γ_t capture country and year fixed effects, respectively. ϵ_{it} denotes the error term, which I will cluster at the country level.[1] $\mathbf{X}_{it}$ denotes the vector of controls. In specifying its elements, I follow Finnegan (2022), given that this is a replication exercise.

The parameter of interest is β, which represents the expected marginal 'effect'[2] of a unit-increase in the concertation index on the stringency of climate policy, as measured by its overall cost (Althammer and Hille, 2016) – holding the vector of controls constant.[3]

Table A1 presents the results from estimating four versions of that specification. The coefficient estimate for β is positive and statistically significant at the 5% level, as in Finnegan (2022). The implication, it appears, is that corporatism is conducive to more stringent climate policy. Indeed, inspecting the results[4] more closely (than done in Finnegan (2022)) shows that this result is driven by the cost-for-consumers component, with the correlation between corporatism and the cost for producers being positive, but not robustly so.[5] This suggests that, to the extent that corporatism promotes more stringent climate policy, it does so by enabling politicians to shift costs to consumers.[6]

[1] All results hold when using heteroscedasticity-robust standard errors. See the relevant tables in "06 Figures and tables/Tables/Finnegan" in the GitHub repository.

[2] Quotation marks are used to indicate that causal effects are not implied; the term is used solely for readability's sake.

[3] Note, β is simply the partial derivative with respect to the concertation variable.

[4] See the GitHub repository.

[5] The coefficient estimate on concertation is only statistically significant when heteroscedasticity-robust standard errors are used, but not when they are clustered at the country level.

[6] Let me note that the null effect for producer costs, even setting aside the highly legitimate concerns about identification, is somewhat perplexing if one subscribes to Finnegan's credible-compensation theory of corporatism. If that is the case, should this not enable politicians to shift some costs to producers, especially in majoritarian electoral systems? The reason being that – as Finnegan (2022) notes, applying the theory developed in Rogowski and Kayser (2002) and Chang et al. (2010) – relative to their majoritarian counterparts, proportional

Table A3: Results for overall stringency

Dependent Variable:	Overall stringency (Althammer and Hille, 2016)			
Model:	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	OLS
Variables				
Concertation	0.055**	0.054**	0.054**	0.060**
	(0.024)	(0.023)	(0.023)	(0.022)
Real GDP growth		-0.005	-0.006	-0.004
		(0.005)	(0.005)	(0.004)
Fossil fuel production per capita			0.007	0.002
			(0.016)	(0.016)
Green vs. growth government preferences				-0.003
				(0.002)
Fixed effects				
Country	x	x	x	x
Year	x	x	x	x
Fit statistics				
Observations	269	269	269	269
R^2	0.914	0.915	0.915	0.917

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

This brings me to the second step, which is to estimate a similar specification using the data by Nachtigall et al. (2024). The specifications are almost entirely analogous to the one above, with two exceptions. First, I replace the year fixed effects with half-decade ones because the corporatism measure does not vary within years. Given the greater (policy-type and sectoral) granularity of the CAPMF data, I also include fixed effects of the type of climate action or measure (cross-sectoral, international, sectoral) or the instrument type (market-based vs. non-market-based). These more granular fixed effects increase the probability of apple-to-apple comparisons, particularly relative to the coarse outcome measure employed by Finnegan (2022). This means that I estimate three-way fixed effects specifications.

Second, I include a richer set of controls than above, which are all lagged by one year.[7] Specifically, I include last year's per capita emissions since they capture baseline effects,

electoral (PR) systems, on account of their lower vote-seat elasticity, make it easier for governments to impose costs on consumers. This type of interaction effect between corporatism and electoral systems is not properly theorised by Finnegan (2022) – despite him, following the varieties-of-capitalism logic (Hall and Soskice, 2001, sec. 1.2.6), maintaining that corporatism and PR systems are institutional complements in the case of climate policy.

[7]The results are robust to using the contemporaneous values of the covariates (see GitHub repository) and up to four-year lags.

i.e. mitigation efforts might be higher initially (at higher per capita emissions) due to the availability of low-hanging fruits (e.g. feed-in tariffs for renewables) and decline once these fruits have been reaped, as it were. The justification for the GDP per capita control is the classic environmental Kuznets curve. Tax revenues as a share of GDP are used a proxy for state capacity. The share of elderly population might influence the implicit discount rate of politicians and therefore their mitigation efforts. It could be, for instance, that, as the elderly become more numerous, politicians have greater incentives to adopt less stringent climate policies because the benefits of these lie far in the future and are thus unlikely to matter for older people (assuming that they do not exhibit strong inter-temporal altruism). The control for the proportionality of electoral system – here proxied via the Gallagher index – is included because of the arguments put forward by Harrison (2010), Finnegan (2022), and Meckling et al. (2022). These authors, albeit for different[8] reasons, argue that PR systems are more conducive to climate policy than majoritarian ones. Finally, I also estimate lagged-dependent-variable specification (four-year lag), given that the CAPMF data (see Figure A3) exhibit considerable temporal persistence. The drawback of this specification is, however, that it might impede inference by introducing Nickell (1981) bias. The results from these specifications should thus be interpreted as highly tentative.

Table A4 presents the coefficient estimates when using Jahn's time-varying corporatism index (see Table 1) as a proxy for the independent variable. In contrast to the results in Table A3, the coefficient estimate is neither consistently positive nor statistically significant at any conventional significance level. That is, once we compare variation among the same types of climate policies (cross-sectoral, sectoral, international) in the same country during the same half decade, corporatism does not seem to be significantly correlated with changes in their stringency – holding the covariates constant. Crucially, this is the case even without controlling for time-invariant sectoral characteristics via sector fixed effects.[9]

One worry might be that that, as discussed in Section 4.1, this null finding is due to

[8]While there is broad agreement on the reduced-form prediction in the literature, there is disagreement on the channels through which PR systems foster more stringent climate policy – of which, I would argue, three have been discussed in the literature. First, there is the representation channel – the fact that PR systems admit a greater effective number of parties, which makes it easier for green parties to emerge and push for climate policy Lockwood et al. (2017). The work by Kayser and Rehmert (2021) can be construed as a sophisticated version of this argument. Second, Finnegan (2022) argues that their positive effect is attributable to them allowing politicians to impose greater costs on consumers. Third, other scholars maintain that PR systems reduce the severity of credible commitment problems, relative to majoritarian systems, which facilitates long-term policymaking (Lockwood et al., 2017; Lockwood, 2021; Andersson, 2022).

[9]These results, which are substantively the same, can be found in the GitHub repository.

