

Bulfone, Fabio; Ergen, Timur; Maggor, Erez

Working Paper

The political economy of conditionality and the new industrial policy

MPIfG Discussion Paper, No. 24/6

Provided in Cooperation with:

Max Planck Institute for the Study of Societies (MPIfG), Cologne

Suggested Citation: Bulfone, Fabio; Ergen, Timur; Maggor, Erez (2024) : The political economy of conditionality and the new industrial policy, MPIfG Discussion Paper, No. 24/6, Max Planck Institute for the Study of Societies, Cologne,
<https://hdl.handle.net/21.11116/0000-000F-DFCA-3>

This Version is available at:

<https://hdl.handle.net/10419/305292>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



MPIfG Discussion Paper 24/6

**The Political Economy of Conditionality and
the New Industrial Policy**

Fabio Bulfone, Timur Ergen, and Erez Maggor



Fabio Bulfone, Timur Ergen, and Erez Maggor
The Political Economy of Conditionality and the New Industrial Policy

MPIfG Discussion Paper 24/6
Max-Planck-Institut für Gesellschaftsforschung, Köln
Max Planck Institute for the Study of Societies, Cologne
September 2024

MPIfG Discussion Paper
ISSN 0944-2073 (Print)
ISSN 1864-4325 (Internet)

© 2024 by the author(s)

About the authors

Fabio Bulfone is an Assistant Professor at Leiden University, Netherlands.
Email: f.bulfone@fgga.leidenuniv.nl

Timur Ergen is a Senior Researcher at the Max Planck Institute for the Study of Societies, Cologne.
Email: te@mpifg.de

Erez Maggor is a Lecturer in the Department of Sociology & Anthropology, Ben-Gurion University of the Negev.
Email: emaggor@bgu.ac.il

MPIfG Discussion Papers are refereed scholarly papers of the kind that are publishable in a peer-reviewed disciplinary journal. Their objective is to contribute to the cumulative improvement of theoretical knowledge. Copies can be ordered from the Institute or downloaded as PDF files (free).

Downloads

www.mpifg.de

Go to *Publications / Discussion Papers*

Max-Planck-Institut für Gesellschaftsforschung
Max Planck Institute for the Study of Societies
Paulstr. 3 | 50676 Cologne | Germany

Tel. +49 221 2767-0

Fax +49 221 2767-555

www.mpifg.de

info@mpifg.de

Abstract

Conditionality was a central concern in the development literature of the 1990s. With the massive expansion of targeted public support to private firms since the Great Financial Crisis, the question of conditionality is once again at the center of industrial policy debates. Despite the growing interest in the concept, the existing literature does not provide a systematic conceptualization of conditionality in the context of industrial policy, nor does it outline the political factors that facilitate the introduction of conditionality by state actors. This paper addresses this gap by offering a systematic political economy of conditionality. We provide an overview of the literature on conditionality, focusing on different industries, historical periods, and national contexts. In doing so, we make three contributions to the debate on industrial policy. First, we distinguish between two broad instruments of conditionality: performance standards and corporate control devices. Next, we map the coalitional, institutional, ideational, and global contextual factors that facilitate conditionality. Finally, we offer two vignettes of recent industrial policy initiatives in the EU and the US as illustrative cases. We make two arguments. First, the presence of conditionality is not primarily a technical matter of political design, but is shaped by combinations of political economy factors. Second, industrial policy conditionality provides an important theoretical lens for assessing how and where the recent revival of state activism represents a substantive break from the neoliberal order.

Keywords: conditionality, developmental state, EU, geopolitics, industrial policy, political economy, US

Zusammenfassung

Konditionalität war ein zentrales Thema der Literatur zur wirtschaftlichen Entwicklung der 1990er-Jahre. Mit der massiven Ausweitung der gezielten öffentlichen Unterstützung für Privatunternehmen seit der Finanzkrise 2008 steht die Frage der Konditionalität wieder im Mittelpunkt industriepolitischer Debatten. Trotz des wachsenden Interesses am Problem der Konditionalität bietet die vorhandene Literatur weder eine systematische Konzeptualisierung im Kontext der Industriepolitik noch beschreibt sie die politischen Faktoren, die die Einführung von Konditionalitäten durch staatliche Akteure begünstigen. Dieser Aufsatz schließt diese Lücke, indem er eine systematische politische Ökonomie industriepolitischer Konditionalität entwickelt. Wir geben einen Überblick über die Literatur zur Konditionalität und decken dabei verschiedene Branchen, historische Zeiträume und nationale Kontexte ab. Wir leisten drei Beiträge zur Debatte zur Industriepolitik: Erstens unterscheiden wir zwischen zwei umfassenden Instrumenten der Konditionalität: Leistungsstandards und Bedingungen zur Unternehmenskontrolle. Zweitens arbeiten wir die koalitionellen, institutionellen, ideellen und globalen Kontextfaktoren heraus, die Konditionalität begünstigen. Drittens illustrieren wir die Nützlichkeit unserer konzeptuellen Überlegungen am Beispiel von zwei gegenwärtigen industriepolitischen Initiativen in der EU und den USA. Unser Aufsatz entwickelt zwei übergreifende Argumente. Erstens ist das Vorhandensein von Konditionalität nicht in erster Linie eine technische Frage der politischen Gestaltung, sondern wird durch eine Kombination von politisch-ökonomischen Faktoren bedingt. Zweitens bieten industriepolitische Konditionalitäten eine wichtige theoretische Grundlage, um zu beurteilen, wie und wo die viel diskutierte Wiederbelebung staatlicher Interventionen in die Wirtschaft einen substanziellen Bruch mit der neoliberalen Ordnung darstellt.

Schlagwörter: EU, Geopolitik, Industriepolitik, Konditionalität, Politische Ökonomie, US

Contents

1	Introduction	1
2	Conditionality: What is it and why does it matter?	3
3	Varieties of conditionality	4
	Performance standards	5
	Corporate control	6
4	Unpacking the political economy of conditionality	7
	Institutional factors for the implementation of conditionality	8
	Coalitional factors for the implementation of conditionality	9
	Ideational factors for the introduction of conditionality	10
	From unit to system: global factors and conditionality	12
5	Back to the unit: The politics of conditionality in the new industrial policy	15
	Conditionality and the political economy of Bidenomics	15
	The political economy of (weaker) conditionality in the EU	18
6	Conclusion	21
	References	23

The Political Economy of Conditionality and the New Industrial Policy

1 Introduction

Nothing has better signaled the declining appeal of neoliberalism in recent years than the resurgence of industrial policy. An array of ambitious policy packages like the US CHIPS and Science Bill, and Inflation Reduction Act (IRA), the EU Green Deal Industrial Plan (GDIP), and Korea's Green New Deal, demonstrate that the return of industrial policy has become more than an erratic "backlash against globalization" (Crouch 2019). Instead, scholars observe a more tectonic "reconfiguration of capitalism" (Durand 2023), by which the boundaries between markets, institutions, and states are incrementally redrawn.