Table A4: Main effect of corporatism (Jahn, 2016a)

Dependent Variable:	Stringency value (theoretical range, 0-10)						
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Variables							
Corporatism (all), 1-year lag	-0.021	-0.016	-0.039	-0.007	-0.026	-0.031	0.017
	(0.125)	(0.121)	(0.096)	(0.102)	(0.129)	(0.128)	(0.067)
CO2 emissions p.c, 1-year lag		-0.030	-0.015	-0.004	0.009	0.010	-0.007
		(0.047)	(0.046)	(0.043)	(0.041)	(0.040)	(0.025)
GDP p.c. (constant 2015 USD), 1-year lag			0.000^{*}	0.000^{*}	0.000^{**}	0.000^{**}	0.000
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tax revenue (% of GDP), 1-year lag				0.017	0.031^{***}	0.032^{***}	0.015^{***}
				(0.011)	(0.009)	(0.009)	(0.004)
Share of population >65, 1-year lag					0.136^{**}	0.136^{**}	0.045
					(0.051)	(0.051)	(0.028)
Gallagher index of disproportionality, 1-year lag						-0.010	-0.009
						(0.011)	(0.005)
Stringency value, 4-year lag							0.781^{***}
							(0.045)
Fixed effects							
Country	x	x	x	x	x	x	x
Half decade	x	x	x	x	x	x	x
Type of climate action/measure	x	x	x	x	x	x	x
Fit statistics							
Observations	3,528	3,528	3,480	3,165	2,604	2,604	2,415
R^2	0.756	0.757	0.759	0.764	0.772	0.772	0.885

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Jahn's corporatism measure failing to pick up variation in concertation, the dimension of corporatism we are conceptually interested in. Table A5 mitigates this concern by using the concertation dummy from the ICTWSS dataset. As can be gleaned from the top row, the results remain substantively unchanged.

Table A5: Main effect of tripartite concertation (ICTWSS)

Dependent Variable:	Stringency value (theoretical range, 0-10)						
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Variables							
Tripartite concertation dummy, 1-year lag	-0.055	-0.051	-0.028	-0.004	-0.033	-0.040	-0.011
	(0.058)	(0.054)	(0.053)	(0.040)	(0.048)	(0.048)	(0.030)
CO2 emissions p.c., 1-year lag		-0.062	-0.045	-0.042	-0.013	-0.012	-0.009
		(0.047)	(0.050)	(0.054)	(0.051)	(0.050)	(0.026)
GDP p.c. (constant 2015 USD), 1-year lag			0.000**	0.000**	0.000**	0.000**	0.000*
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tax revenue (% of GDP), 1-year lag				0.023**	0.033***	0.034***	0.017***
				(0.009)	(0.009)	(0.009)	(0.004)
Share of population >65, 1-year lag					0.158***	0.157***	0.058**
					(0.053)	(0.053)	(0.026)
Gallagher index of disproportionality, 1-year lag						-0.014	-0.010**
						(0.011)	(0.005)
Stringency value modified, 4-year lag							0.768***
							(0.046)
Fixed effects							
Country	x	x	x	x	x	x	x
Half decade	x	x	x	x	x	x	x
Type of climate action/measure	x	x	x	x	x	x	x
Fit statistics							
Observations	4,110	4,110	4,038	3,636	2,745	2,745	2,607
R^2	0.764	0.766	0.770	0.773	0.787	0.788	0.891

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Another objection might that the null effect is driven by measurement error in the CAPMF stringency variable (see Section 4.1). To allay such worries, I also estimate a series of linear probability models for the adoption, rather than the stringency, of climate policies. The rationale is that coders are less likely to make mistakes when it comes to the adoption of new policies, compared to assessments of their ambitiousness. If measurement error in the stringency variable was the key driver, we would expect the Finnegan-type positive effect to re-appear. The relevant tables in the "06 Figures and tables/Tables/Main effect" folder in the GitHub repository show that this is *not* the case.

By way of conclusion, let me make two points. First and foremost, the preceding analysis lends support to H0 – the main effect of corporatism on climate policy is variable and inconsistent, as we would expect when the latter is determined by the relative strength of two countervailing effects (see Figure 1). Secondly, the key point of the analysis is *not* that the true effect is null. Instead, the purpose was to demonstrate that the effect is neither unambiguously positive, as argued by Finnegan (2022), nor unambiguously negative, as claimed by Mildenberger (2020).

A.1.2 Regression tables for Figures 2 and 3

Table A6: Examining Costs for consumers

Dependent Variable:	Costs for consumers							
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Variables								
Concertation	0.072**	0.074*	0.256	0.257	0.255	0.257	0.209	0.218
	(0.033)	(0.037)	(0.250)	(0.261)	(0.256)	(0.253)	(0.166)	(0.169)
Industry value added		-0.005	0.001	0.002	0.003	0.002	-0.002	-0.005
		(0.012)	(0.020)	(0.022)	(0.023)	(0.023)	(0.017)	(0.017)
Concertation $\times$ Industry value added			-0.006	-0.006	-0.006	-0.007	-0.005	-0.005
			(0.009)	(0.009)	(0.009)	(0.009)	(0.006)	(0.006)
Fossil fuel production per capita				-0.001	0.002	0.003	0.004	-0.001
				(0.024)	(0.021)	(0.021)	(0.020)	(0.020)
Real GDP growth					-0.009	-0.009	-0.004	-0.002
					(0.010)	(0.010)	(0.009)	(0.008)
Unemployment rate						-0.004	-0.003	0.000
						(0.009)	(0.009)	(0.009)
Share of >65							-0.027	-0.025
							(0.035)	(0.034)
Green vs. growth government preferences								-0.004**
								(0.002)
Fixed effects								
Country	x	x	x	x	x	x	x	x
Year	x	x	x	x	x	x	x	x
Fit statistics								
Observations	269	255	255	255	255	255	255	255
R^2	0.928	0.921	0.922	0.922	0.923	0.923	0.926	0.928

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A7: Examining Costs for consumers

Dependent Variable:	Costs for consumers							
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Variables								
Concertation	0.072**	0.076**	-0.080	-0.086	-0.078	-0.078	-0.061	-0.041
	(0.033)	(0.031)	(0.071)	(0.072)	(0.081)	(0.081)	(0.075)	(0.068)
Openness to trade		0.002	-0.002	-0.002	-0.002	-0.002	-0.001	0.000
		(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Concertation × Openness to trade			0.002**	0.002**	0.002*	0.002*	0.002*	0.002*
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Fossil fuel production per capita				0.014	0.015	0.015	0.014	0.011
				(0.016)	(0.016)	(0.016)	(0.013)	(0.013)
Real GDP growth					-0.003	-0.003	-0.001	-0.001
					(0.007)	(0.007)	(0.007)	(0.007)
Unemployment rate						0.000	0.001	0.002
						(0.007)	(0.007)	(0.007)
Share of >65							-0.024	-0.023
							(0.035)	(0.034)
Green vs. growth government preferences								-0.002
								(0.002)
Fixed effects								
Country	x	x	x	x	x	x	x	x
Year	x	x	x	x	x	x	x	x
Fit statistics								
Observations	269	269	269	269	269	269	269	269
R^2	0.928	0.929	0.933	0.933	0.934	0.934	0.935	0.936

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A8: Examining Costs for consumers

Dependent Variable:	Costs for consumers							
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Variables								
Concertation	0.072**	0.072**	0.040	0.040	0.037	0.034	0.023	0.034
	(0.033)	(0.034)	(0.041)	(0.041)	(0.039)	(0.042)	(0.044)	(0.043)
Trade CO2 share		0.001	0.000	0.000	0.000	0.000	-0.001	-0.001
		(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Concertation $\times$ Trade CO2 share			0.001	0.001	0.001	0.001	0.001*	0.001
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Fossil fuel production per capita				0.001	0.005	0.005	0.006	0.002
				(0.017)	(0.015)	(0.015)	(0.012)	(0.013)
Real GDP growth					-0.009	-0.009	-0.006	-0.005
					(0.008)	(0.009)	(0.008)	(0.007)
Unemployment rate						-0.002	-0.001	0.001
						(0.008)	(0.008)	(0.007)
Share of >65							-0.026	-0.024
							(0.035)	(0.034)
Green vs. growth government preferences								-0.002
								(0.002)
Fixed effects								
Country	x	x	x	x	x	x	x	x
Year	x	x	x	x	x	x	x	x
Fit statistics								
Observations	269	269	269	269	269	269	269	269
R^2	0.928	0.929	0.930	0.930	0.931	0.931	0.934	0.934

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A9: Examining Costs for consumers

Dependent Variable:	Costs for consumers							
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Variables								
Concertation	0.072**	0.104*	0.144*	0.144*	0.129**	0.132**	0.130**	0.151*
	(0.033)	(0.048)	(0.067)	(0.069)	(0.051)	(0.050)	(0.049)	(0.067)
Green party CIP		-0.366**	0.167	0.171	0.025	-0.115	-0.160	0.067
		(0.121)	(0.476)	(0.482)	(0.573)	(0.502)	(0.373)	(0.409)
Concertation $\times$ Green party CIP			-0.362	-0.362	-0.286	-0.255	-0.263	-0.288
			(0.330)	(0.343)	(0.349)	(0.310)	(0.336)	(0.319)
Fossil fuel production per capita				0.010	0.013	0.006	0.002	0.000
				(0.051)	(0.049)	(0.051)	(0.056)	(0.046)
Real GDP growth					-0.009	-0.012	-0.010	-0.007
					(0.015)	(0.012)	(0.021)	(0.020)
Unemployment rate						0.020	0.021	0.025
						(0.015)	(0.014)	(0.016)
Share of >65							-0.011	0.006
							(0.056)	(0.065)
Green vs. growth government preferences								-0.004
								(0.004)
Fixed effects								
Country	x	x	x	x	x	x	x	x
Year	x	x	x	x	x	x	x	x
Fit statistics								
Observations	269	97	97	97	97	97	97	97
R^2	0.928	0.940	0.942	0.942	0.942	0.946	0.946	0.948

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A10: Marginal effect of Corporatism (all, smoothed) by Industry value added (% of GDP)

Dependent Variable:	Probability of policy adoption (linear probability model)						
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Variables							
Corporatism (all, smoothed), 1-year lag	-0.250*	-0.231*	-0.253**	-0.251**	-0.330***	-0.324***	-0.225**
	(0.146)	(0.134)	(0.121)	(0.117)	(0.112)	(0.111)	(0.110)
Industry value added (% of GDP), 1-year lag	0.002	0.000	0.001	0.000	0.002	0.001	0.003
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Corporatism (all, smoothed) x Industry value added (% of GDP), both 1-year lag	0.009*	0.007	0.008*	0.007*	0.009***	0.009**	0.007*
	(0.005)	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)
CO2 emissions p.c., 1-year lag		0.025**	0.025**	0.030**	0.015	0.015	0.010
		(0.011)	(0.011)	(0.011)	(0.014)	(0.013)	(0.013)
GDP p.c. (constant 2015 USD), 1-year lag			0.000	0.000**	0.000	0.000	0.000
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tax revenue (% of GDP), 1-year lag				-0.002	-0.003	-0.003	-0.003
				(0.002)	(0.003)	(0.003)	(0.003)
Share of population >65, 1-year lag					0.017	0.017	0.014
					(0.010)	(0.010)	(0.010)
Gallagher index of disproportionality, 1-year lag						-0.005*	-0.005
						(0.003)	(0.003)
Stringency value, 4-year lag							0.002
							(0.002)
Fixed effects							
Country	x	x	x	x	x	x	x
Half decade	x	x	x	x	x	x	x
Type of climate action/measure	x	x	x	x	x	x	x
Fit statistics							
Observations	3,318	3,318	3,318	3,057	2,496	2,496	2,379
R^2	0.523	0.527	0.530	0.493	0.488	0.489	0.494

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A11: Marginal effect of Corporatism (all, smoothed) by Green party CIP (Gross)

Dependent Variable:	Stringency value (theoretical range, 0-10)						
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Variables							
Corporatism (all, smoothed), 1-year lag	-0.082	-0.001	-0.364	-0.399	-0.302**	-0.301**	0.167
	(0.058)	(0.146)	(0.269)	(0.259)	(0.120)	(0.116)	(0.126)
Green party CIP (Gross), 1-year lag	-2.323***	-1.960***	-1.477***	-1.618***	-1.113**	-1.102**	-1.330***
	(0.272)	(0.154)	(0.234)	(0.284)	(0.375)	(0.392)	(0.299)
Corporatism (all, smoothed) x Green party CIP (Gross), both 1-year lag	3.396***	2.679***	1.885***	2.032***	1.716**	1.697**	1.893***
	(0.416)	(0.276)	(0.410)	(0.485)	(0.629)	(0.663)	(0.468)
CO2 emissions p.c., 1-year lag		-0.089**	-0.109**	-0.106**	-0.104***	-0.103***	-0.049**
		(0.028)	(0.038)	(0.039)	(0.022)	(0.021)	(0.020)
GDP p.c. (constant 2015 USD), 1-year lag			0.000**	0.000***	0.000***	0.000***	0.000***
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tax revenue (% of GDP), 1-year lag				0.017	0.023**	0.023**	0.001
				(0.012)	(0.009)	(0.009)	(0.006)
Share of population >65, 1-year lag					0.181***	0.179***	0.094**
					(0.037)	(0.040)	(0.033)
Gallagher index of dis-proportionality, 1-year lag						-0.007	-0.014
						(0.011)	(0.009)
Stringency value, 4-year lag							0.618***
							(0.045)
Fixed effects							
Country	x	x	x	x	x	x	x
Half decade	x	x	x	x	x	x	x
Type of climate action/measure	x	x	x	x	x	x	x
Fit statistics							
Observations	684	684	684	684	684	684	630
R^2	0.836	0.838	0.842	0.842	0.851	0.851	0.903