The characterization of historical political-economic change as a pendulum swing from mercantilism to laissez-faire and back is, of course, an oversimplification. The heyday of the neoliberal order did feature extensive regional experiments with industrial policy – most notably in East Asia (Amsden and Chu 2003; Y.-h. Chu 2002; Linden 2004). Likewise, some of what goes in the name of industrial policy is in fact a semantic cover for the substantive continuation of neoliberal policies (Bulfone 2023). As Daniela Gabor has argued, public policies such as the IRA or GDIP can be understood as a form of business-friendly "derisking," which "shifts demand, political or climate risks from the private sector to public balance sheets, with profound distributional consequences" (Gabor 2023). At the same time, there have been significant shifts in the global governance of industrial policy, which has given governments increasing leeway to actively pursue economic development under all kinds of semantic umbrellas. How do we make sense of these developments? Does the "return of industrial policy" mark a significant break from the pro-business interventions of the neoliberal era, or is it merely the continuation of business-friendly policy by other means?

Authors are listed alphabetically and contributed equally to this paper.

Previous drafts of this paper were presented at the 2023 SASE Annual Meeting, the 2023 New Thinking in Industrial Policy conference at Columbia University, the 2023 Advancing Industrial Policy in the Era of Strategic Competition conference in Bangkok, the 2024 DGS Conference on the State in the Economy in Berlin, the MPIfG Growth Models Group Seminar, the UCLA Seminar for Comparative Social Analysis, the séminaire GEO de l'équipe SPI-CEPN, the Political Economy of Neoliberalism Workshop in Tel Aviv, and at seminars at Erasmus University Rotterdam and the Sorbonne, Paris. The authors thank the participants for helpful criticism and feedback. Rohan Advani, Kevan Harris, Martin Höpner, Osama Iqbal, Samuel Klebaner, Basak Kus, Noam Maggor, Sid Rothstein, Timo Seidl, and Asya Zhelyazkova have provided essential feedback on earlier drafts.

Addressing these questions, we argue, requires refocusing scholarly attention on a necessary feature of transformative industrial policy: the existence of “conditionality,” defined here as an array of incentive instruments used by state actors to align corporate behavior with the fulfillment of broad public policy goals beyond profit maximization (Koch 2015). Classic examples are Amsden’s (1989) concerns about “performance standards,” Wade’s (1990) distinction between states in positions of “leadership” and “followership” vis-à-vis industry, and Rodrik’s (2009) emphasis on designing industrial policies that incorporate both “carrots” and “sticks.”

While conditionality was a central concern for development scholars in the 1990s, in later decades scholarship on the “neo” or “networked” developmental state questioned the relevance of this classic feature of the developmental state, treating the problem of state discipline as increasingly irrelevant in globalized capitalism (Block 2008; Ó Riain 2004). The “question of who pushes whom around ... becomes less and less relevant over time,” Linda Weiss asserted in 1998, “when one of the operating principles is to find win-win solutions, it may be inappropriate to seek out who the winner is as a central research strategy” (Weiss 1998, 79). What is more, the globalization of production and financial circuits may have undermined core disciplinary tools of the “classic” developmental state, and multiplied the structural, and infrastructural (Braun 2020; Cooman 2023a), power of business (Bulfone, Ergen, and Kalaitzake 2023; Naseemullah 2022). Conditionality may hence be increasingly difficult to introduce and enforce.

We share the view that there is a clear danger in the industrial policy literature of fetishizing states pushing around corporate actors. Nevertheless, we argue that the problem of conditionality is even more central to twenty-first-century industrial policy than it has been in the past, as conditionality is one of the few interventionist tools still available to states facing segments of capital that enjoy structural power, and should therefore feature prominently in academic and policy debates about the role of the state in the economy. However, despite the growing interest in the concept, the existing literature has so far never provided a systematic conceptualization of conditionality in the context of industrial policy, nor has it outlined the political factors that produce this important state capacity.

We address this gap by offering a systematic political economy of conditionality. Our taxonomy of conditionality draws on a broad collection of previous empirical studies which we use to map the policy design of conditionality measures and reconstruct the political economic configurations that favored their introduction. In doing so, we make two contributions to contemporary industrial policy debates. First, we outline and distinguish between two broad instruments of conditionality: performance standards and corporate control instruments. Second, we lay out the political economic configurations that facilitate the introduction of conditionality. By reconstructing the ideational, institutional, and coalitional configurations, and the global contextual factors enabling conditionality identified in previous research, we aim to address the “thin politics” (Donner, Ritchie, and Slater 2005, 329) that has characterized the traditional literature on

developmental efforts in high-income and low-income countries. Our theoretical contribution is hence primarily of a reconstructive and distillatory nature.

Our conceptual exercise aims to show how a focus on conditionality provides an essential theoretical vantage point for assessing how, where, and why the recent revival of state activism represents a substantive break with the neoliberal order. Thus, the question of conditionality can stimulate debate about whether the alleged return of the state should have transformative effects on the structure of supply chains, environmental protection, and the reshoring of production, as well as on the distribution of benefits in society.

The paper is structured as follows. Section 2 introduces the concept of conditionality as a relational feature between business and state actors. Sections 3 and 4 constitute the conceptual core of the paper in which we map the policy and political economy dimensions of conditionality by critically reviewing the existing literature. In Section 3, we examine conditionality from a policy perspective, classifying conditionalities into two macro-categories: performance standards and corporate control mechanisms. In Section 4, we explore the political economy of conditionality. In a first subsection we identify institutional, coalitional, and ideational factors that can broaden or restrict the scope for the introduction of conditionality. In the second subsection we stress how global contextual factors such as geopolitics, supranational agreements, and global corporate strategies interact with unit-level factors affecting the implementation of conditionality. Finally, in Section 5 we offer two vignette studies of recent industrial policy initiatives in the EU and the US as illustrative cases of our conceptual framework.

2 Conditionality: What is it and why does it matter?

The long-term transformative goals of industrial policy can include industrial upgrading, increasing employment and human capital, tackling environmental problems or reducing interregional disparities. Achieving these goals often requires state actors to channel public investment to support specific sectors, firms, technologies, or tasks (Warwick 2013). Public incentives can take many forms including grants, low-cost loans, tax breaks, tax credits, access to state-designated enterprise zones, export incentives, R&D subsidies, land concessions, trade protection, and more (for an overview see Zheng and Warner 2010, 329). Yet, as we know from the rich scholarship on industrial policy, the mere provision of public subsidies is far from sufficient to achieve long-term goals (Amsden and Chu 2003; Meckling and Strecker 2023). Equally important is guaranteeing that firms treat assistance not as “welfare transfers” but rather as “implicit contracts” (Chibber 2014).

These commitments constitute a form of conditionality. In broad terms, conditionality can be defined as “an incentive instrument in the relationship between two actors, in

which one actor aims at changing the behavior of the other by setting up conditions for the relationship and by manipulating its cost–benefit calculation by using (positive and negative) material incentives” (Koch 2015, 99).

Conditionality relationships are the subject of lively academic debate in the context of development aid, European studies, and trade policy (Molica 2024). In these fields, often-discussed conditionality relationships involve contractual agreements between two *public* actors, typically a lending state and a borrowing state. Prominent examples of these contractual relations include the (notorious) conditionalities attached to multilateral loans by the IMF or the EU, which aim to propagate reforms in line with ideas about good governance (Holz 2023; Kentikelenis, Stubbs, and King 2016). However, the dimension of conditionality that is most relevant from an industrial policy perspective is different, as it involves a contractual relationship between a *public* actor (be it a federal state, a local administrative institution, or an unelected body such as a development bank or agency) and a *private* recipient of financial support, typically a domestic or foreign corporation.

Conditionality revolves around the “principle of reciprocity” (Amsden 1989, 106). According to this principle, “carrots” in the form of public support should be accompanied by “sticks” in the form of monitorable conditions. Firms may be required to meet specific targets as a condition of access to financing. With this form of ex-ante conditionality, “the interest of the conditionality recipient in receiving the benefit is used by the conditionality actor as a lever for desired behavior change” (Koch 2015, 99). Alternatively, ongoing (or ex-post) conditionality can be established and monitored as part of an ongoing contractual relationship that is enforced via government sanctions (Meckling and Strecker 2023). Such sanctions depend on states’ disciplinary capacity, which is the ability to withdraw public assistance from private firms either when their performance is poor or when they no longer need assistance (Maggor 2021b, 556). Discipline is a crucial ingredient of effective industrial policy as it is the central channel through which states can raise the probability that public support yields publicly beneficial results (Amsden and Chu 2003; Mazzucato 2015; Mazzucato and Rodrik 2023; Wade 1990). If the transfer of financial resources is accompanied by weak or no conditionality at all, state intervention instead amounts to corporate welfare with uncertain developmental effects (Bulfone, Ergen, and Kalaitzake 2023; Gabor 2023).

3 Varieties of conditionality

Building on this conceptual understanding of industrial policy conditionality, we develop our political economy taxonomy in two directions. In a first step, we focus on the *policy design* of conditionality measures (Section 3). In a second step, we systematize the role of political economic factors in favoring or hindering the introduction of conditionality (Section 4).

We distinguish two broad instrument families in the policy design of conditionality: *performance standards* and *corporate control instruments* (see below Table 1). These should not be seen as mutually exclusive categories, as conditionality agreements will typically combine different types of measures to achieve the desired public policy goals.

Performance standards

Performance standards are the type of conditionality that is most widely discussed in classical research on industrial policy. It covers a wide array of conditions that aim at disciplining a specific aspect pertaining to the economic performance of corporate recipients. Examples include local production or local investment requirements (Maggor 2021b; Zheng and Warner 2010), production standards (Perez-Aleman 2003; Sabel 1995; Thurbon 2016; Wade 2004), local content requirements (Chen and Lees 2016; Doner 2009; Lewis 2013; Natsuda and Thoburn 2014; Schrank 2017), export and employment quotas (Amsden and Chu 2003; Wilhelm 2023; Zheng and Warner 2010), and price caps (Carrasco and Madariaga 2022; Wade 2010).

Performance indicators imposing export quotas and local content requirements played a key role in the successful industrial catch-up of East Asian countries (Amsden and Chu 2003; Chibber 2003; Schrank 2017), but also in the Latin American context (Schrank and Kurtz 2005), and more recently in Southeast Asia (Doner 2009; Natsuda and Thoburn 2014) and the US (Block 2008). Performance standards are often linked to strict sanctioning mechanisms. In South Korea, companies that failed to source locally or meet pre-determined export targets would lose preferential access to credit and in some cases even have their assets transferred to competing firms (Amsden 1989; Woo 1991).

Performance standards conditionality has also been a key tool of innovation policies targeting frontier industries. In this context, conditionality measures are typically centered around knowledge-related conditions (Block 2008), and often governed via intellectual property rights (IPR) regimes. For example, in Taiwan, the ownership of technologies developed with state assistance has often been shared equally between the state and private companies. In this framework, firms receiving financial support either commit to scale up production locally and employ local workers or face the risk of losing their IPRs entirely (Amsden 2004; Amsden and Chu 2003). Often, state support was tied to commitments concerning future investment in R&D (Amsden and Chu 2003). Pre-liberalization, German producers of telephones had to share design and technical IP in a jointly owned company to produce for the state-owned telephone provider (Ziegler 1997, 67). In Israel, state-assisted firms enjoyed full ownership over IPRs, yet were obliged to produce locally, and prohibited from transferring their IP abroad. Firms that ignored these restrictions could be sanctioned with the loss of current and future financing streams, while the unauthorized transfer of state-funded IP was classified as a criminal offense (Maggor 2021b). A similar approach was recently applied in China,

as local officials used a set of targeted measures and technological requirements to get firms to move away from sectors such as real estate or entertainment and toward high-tech manufacturing (Gomes and ten Brink 2023).

Finally, the growing salience of climate change as a policy issue over the last two decades has led to the proliferation of environment-related performance standards. These conditions can take a wide variety of forms ranging from the imposition of fuel efficiency standards or electric vehicles production quotas for carmakers, to greenhouse emission caps related to transport or production processes, to the enforcement of building efficiency standards (Meckling and Nahm 2018; Meckling and Strecker 2023). At times, environmental conditions are tied to economic performance standards, aimed for instance at tackling the welfare and employment repercussions of green transition policies.