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A12: Marginal effect of Corporatism (all, smoothed) by Green party CIP (Net)

Dependent Variable:	Stringency value (theoretical range, 0-10)						
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Variables							
Corporatism (all, smoothed), 1-year lag	0.033	0.095	-0.338	-0.372	-0.287*	-0.286*	0.177
	(0.078)	(0.120)	(0.275)	(0.264)	(0.133)	(0.129)	(0.135)
Green party CIP (Net), 1-year lag	-2.917***	-2.377***	-2.106***	-2.285***	-1.856***	-1.866***	-2.382***
	(0.446)	(0.474)	(0.326)	(0.375)	(0.451)	(0.446)	(0.293)
Corporatism (all, smoothed) lag x Green party CIP (Net), both 1-year lag	3.481***	2.565***	2.078**	2.277**	2.231**	2.204**	2.944***
	(0.820)	(0.762)	(0.670)	(0.783)	(0.882)	(0.892)	(0.758)
CO2 emissions p.c., 1-year lag		-0.094**	-0.111**	-0.108**	-0.108***	-0.107***	-0.052**
		(0.032)	(0.039)	(0.041)	(0.022)	(0.022)	(0.019)
GDP p.c. (constant 2015 USD), 1-year lag			0.000**	0.000***	0.000***	0.000***	0.000***
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tax revenue (% of GDP), 1-year lag				0.016	0.024**	0.024**	0.001
				(0.011)	(0.008)	(0.009)	(0.005)
Share of population >65, 1-year lag					0.178***	0.174***	0.092**
					(0.037)	(0.041)	(0.030)
Gallagher index of dis-proportionality, 1-year lag						-0.009	-0.016
						(0.012)	(0.009)
Stringency value, 4-year lag							0.619***
							(0.045)
Fixed effects							
Country	x	x	x	x	x	x	x
Half decade	x	x	x	x	x	x	x
Type of climate action/measure	x	x	x	x	x	x	x
Fit statistics							
Observations	684	684	684	684	684	684	630
R^2	0.835	0.838	0.842	0.842	0.851	0.851	0.903

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A13: Marginal effect of Tripartite concertation by Green party CIP (Net)

Dependent Variable:	Stringency value (theoretical range, 0-10)						
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Variables							
Tripartite concertation, 1-year lag	-0.114**	-0.178***	-0.068	-0.081	-0.006	-0.016	-0.065
	(0.038)	(0.039)	(0.071)	(0.063)	(0.042)	(0.039)	(0.045)
Green party CIP (Net), 1-year lag	-1.275***	-1.276***	-1.345***	-1.458***	-0.877***	-0.901***	-1.067***
	(0.308)	(0.286)	(0.240)	(0.240)	(0.251)	(0.233)	(0.221)
Tripartite concertation x Green party CIP (Net), both 1-year lag	0.815**	0.896***	0.851**	0.947***	0.691**	0.702**	0.740**
	(0.274)	(0.246)	(0.274)	(0.264)	(0.289)	(0.270)	(0.286)
CO2 emissions p.c., 1-year lag		-0.113***	-0.123**	-0.120**	-0.118***	-0.117***	-0.064***
		(0.031)	(0.040)	(0.041)	(0.022)	(0.022)	(0.018)
GDP p.c. (constant 2015 USD), 1-year lag			0.000***	0.000***	0.000***	0.000***	0.000***
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tax revenue (% of GDP), 1-year lag				0.017	0.023**	0.022**	0.004
				(0.009)	(0.008)	(0.008)	(0.005)
Share of population >65, 1-year lag					0.186***	0.182***	0.088**
					(0.038)	(0.043)	(0.029)
Gallagher index of dis-proportionality, 1-year lag						-0.008	-0.016
						(0.012)	(0.011)
Stringency value, 4-year lag							0.611***
							(0.043)
Fixed effects							
Country	x	x	x	x	x	x	x
Half decade	x	x	x	x	x	x	x
Type of climate action/measure	x	x	x	x	x	x	x
Fit statistics							
Observations	666	666	666	666	666	666	630
R^2	0.835	0.838	0.842	0.843	0.852	0.852	0.903

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

A.1.3 Robustness checks

Table A14: Marginal effect of Corporatism (all, smoothed) by Industry value added (% of GDP)

Dependent Variable:	Stringency value (theoretical range, 0-10)						
Region	Full sample	Australia and New Zealand	Eastern Europe	Northern America	Northern Europe	Southern Europe	Western Europe
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Variables							
Corporatism (all, smoothed), 1-year lag	1.471***	-55.769*	0.840	-327.902	0.396	4.448**	5.748
	(0.535)	(6.499)	(1.040)	(558.360)	(0.987)	(1.272)	(4.045)
Industry value added (% of GDP), 1-year lag	0.006	1.393*	0.015	15.595	-0.011	-0.077	0.203
	(0.016)	(0.136)	(0.025)	(24.414)	(0.023)	(0.043)	(0.122)
CO_2 emissions p.c., 1-year lag	0.052	0.944	0.374**	-0.172	0.065	-0.240	-0.056
	(0.045)	(1.160)	(0.095)	(0.366)	(0.044)	(0.126)	(0.062)
GDP p.c. (constant 2015 US$), 1-year lag	0.000***	0.000	0.000	0.000	0.000*	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tax revenue (% of GDP), 1-year lag	0.007	0.094	-0.005	0.149	0.022	0.020	0.003
	(0.009)	(0.069)	(0.058)	(0.035)	(0.030)	(0.013)	(0.033)
Share of population >65, 1-year lag	-0.117**	-1.856	-0.476***	-0.157	-0.016	-0.311**	0.042
	(0.056)	(0.928)	(0.118)	(0.035)	(0.096)	(0.114)	(0.090)
Gallagher index of disproportionality, 1-year lag	-0.045**	0.197	-0.038	-0.355	-0.023	-0.061	-0.035
	(0.019)	(0.127)	(0.045)	(0.156)	(0.037)	(0.034)	(0.035)
Stringency value. 4-year lag	0.877***	0.770**	0.846***	1.056*	0.872***	0.862***	0.851***
	(0.020)	(0.013)	(0.023)	(0.127)	(0.031)	(0.042)	(0.033)
Corporatism (all, smoothed) x Industry value added (% of GDP), both 1-year lag	-0.043**	2.333**	0.002	13.418	-0.032	-0.126**	-0.222
	(0.019)	(0.099)	(0.024)	(21.323)	(0.020)	(0.045)	(0.155)
Fixed effects							
Country	x	x	x	x	x	x	x
Half decade	x	x	x	x	x	x	x
Type of climate action/measure	x	x	x	x	x	x	x
Fit statistics							
Observations	2,379	132	450	132	681	447	537
R^2	0.927	0.902	0.921	0.937	0.939	0.925	0.935