Corporate control

This second type of conditionality is less concerned with the economic performance of the recipient firm and instead links financial support to a change in the recipient's internal organization or pattern of coordination with external actors. Given the direct impact on the internal structure of the corporate recipient of public support, this second form of conditionality is more encompassing, yet less widespread. In some instances, corporate recipients of state support are required to *alter* their corporate structure. The most frequently enforced corporate control condition involves the acquisition or transfer of equity to the state. Equity transfers constitute the most direct form of “gainsharing” (Block, Keller, and Negoita 2023). However, even more importantly, the state can also use its role as a patient equity investor to support long-term investment goals that go beyond the realization of financial profits like firm scale-up (Amsden and Chu 2003; Bulfone 2019; 2024), environmental protection (Meckling and Strecker 2023), or knowledge retention (Amsden and Chu 2003). Equity transfers to the state can either come *ex-ante* (Block, Keller, and Negoita 2023), or *ex-post* when forced nationalization is used to discipline companies failing to meet other conditionality requirements. Bailouts of both financial and non-financial corporations entail complex negotiations over the restructuring of ownership and control during and post-bailout (Weber and Schmitz 2011; Wilson and Borowitz 1984). Even without directly owning a stake in a company, state actors can still monitor corporate behavior by conditioning financial support to the appointment of independent directors representing the state, local governments, workers, or the research community to the board of directors (Meckling and Strecker 2023), or at least force companies to publicly *share information*, for instance about their pollution levels as part of green conditionality packages (Meckling and Strecker 2023).

Corporate control mechanisms can also be used as a tool to affect the way companies interact with external actors, for instance by strengthening *coordination*. State actors can use the carrot of financial support to encourage (or impose) intra-sectoral or cross-

Table 1 Varieties of conditionality

Conditionality type	Conditionality measures
<i>Performance standards</i>	Production, investment, employment, and export quotas; environmental and safety standards; training and skill programs; technological or local content requirements; geographical location
<i>Corporate control</i>	Public or domestic ownership; promotion of intra-firm or intra-sectoral cooperation; acceptance of collective bargaining rules; accepting joint ventures; inclusion of independent directors; disclosure of pollution information; regulation of intellectual property rights

Authors' elaboration based on: Amsden & Chu W. 2003, Amsden 2004, Amsden 2001, Block 2008, Block, Keller & Negoita 2023, Bolesta 2015, Chen & Lees 2016, Chibber 2003, Doner 2009, Gomes & ten Brink 2023, Lewis 2013, Linden 2004, Maggor 2021a, Maggor 2021b, Meckling & Nahm 2018, Meckling & Strecker 2023, Naqvi 2021, Naseemullah 2022, Natsuda & Thoburn 2014, Noble, Ravenhill & Doner 2005, Perez-Aleman 2003, Sabel 1995, Schrank 2017, Schneider 2013, Schrank & Kurtz 2005, Thurbon 2016, Thurbon & Weiss 2006, Wilhelm 2023, Zheng & Warner 2010.

sectoral cooperation among domestic companies. The 1970s and 1980s' steel and ship-building restructuring programs in many European nations involved state aid in return for rationalization concessions, (partial) mergers, and agreements to cooperate on technological development (Esser, Fach, and Fäth 1983). This coordination can occur formally, with the creation of state-sponsored employer associations, like in the case of the Chilean agro-industry business association promoted by the Pinochet dictatorship (Perez-Aleman 2003) or through "bridging" institutions that provide a coordinative platform for business representatives, research centers, and local governments (Block, Keller, and Negoita 2023; Samford 2017; Schrank 2017; Weiss 2014). Coordination can also be informal, for instance via state-promoted (and monitored) peer coordination. Policymakers could also influence firms' relationship with organized labor, for example by imposing the acceptance of collective bargaining agreements as a condition of access to state support (Sabel 1995).

4 Unpacking the political economy of conditionality

In the second step, we analyze the politics of conditionality, mapping the political economy factors that have enabled the implementation of disciplining mechanisms, as identified by the literature. This reconstructive and distillatory exercise has practical and theoretical implications. For while we do not deny the importance of reflections on the optimal policy design of conditionality measures and industrial policy efforts more generally, optimally designed measures are of little practical use if the political conditions for their implementation are not met (Doner and Schneider 2016). We first focus on the country-level, following a long tradition in political economy to distinguish between coalitional, institutional, and ideational drivers behind the introduction of conditionality (cf. Hall 1997). We then move to the system-level, identifying three

contextual global factors that interact with domestic factors to shape the space for conditionality: geopolitics, supranational legal agreements, and global corporate strategies.

Institutional factors for the implementation of conditionality

Institutional explanations have figured prominently in the literature tracing the politics of conditionality. The first, and arguably most controversial, institutional mechanism relates to the *type of governing institutions*. According to a prominent perspective, authoritarian regimes would have more instruments at their disposal to achieve compliance by disciplining recalcitrant business leaders and, when needed, to achieve developmental goals (for an overview of the argument see Schrank 2017, 2031–2033).

The relationship between authoritarian institutional structures and strong conditionality has been subject to long-standing critique (Chibber 2014, 47–52). Scholars have pointed out the presence of executive disciplining capacities in democratic countries like France, Japan, and Germany (Johnson 1982; Weiss 1998; Zysman 1984). More recently, in her accounts of the Korean and Taiwanese developmental trajectories, Elizabeth Thurbon finds that, even after democratization and liberalization, both countries have successfully implemented conditionality measures (Thurbon 2016; 2019). In light of these contradictory findings, one can conclude that conditionality could, in principle, be implemented in both democratic and more authoritarian contexts.

A second factor identified in empirical studies relates to the *level of centralization* of policy-making structures. Earlier works on the developmental state found an autonomous and highly powerful industrial planning agency with a centralized Weberian bureaucracy to be a decisive factor behind the introduction and enforcement of monitoring mechanisms (Doner, Ritchie, and Slater 2005; Evans 1995; Johnson 1982; Wade 1990; Weiss 1998). This point was echoed by contributions focusing on China, which argue that the top-down leadership by the central Communist Party apparatus was decisive in imposing local content requirements and green conditionalities to foreign corporations seeking access to the Chinese market in different sectors (Gomes and ten Brink 2023) ranging from renewable energy (Chen and Lees 2016; Lewis 2013) to carmaking (Noble, Ravenhill, and Doner 2005). Provincial governments were left with a more ancillary role, essentially adding subsidies and tax exemptions to the centrally agreed conditionalities to outcompete other provinces as investment destinations. Centralization with the direct involvement of the Presidency was also found to be an important institutional facilitator in the negotiation of conditionalities related to profit sharing and employment protection in Guinea's mining sector (Wilhelm 2023).

Another strand of literature argues that the implementation of conditionality is instead favored by the presence of *decentralized governance structures*. These accounts have focused primarily on low-profile or “hidden” innovation agencies such as the US's DAR-

PA, Finland's Sitra, or Israel's Office of the Chief Scientist that operate at the periphery of the public sector, making them less vulnerable to capture and thus more likely to adopt conditionality measures (Block 2008; Breznitz and Ornston 2018; 2013; Fuchs 2010; Maggor 2021a). Crucially, decentralization and the division of tasks between different local authorities and research institutions can foster strong conditionality in two ways: by allowing the use of a diverse pool of expertise, which in turn can help state actors in defining highly technical innovation-related goals, and by shielding state activism from criticism in a political environment characterized by a deep-rooted distrust of industrial policy (Block 2008; Block, Keller, and Negoita 2023; Block and Negoita 2016; Schrank 2017; Schrank and Whitford 2009). In sum, centralized structures seem to be favored when the state bureaucracy has a strong development orientation and enjoys broad public support, as in Japan and Korea, and more recently in China, and in sectors characterized by high levels of fixed investment, such as renewable energy. A more flexible, covert approach may be strategically preferable when state actors implementing industrial policy face political opposition, and in sectors such as high technology that are characterized by the need for rapid and flexible adaptation of conditionality measures and industrial policy goals in general.

Coalitional factors for the implementation of conditionality

Another main source of conditionality emerges from coalitional politics¹. The importance of a structured relationship between the state and societal actors (i.e., embeddedness) has been a main feature of the literature on industrial policy (Evans 1995, 12). Indeed, only through such dense networks are state managers able to negotiate developmental goals and gauge whether these targets are being attained. But how do state managers guarantee their close relations with private actors yield effective conditionality and are not manipulated toward predatory behavior?

To address this question, scholars have pointed to policymakers' ability to construct broad political coalitions in support of conditionality. Such alliances can help to produce legitimacy for developmental goals and strengthen policymakers vis-a-vis factions of industry that are more hostile to conditionality measures.

In many cases, policymakers' ability to construct robust coalitions depends on mediating factors that facilitate collaboration between the state and business (Haggard 2018; Johnson 1999; Kohli 2004; Woo-Cumings 1999). In his comparative study of late industrialization in Korea and India, Vivek Chibber demonstrated that, whereas Indian industrialists launched a powerful campaign to curtail the state's attempt to construct disciplinary institutions, Korea's industrial elites – the *Chaebol* – were supportive of

1 In line with Hall (1997), we argue that coalitions reflect the *interests* of heterogeneous interest groups, including business, trade unions, and non-governmental organizations.

such state-building efforts (Chibber 2014; 2003). According to Chibber, this divergence can be explained by looking at the development strategy implemented by the two countries. In India, an import substitution industrialization (ISI) campaign protected local firms from international competition thus significantly weakening their compulsion to upgrade and innovate. In Korea, on the other hand, the adoption of an export-led development model made local firms highly dependent on state assistance in upgrading as a means to compete in global markets.² This gave state managers the leverage to make demands on firms in return for state support.

Another source of broad consensus for conditionality has emerged out of collaboration between the state and powerful industrial unions. Work by Darius Ornston (2013) has shown that labor has played a crucial role in upgrading coalitions in Finland, Denmark, and Sweden. Political coalitions with organized labor have also proved crucial as a means to institute conditionality even in the face of private sector opposition. In this regard, labor is used as an effective counterbalance to industry. This was the case in Israel, where in the context of postwar industrialization conditionality was generated by leveraging the state's embedded relations with collective enterprises owned and managed by Israel's trade union federation (Maggor 2021a). A similar dynamic played out in Brazil and Bolivia during the 2010s under the left-wing governments of Lula da Silva and Evo Morales, respectively (de Gaspi 2023; Naqvi 2021).

Finally, there have been times when coalitional politics has enabled governments to practice conditionality even when they "lack bureaucratic features generally associated with high degrees of state autonomy" (Meckling and Nahm 2018). A classic example of using non-state actors as conduits for effective industrial policies was the German state's reliance on the organizing capacity of the banking sector (Deeg 1992). A recent case of social coalitions as conduits appeared in the Obama administration's strengthening of environmental regulations that included various punitive measures in return for a variety of subsidies for both consumers (purchase incentives) and producers (R&D funding and loan guarantees for EVs). To get this legislation passed, policymakers strategically leveraged the cross-sectoral impact of green subsidies to form an "ad hoc" coalition between sections of industry, environmental groups, national security interests concerned with oil dependence, and organized labor (Meckling and Nahm 2018; 2021).

Ideational factors for the introduction of conditionality

Classic accounts of the developmental state described ideational factors as surrogates. Ideas, or legitimacy beliefs, were thought to explain the "puzzle" of how democratic or

2 The positive relationship between conditionality and export-led development was also highlighted by Schrank and Kurtz (2005) in their analysis of "open economy industrial policy" in Latin America.

“soft-authoritarian” regimes justified catch-up policies, particularly in East Asia (Stubbs 2009). As emphasized by Chalmers Johnson, shared ideas about developmental goals can raise the chances of business acquiescence to government sanctioning (Johnson 1982; Schrank 2017).

An elaborate account of ideas as surrogate stabilizers of industrial policies has been developed by Thurbon in her analyses of East Asian financial liberalization (Thurbon 2016; 2019). Thurbon calls the style of financial market governance typical of the East Asian developmental states *financial activism*, comprising the channeling of finance into strategic sectors and the heavy use of economic performance standards. She shows for both Korea (Thurbon 2016) and Taiwan (Thurbon 2019) how the institutional and coalitional pillars of financial activism were eroded during the 1990s. The driving factors of erosion were economic shocks, neoliberal thinking, American political influence, and pressure from transnational institutions. Notwithstanding this dismantling, both countries resurfaced activist strategies since the 1990s in the face of the growth of Chinese exports and the post-2008 woes in international finance. Deep-seated ideas – or what Thurbon calls a *developmental mindset* – functioned like dormant recipes to respond to new problems. An example of this logic is the 2009 Korean Hidden Champions program, meant to create a sector of export-intensive SMEs. Firms in the program benefited from financing and assistance but had to negotiate with administrators’ compulsory plans for developmental goals (Thurbon 2016, 136).