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A15: Marginal effect of Corporatism (all, smoothed) by Green party CIP (Gross)

Dependent Variable:	Stringency value (theoretical range, 0-10)			
Region	Full sample	Northern Europe	Southern Europe	Western Europe
Model:	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	OLS
Variables				
Corporatism (all, smoothed), 1-year lag	0.167	0.175	1.483**	-0.014
	(0.126)	(0.129)	(0.116)	(0.481)
Green party CIP (Gross), 1-year lag	-1.330***	-1.339	-1.242**	-3.047*
	(0.299)	(0.977)	(0.063)	(0.865)
CO2 emissions p.c., 1-year lag	-0.049**	-0.081	0.084	-0.097
	(0.020)	(0.036)	(0.144)	(0.089)
GDP p.c. (constant 2015 US$), 1-year lag	0.000***	0.000**	0.000	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)
Tax revenue (% of GDP), 1-year lag	0.001	0.002	-0.136	-0.004
	(0.006)	(0.010)	(0.044)	(0.048)
Share of population >65, 1-year lag	0.094**	0.084	0.563*	-0.023
	(0.033)	(0.046)	(0.077)	(0.029)
Gallagher index of dis-proportionality, 1-year lag	-0.014	-0.038	-0.016***	-0.028
	(0.009)	(0.033)	(0.000)	(0.016)
Stringency value 4-year lag	0.618***	0.559***	0.555*	0.599**
	(0.045)	(0.079)	(0.062)	(0.069)
Corporatism (all, smoothed) x Green party CIP (Gross), both 1-year lag	1.893***	1.343	2.114	3.957
	(0.468)	(1.254)	(0.381)	(1.544)
Fixed effects				
Country	x	x	x	x
Half decade	x	x	x	x
Type of climate action/measure	x	x	x	x
Fit statistics				
Observations	630	279	126	225
R^2	0.903	0.913	0.919	0.897

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A16: Marginal effect of Corporatism (all, smoothed) by Green party CIP (Net)

Dependent Variable:	Stringency value (theoretical range, 0-10)			
Region	Full sample	Northern Europe	Southern Europe	Western Europe
Model:	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	OLS
Variables				
Corporatism (all, smoothed), 1-year lag	0.177	0.298***	1.727*	-0.086
	(0.135)	(0.037)	(0.264)	(0.660)
Green party CIP (Net), 1-year lag	-2.382***	-4.020*	-1.620*	-4.719
	(0.293)	(1.591)	(0.205)	(1.660)
CO2 emissions p.c., 1-year lag	-0.052**	-0.080	0.093	-0.126
	(0.019)	(0.036)	(0.169)	(0.111)
GDP p.c. (constant 2015 US$), 1-year lag	0.000***	0.000**	0.000	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)
Tax revenue (% of GDP), 1-year lag	0.001	-0.001	-0.139	-0.014
	(0.005)	(0.010)	(0.029)	(0.046)
Share of population >65, 1-year lag	0.092**	0.092	0.578**	-0.006
	(0.030)	(0.040)	(0.041)	(0.020)
Gallagher index of dis-proportionality, 1-year lag	-0.016	-0.028	-0.016	-0.023
	(0.009)	(0.033)	(0.007)	(0.016)
Stringency value 4-year lag	0.619***	0.565***	0.557*	0.589**
	(0.045)	(0.079)	(0.061)	(0.075)
Corporatism (all, smoothed) x Green party CIP (Net), 1-year lag	2.944***	4.261	2.618	6.369
	(0.758)	(2.127)	(1.632)	(3.443)
Fixed effects				
Country	x	x	x	x
Half decade	x	x	x	x
Type of climate action/measure	x	x	x	x
Fit statistics				
Observations	630	279	126	225
R^2	0.903	0.915	0.919	0.897

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A17: Marginal effect of Tripartite concertation by Green party CIP (Net)

Dependent Variable:	Stringency value (theoretical range, 0-10)			
Region	Full sample	Northern Europe	Southern Europe	Western Europe
Model:	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	OLS
Variables				
Tripartite concertation, 1-year lag	-0.065	-0.154		-0.153**
	(0.045)	(0.212)		(0.032)
Green party CIP (Net), 1-year lag	-1.067***	-0.964**	-1.463	-1.868*
	(0.221)	(0.188)	(0.305)	(0.490)
CO_2 emissions p.c., 1-year lag	-0.064***	-0.063	-0.117	-0.074
	(0.018)	(0.036)	(0.207)	(0.092)
GDP p.c. (constant 2015 US$), 1-year lag	0.000***	0.000*	0.000	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)
Tax revenue (% of GDP), 1-year lag	0.004	0.005	-0.166*	-0.015
	(0.005)	(0.010)	(0.024)	(0.046)
Share of population >65, 1-year lag	0.088**	0.095*	0.494***	-0.016
	(0.029)	(0.039)	(0.006)	(0.032)
Gallagher index of dis-proportionality, 1-year lag	-0.016	-0.054	-0.020	-0.036
	(0.011)	(0.046)	(0.017)	(0.016)
Stringency value 4-year lag	0.611***	0.562***	0.573*	0.592**
	(0.043)	(0.075)	(0.053)	(0.073)
Tripartite concertation x Green party CIP (Net), both 1-year lag	0.740**	1.293*		0.954*
	(0.286)	(0.470)		(0.276)
Fixed effects				
Country	x	x	x	x
Half decade	x	x	x	x
Type of climate action/measure	x	x	x	x
Fit statistics				
Observations	630	279	126	225
R^2	0.903	0.915	0.916	0.897

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A18: Marginal effect of Tripartite concertation by Green party CIP (Net)

Dependent Variable:	Stringency value (theoretical range, 0-10)			
Region	Full sample	Northern Europe	Southern Europe	Western Europe
Model:	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	OLS
Variables				
Tripartite concertation, 1-year lag	-0.043	-0.446**		-0.005
	(0.046)	(0.111)		(0.012)
Green party CIP (Net), 1-year lag	-0.940**	-0.727***	-1.352*	-0.299
	(0.317)	(0.083)	(0.121)	(0.374)
CO2 emissions p.c., 1-year lag	-0.037*	-0.062**	-0.121	-0.056
	(0.018)	(0.016)	(0.165)	(0.040)
GDP p.c. (constant 2015 US$), 1-year lag	0.000***	0.000**	0.000	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)
Tax revenue (% of GDP), 1-year lag	0.007	0.013	-0.186**	-0.010
	(0.007)	(0.011)	(0.010)	(0.040)
Share of population >65, 1-year lag	0.056**	0.056*	0.249**	0.014
	(0.018)	(0.021)	(0.019)	(0.025)
Gallagher index of dis-proportionality, 1-year lag	-0.019**	-0.082**	-0.007	-0.033*
	(0.007)	(0.019)	(0.014)	(0.008)
Stringency 4-year lag	0.716***	0.719***	0.724***	0.656***
	(0.023)	(0.022)	(0.005)	(0.037)
Tripartite concertation x Green party CIP (Net), both 1-year lag	0.637*	1.139**		0.240
	(0.280)	(0.330)		(0.266)
Fixed effects				
Country	x	x	x	x
Half decade	x	x	x	x
Instrument type	x	x	x	x
Fit statistics				
Observations	2,940	1,302	588	1,050
R^2	0.778	0.777	0.782	0.788