A similar perspective on ideas has been suggested for Chinese industrial policy in the 2000s. Relating to a view of Chinese industrial policy as institutionally weak and marked by interregional rivalry, Chu has described how a “catch-up consensus” has enabled policymakers to develop disciplining strategies in the automotive industry (W.-W. Chu 2011). He argues that an implicit performance standard emerged from shared catch-up ambitions. Tacitly coordinated by catch-up ambitions, state agents devised conditionality in return for market access. Local and federal agencies forced foreign firms into joint ventures, localization, investment, and technology transfer as well as indigenous firms into upgrading.

Ideas have also been described as a major driver of policy change. Fuentes and Pipkin have argued that policy paradigms can act as the “switchmen” by which states translate economic shocks into policy responses (Fuentes and Pipkin 2022). Political-administrative systems with dominant statist, Hamiltonian, or neoliberal ideational currents can be shown to make sense of similar economic shocks through different ideational “lenses.” In turn, policy reactions to economic problems can be expected to aim for higher or lower degrees of state control of beneficiaries of industrial policies.

These ideational factors point to a key obstacle to the introduction of conditionality stemming from the fact that many agents currently in charge of implementing industrial policy were trained in the era of hegemonic neoliberal ideas (Fuentes and Pipkin 2022). This means that they often share a distrust of activist industrial policy, believing

that intervention should be limited to setting incentives to get markets to “do their job.” Thus, except for East Asian economies with a long tradition of developmentalism, most high-income and low-income economies lack the “developmental mindset” Thurbon has highlighted.

The intricacies of devising industrial policies in a hostile ideological climate have been highlighted by Ó Riain and Breznitz (Breznitz 2012; Ó Riain 2010; 2016). Debating the case of Ireland since the 1980s, they suggest that different approaches to conditionality can emerge in the same polity. In addition to attraction policies for multinationals with weak conditionality, Irish policymakers aimed for extreme levels of control in their support of venture financing to indigenous firms. Kick-started by two cases of supported firms “selling out” to foreign owners, program designers developed a managerialist ideology focused on the dangers of capture (Breznitz 2012, 101). As a consequence, agents demanded equity stakes, board seats, and immediate results from firms, leading to the situation that “the Irish state had more power and ownership over the industry than in many ‘old-style’ developmental states” (Breznitz 2012, 104).

From unit to system: global factors and conditionality

Our taxonomy has so far mapped the political mechanisms at the unit level that may increase or decrease the scope for implementing conditionality measures, as identified in the literature. However, in a politically and economically interconnected global space, the scope for implementing local development strategies is mediated by global factors.

Thus, the scope for implementing ambitious development strategies centered on conditionality will be influenced by the different configurations between the unit-level ideational, institutional, and coalitional mechanisms and the system-level dynamics mapped here. We identify three system-level factors that we consider particularly influential in shaping the space for conditionality: geopolitics, supranational legal agreements, and global corporate strategies.

Geopolitics

Geopolitical dynamics have historically had a profound impact on the scope for implementing conditionality measures, and industrial policy strategies in general. Geopolitical tensions in the form of external threats to the political stability of a territorial unit have been found to increase the scope for the implementation of place-based conditionality measures (for an overview see Pipkin and Fuentes 2017), most notably in East Asia (Doner, Ritchie, and Slater 2005). Thurbon (2019) similarly cites the geopolitical rise of China as a direct cause for the revival of financial activism in Korea and Taiwan. Recent events seem to corroborate this finding. The growing interpenetration between

economic and geopolitical goals has been identified as one of the key factors in the transition from a neoliberal to a – still unsettled – post-neoliberal order (McNamara 2023). The declining influence of US hegemonic power, one of the key pillars of the neoliberal order, with the rise of China as a rival global state actor and increasing multipolar tensions, has given new impetus to the inclusion of place-based conditionalities in subsidies and other forms of support to strategic sectors, as will be discussed in more detail in the following section.

Supranational legal agreements

The development literature has long reflected on the extent to which supranational legal agreements affect the policy space available to countries, particularly low-income countries, to implement conditionality-based development strategies (Aggarwal and Evenett 2014; Amsden 2004; Amsden and Hikino 2000; Shadlen 2005; Wade 2018; Weiss 2005). Some authors have argued that the proliferation of multilateral trade agreements like the WTO rules on IPRs would significantly reduce the scope for introducing conditionality (Wade 2004). This famously led prominent voices in the debate to revive List's accusation that high-income economies "kick away the ladder" (Chang 2003; Wade 2004) by preventing low-income economies from implementing the very measures behind their success. This initial pessimism was later tempered by studies showing that supranational agreements leave ample room for the implementation of conditionality measures (for a detailed analysis of the legal origins of the loopholes in the WTO system see Aggarwal and Evenett 2014). For example, science and technology, regional development, environment, infrastructure, human capital, and capacity building are all possible under the WTO. Governments can require foreign firms to transfer technology by requiring a certain proportion of R&D activity to be carried out locally or by licensing a particular technology to a local firm, and they can still influence foreign firms' employment practices with the aim of improving human capital and skills (Amsden 2004; Natsuda and Thoburn 2014; Shadlen 2005). While it is perhaps not surprising that an economic heavyweight like China could evade or at least dilute WTO obligations (Noble, Ravenhill, and Doner 2005), smaller economies like Israel, Thailand, Malaysia, and Guinea could also exploit the many loopholes in international trade agreements to implement conditionality. This led some authors to argue that WTO rules pushed state actors to implement more efficient open-market industrial policies combining the support for strategic industries with the opening of markets to competition and the imposition of conditionalities (Noble, Ravenhill, and Doner 2005).

Global Corporate Strategies

The scope for implementing conditionality measures has also been decisively curtailed by the growing assertiveness of global segments of private capital, whether large multinational corporations or financial investors. The growing importance, and complexity

(Cooiman 2023a), of global value and wealth chains centered on a handful of (high-tech or financial) companies (Wade 2019), mainly located in core economies such as the US, the EU, Japan, and, increasingly, China, has in itself been decisively facilitated by the proliferation of multilateral trade agreements (Hauge 2023). Multilateral trade liberalization strengthened the position of large private corporations vis-à-vis national governments, thus diminishing the prospects for conditionality in at least two ways. First, by expanding the structural power of large corporations, nation-states have been forced to increase the generosity of subsidies while reducing the stringency of conditionality (Bulfone, Ergen, and Kalaitzake 2023). Second, multilateral agreements gave large private corporations the ability to directly sanction public actors when their policies were not in line with existing supranational legal agreements (Shadlen 2005, 766), most prominently in relation to patent protection (Hauge 2023, 1971–72; Wade 2018, 538). Taken to an extreme, this dynamic would lead to the replacement of developmental state strategies based on conditional industrial policies with competitive state strategies centered on unconditional corporate welfare measures, a dynamic epitomized by the case of Ireland (Ó Riain 2016). However, there are cases where governments have succeeded in imposing comprehensive conditionality on foreign multinational enterprises (MNEs). China in the 2000s is again an example: by exploiting the possibility of access to its domestic market, the Chinese government was able to impose strong conditions related to local production and technology transfer through patent pooling, but also green conditionalities, in bilateral negotiations with foreign MNEs (Lewis 2013; Linden 2004). Smaller countries, most famously Taiwan, have also been successful in incorporating meaningful conditionality in their relationship with MNEs. Thus, while we recognize that the structural strengthening of mobile segments of capital, coupled with the “encasement” of the economy since the 1980s, has made all states *structurally weaker* vis-à-vis business, conditionality remains one of the few interventionist tools available to the post-neoliberal state.

While we acknowledge that the scope for implementing industrial policies is critically influenced by the power asymmetries that characterize global dynamics, our argument is not entirely structuralist. Developmental experiments such as those observed in Bolivia (Naqvi 2021), Guinea (Wilhelm 2023), Thailand (Doner 2009), Malaysia (Natsuda and Thoburn 2014), Chile (Perez-Aleman 2003), and the Dominican Republic (Schrack and Kurtz 2005) clearly show that countries occupying peripheral nodes in the global production networks still have scope to introduce and enforce strong conditionality. Thus, we do not consider post-neoliberal activist industrial policies to be a policy tool available only to the nations in privileged positions.

5 Back to the unit: The politics of conditionality in the new industrial policy

In this final section, we review conditionality measures introduced as part of recent industrial policies in the US and the EU. Our vignettes show that the US government has been able to attach relatively strong conditionality to its industrial policies, particularly under the Biden administration, while the EU has done so less systematically. Drawing on our taxonomy, we argue that this comparative outcome relates to case-specific combinations of coalitional and institutional factors, coupled with a changing geopolitical context. Our choice to focus on the US and the EU is motivated by two reasons. First, the scale of the interventions, as the US and the EU implemented some of the largest targeted funding efforts in the world. Second, the groundbreaking nature of this activism, given the widespread skepticism about government intervention in the economy that has prevailed on both sides of the Atlantic since the 1980s.

Conditionality and the political economy of Bidenomics

Nowhere has the “return” of industrial policy been more visible than in the US. While this process has roots in the Trump presidency, it began in earnest under the Biden administration. Under Biden, Congress has in fact enacted four foundational laws: the American Rescue Plan, the CHIPS and Science Act (CHIPS), the Infrastructure Investment and Jobs Act (IIJA), and the Inflation Reduction Act (IRA). Together, these policies are due to channel more than 500 billion dollars to targeted industries, amounting to what representatives of both labor and industry interests have viewed as “the closest thing ... to a broad industrial policy [the US has had] for generations” (Schreiber 2021).

A closer look at these programs provides evidence for the incorporation of significant performance standards and control conditionalities that aim to advance public priorities such as local development, job creation, and profit sharing. Below, we map the design of these policies and the political dynamics behind their introduction.

Policy Design

One clear example of performance standards conditionality exhibited in the Biden industrial policy agenda is related to promoting well-paying, high-quality jobs. To advance this goal Congress has applied a “prevailing wage” clause dictating that wage and benefit rates for projects supported through the federal government must pay existing market levels. Indeed, these standards cover the overwhelming majority of IIJA funds, including all energy infrastructure provisions (U.S. White House 2021); the construction of manufacturing facilities under the CHIPS and Science Act (U.S. White House

2022a); and the IRA's clean energy construction. Companies that fail to meet these standards can face penalties (U.S. White House 2022c).

Another form of performance conditionality is the principle of “upside sharing.” For example, as outlined in a memo by the Commerce Department, in the context of the CHIPS Act, corporate subsidy recipients will be required to “share with the U.S. government a portion of any cash flows or returns that exceed the applicant’s projections above an established threshold,” with upside sharing proceeds going to support the purposes of the CHIPS Act and the US semiconductor ecosystem (U.S. NIST 2023).

A final instance of performance standards conditionality is the use of domestic content and sourcing requirements intended to ensure that state support remains in and contributes to the local economy. This principle is implemented in most industrial policy packages passed by the Biden administration. The IRA ties tax credits for consumers purchasing new EVs to domestic content standards that require final assembly to take place in North America (U.S. DOE Alternative Fuels Data Center 2023). The law also offers bonus credits for a range of projects, including clean energy, tied to compliance with domestic content standards (U.S. White House 2022b). The IIJA includes the Build America, Buy America Act which prohibits the award of federal financial assistance for infrastructure unless all the iron, steel, and manufactured products and construction materials used in the project are produced in the US (Painter 2021).

In addition to performance standards, policymakers have also incorporated several corporate control conditionalities. In the CHIPS Act, the Commerce Department prohibited using government funding for stock buybacks or dividends – common corporate practices notorious for enriching shareholders and executives – and favors applicants that commit to refrain from stock buybacks altogether (U.S. NIST 2023). This novel guideline was previously applied to emergency lending programs in the framework of the Coronavirus Aid, Relief, and Economic Security (CARES) Act (Palladino and Estevez 2022).

Finally, the bills also introduce numerous ex-post monitoring mechanisms. For example, to monitor whether firms uphold their commitments and achieve their program objectives, the newly created CHIPS Program Office requires award recipients to file regular financial and programmatic reports. Firms are also held to construction and operational milestones, as funding is planned to be disbursed in “tranches tied to project milestones in connection with capital expenditures, workforce development, and operational costs” (U.S. NIST 2023). Policymakers also provided the agency with the necessary disciplinary mechanisms. For example, the capacity to temporarily withhold, suspend, or terminate awards that were already made available. In addition, if a project does not commence or is not completed by specified dates, the Program Office can progressively claw back up to the full amount of the award (U.S. NIST 2023). These examples demonstrate that the administration is making conscious efforts to ensure massive subsidies do not become corporate giveaways.

Political process

How can we account for these conditionalities? Our analysis identifies the strong relevance of two of our proposed factors: coalitional politics and intensifying geopolitical tensions.