Clustered (Country) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

A.2 Additional figures

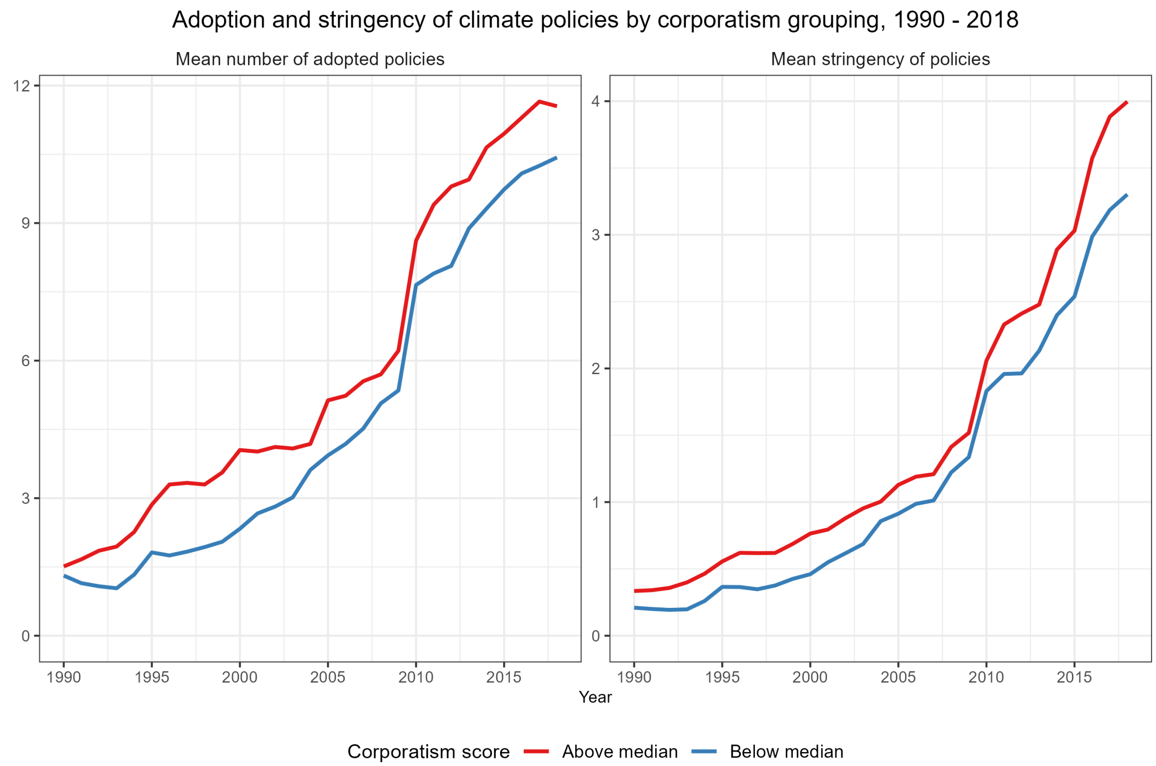


Figure A1: Adoption and stringency of policies by corporatism grouping, 1990 – 2018

Notes: The Figure is based on the OECD's CAPMF (OECD, 2023; Nachtigall et al., 2024) data, with the time-varying corporatism measure taken from Jahn (2016a). The theoretical range for the stringency variable (here averaged over all countries, sectors, and instrument types) is 0-10.

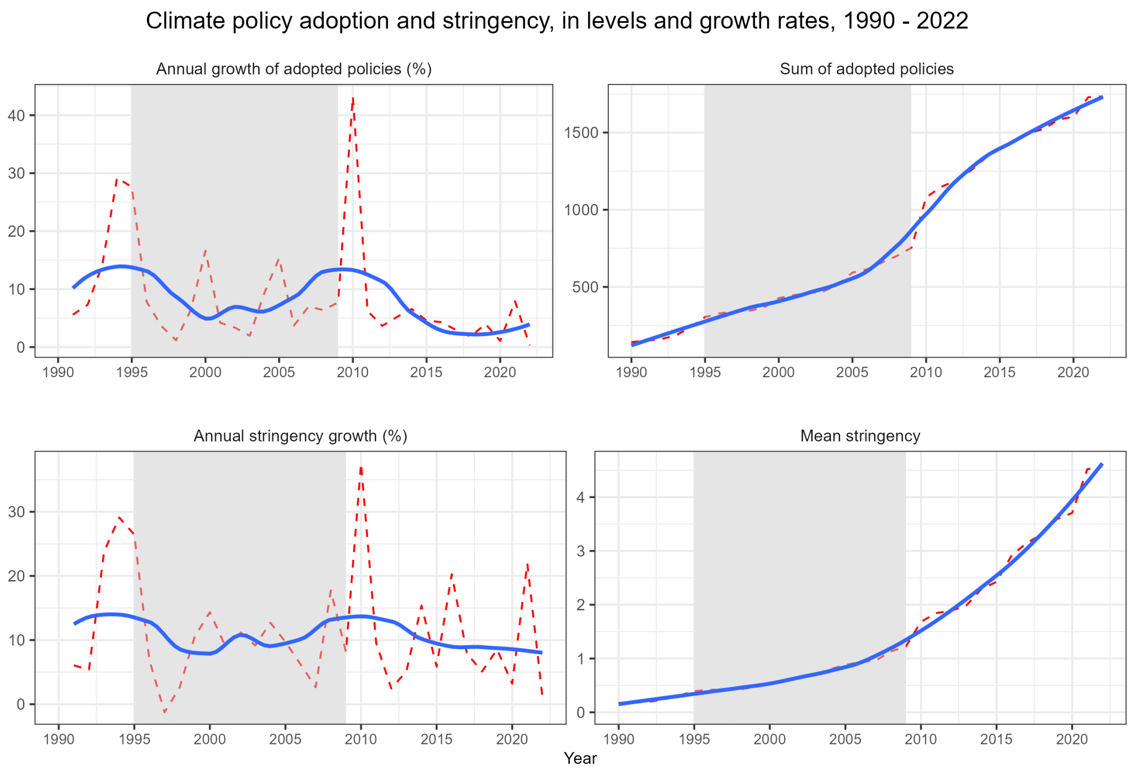


Figure A2: Number of climate policies adopted by country-year

Notes: The Figure is based on the OECD's recently released CAPMF database (OECD, 2023; Nachtigall et al., 2024). The grey shaded area represents the time period of Finnegan's analysis. The red dotted lines capture the actual values, while the blue solid lines represent results from bivariate loess regressions with span 0.5. The theoretical range for the stringency variable is 0-10.

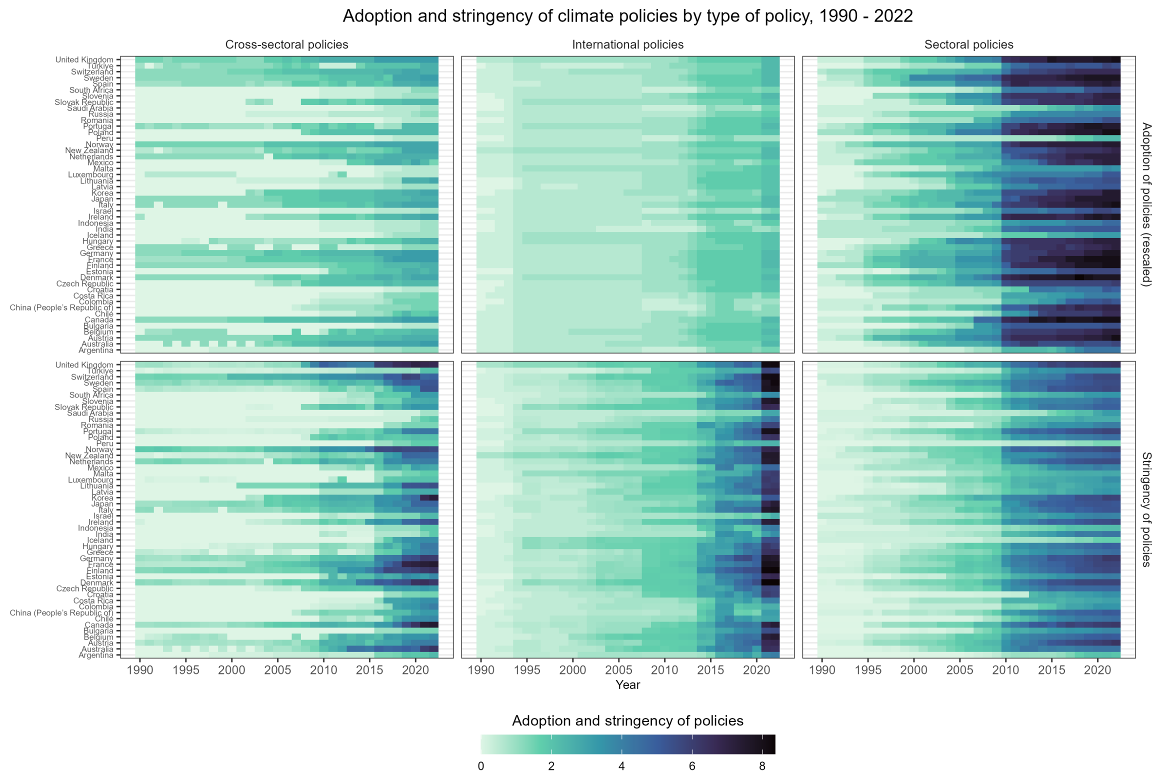


Figure A3: Adoption and stringency of climate policies by type of policy and country, 1990 – 2022

Notes: The Figure is based on the OECD's CAPMF database (OECD, 2023; Nachtigall et al., 2024). The values for adoption are re-scaled to the empirical range of the stringency variable to ensure that the heatmaps are comparable.

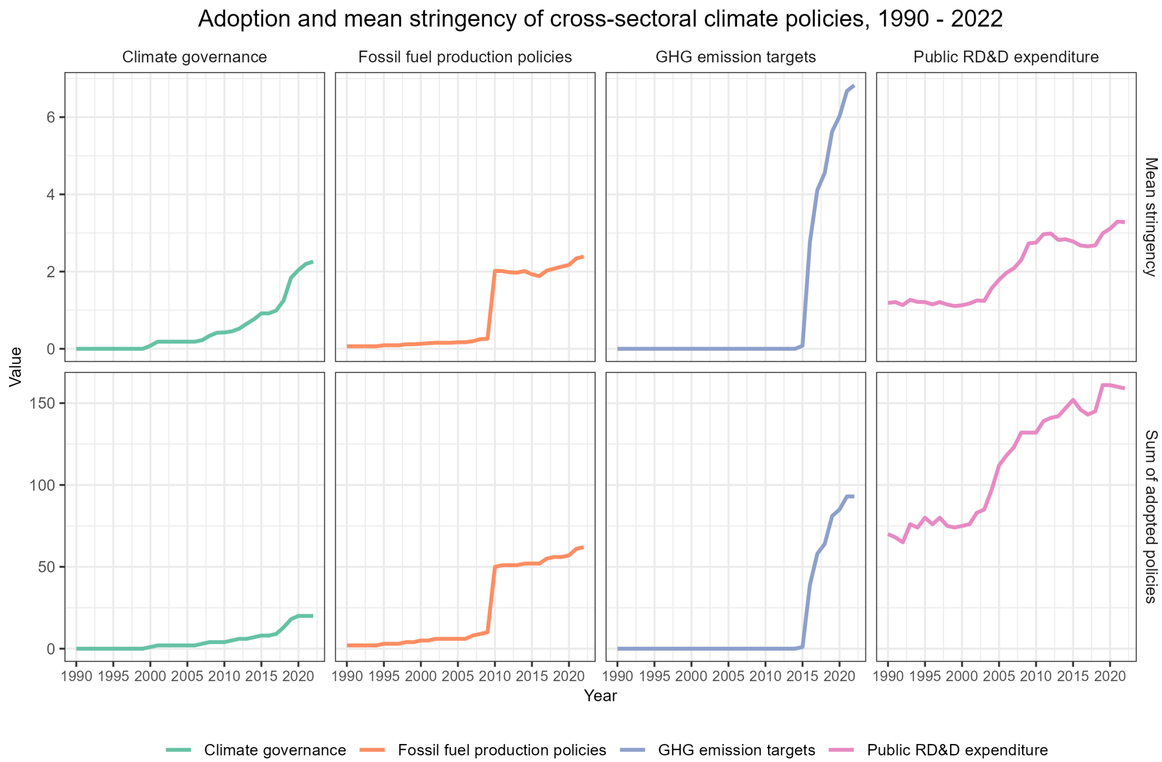


Figure A4: Adoption and mean stringency of cross-sectoral climate policies, 1990 – 2022

Notes: The Figure is based on the OECD's CAPMF database (OECD, 2023; Nachtigall et al., 2024).

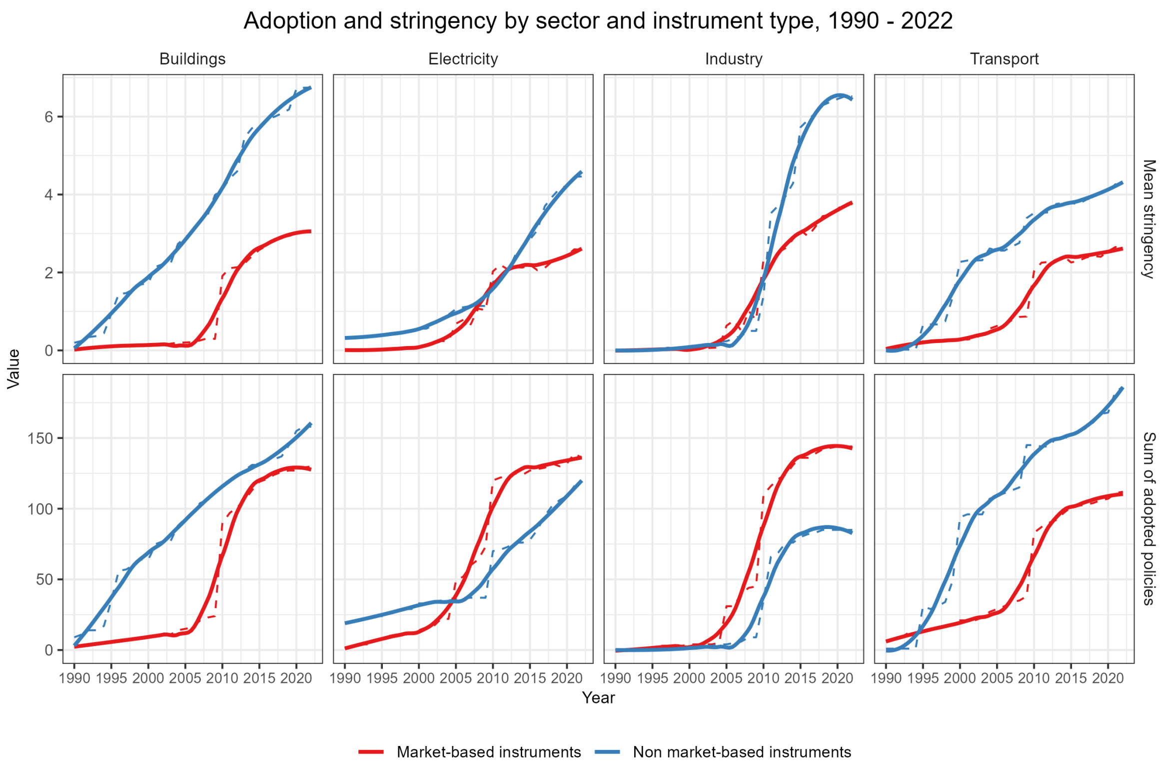
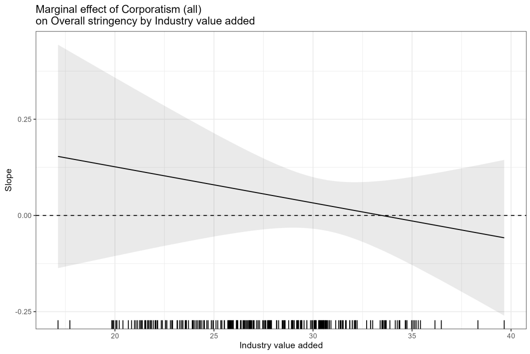
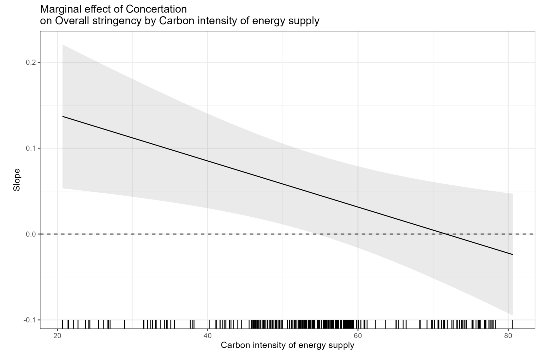


Figure A5: Adoption and stringency of climate policies by sector and instrument type, 1990 – 2022

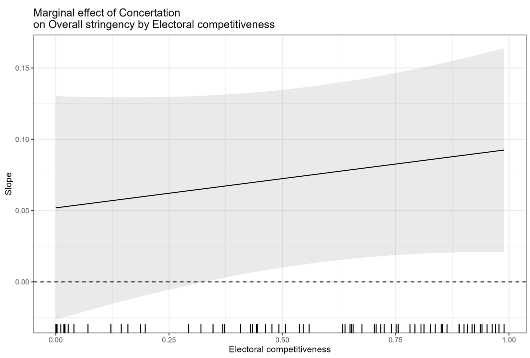
Notes: The Figure is based on the OECD's CAPMF database (OECD, 2023; Nachtigall et al., 2024). The dotted lines trace out the actual values, whereas the solid ones represent the results from bivariate loess regressions with span 0.5.



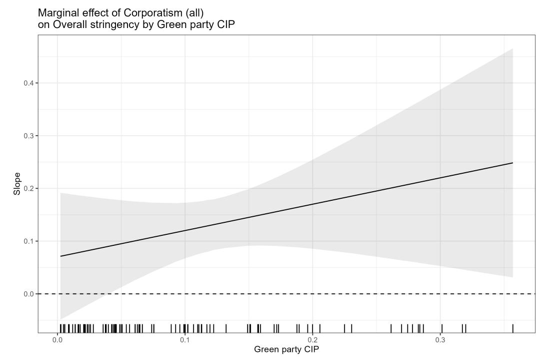
(a) Marginal 'effect' of concertation by industry value added



(b) Marginal 'effect' of concertation by carbon intensity of energy supply



(c) Marginal 'effect' of concertation by electoral competitiveness



(d) Marginal 'effect' of concertation by green party CIP

Figure A6: Marginal 'effect' of concertation on overall policy stringency

Notes: The Figures are based on two-way fixed effects (country and year) regressions that include the following covariates: fossil fuel production per capita, real GDP growth, the unemployment rate, the share of the population older than 65, and aggregate public opinion, measured on the left-right scale. See the Appendix, Section A.1.1 for an explanation of the estimation strategy and a justification of the controls. The quotation marks for 'effect' indicate that I do not claim that these effects are causal, but using the word improves readability considerably. No moderators for the openness of the economy are included since no theoretically unambiguous predictions were derived (see Table 2). CIP refers to coalition inclusion probability.