As we argued earlier, one path to strong conditionalities has been the state-led formation of broad-based coalitions. The US revival of industrial policy is a clear example of this mechanism. First, both the CHIPS Act and the IIJA passed with large, bipartisan support. Of course, this meant that the original, far more ambitious bills, including more substantial social conditionalities related to union neutrality, were watered down if not gutted completely due to Republican political opposition (Harris 2022). Still, the fact that both bills eventually received rare support from both Democrats and Republicans speaks to the broad political support for conditional industrial policy (more on this below). In the case of the IRA, Democrats were forced to negotiate against the conservative opposition within their party.

The implementation of a robust industrial policy required more than just political maneuvering. It was based on a broad social coalition spanning various economic and political interests including labor, segments of the environmental movement, and sectors of green and tech industries. In the case of the IRA, a crucial member of this coalition has been organized labor. Many of the conditionalities that ended up in the legislation, for example, local content requirements for batteries and other critical parts and job quality standards, originated in a paper written in 2018 by the automobile trade union UAW (Schreiber 2021). During the political haggling over legislation, labor representatives mobilized and lobbied Congress financing multimillion-dollar advertising campaigns to pressure undecided Democrats to vote for the bill that became the IRA (Mullins and Mann 2021), while the United Mine Workers of America, which represents West Virginia coal miners, put pressure on Senator Joe Manchin to reconsider his opposition to the legislation (Evers-Hillstrom 2021).

This coalitional realignment in favor of industrial policy measures was, in part, triggered by geopolitical tensions, first and foremost the perceived economic and military threat of China (Donnelly 2023, 131). Indeed, most Republicans voting for the CHIPS act cited the main reasons for their support as national security, reshoring, and concerns about Chinese manufacturing dominance (Bolton 2022; Schnell 2022). This growing consensus around industrial policy also facilitated the application of forceful conditionalities, including corporate control items, specifically geared towards countering China. CHIPS recipients are banned from expanding manufacturing in “foreign countries of concern” – a clear reference to China – for ten years, nor can they engage in “joint research or technology licensing [involving] sensitive technologies” (Financial Times 2023).

The bipartisan consensus around the need for strong industrial policy to counter China also paved the way for the enactment of the IIJA (Kine 2021), yet was largely absent from

the climate change-oriented IRA, which received no Republican support. This required Democrats to be more creative and pass the IRA through budget reconciliation, resulting in less conditionality than the CHIPS Act. Yet, as demonstrated above, important performance standards passed, particularly domestic content and sourcing requirements and wage conditions. This, in large part, resulted from significant trade union support.

The political economy of (weaker) conditionality in the EU

In what follows, we first map the conditionality measures introduced in three EU industrial initiatives, the Recovery and Resilience Facility (RRF), the EU Chips Act, and the European Defense Fund (EDF). The RRF was chosen as, with a budget of 672 billion euros, it is by far the largest spending plan approved as part of the EU industrial policy effort. It has a clear industrial policy dimension as the funds distributed by the EU to the member states are intended to help achieve long-term transformative goals like the green transition, digitalization, and strategic autonomy. We chose the EU Chips Act as it was implemented as a direct response to the US CHIPS, while the EDF was selected as it is a flagship initiative in the defense sector, which is emerging as a key concern for the EU industrial policy agenda due to the Ukraine War. The analysis shows how EU industrial policy efforts have been characterized by less encompassing conditionality than their US counterparts. Local content requirements have been introduced at times, though less systematically than in the US, while “social” conditions, either in the form of employment performance standards or corporate control conditions related to collective bargaining, remain absent.

We argue that the comparatively selective use of conditionality in the EU is due to a combination of different institutional and coalitional configurations than in the US, coupled with a more differentiated impact of geopolitical competition with China on EU member states than on the US.

Policy design

Initially designed as a response to the economic impact of the COVID-19 pandemic, RRF has been hailed as a landmark moment in the process of European integration. With a budget of 672 billion euros to be distributed in the form of grants and loans, the sheer size of the RRF is remarkable compared to previous redistributive instruments adopted by the EU. The industrial policy dimension of the RRF relates to its transformative ambitions related to economic resilience, strategic autonomy, and the green and digital transitions.

To access funding from the facility, EU member states have to draft detailed plans about how they will allocate their grants and loans. The Commission has established various

ex-ante and ongoing conditionality mechanisms to make sure that member states' governments fulfill these commitments. From an industrial policy perspective, however, these conditionalities are less relevant as they involve the relationship between two public actors. The most relevant dimension relates instead to the conditions member states attach to the grants and loans received from the Commission once they distribute them to *private* companies on their territory. In this regard, the RRF regulation establishes very vague conditions mainly related to the prevention of fraud, leaving it to the member states to introduce and enforce relevant conditionalities (European Parliament and European Council 2021). The European Court of Auditors has noted that the lack of common indicators weakens the capacity of the Commission to monitor the execution of the plan (European Court of Auditors 2023, 21). Furthermore, both the Commission and the member states have a strong political interest in the plan's success, as measured by the amount of money spent (Viță 2017, 141), thereby potentially creating a tension between the strict monitoring of conditionality and the swift distribution of the funds (Bocquillon, Brooks, and Maltby 2023).

Designed to enhance the EU's strategic autonomy in the production of semiconductors (European Commission 2023), the EU Chips was a direct response to the protectionist elements of the US CHIPS, as well as to the growing geopolitical tensions between the US and China over Taiwan (Donnelly 2023). The EU Chips Act allows channeling targeted funding from the EU and the member states to semiconductor producers in derogation to the EU state aid regime which restricts targeted vertical funding. The EU Chips has a funding of 43 billion euros, of which however only 3.3 billion euros comes from the EU budget, while the rest is (forecasted to be) provided by member states or private actors (2023, 134–35). As detailed by Bulfone, Di Carlo, Bontadini, and Meliciani (2024, 15): since member states are primarily responsible for the distribution of funds, the Commission has less flexibility to introduce and enforce conditions than the US government under the US CHIPS. Nevertheless, some performance standards and control conditions are included in the bill. If a group of countries decides to provide targeted subsidies to semiconductor producers, the Commission can introduce a clawback mechanism to ensure that companies redistribute any extra profits gained from public funding to their financiers³. Other conditions in the EU Chips Act come into effect if the Commission and member states certify the occurrence of a supply chain crisis. In such a scenario, the Commission can require semiconductor factories that have received financial support under the EU Chips Act to share information about their production capacities and, if necessary, to prioritize domestic orders for critical products. If companies do not comply with these requirements, the Commission can impose fines or other sanctions.

Approved in 2021, the EDF is a framework allowing the distribution of grants, loans, and procurements to private companies for the co-financing of military research and

3 The clawback mechanism was introduced as part of the Important Project of Common European Interest on Microelectronics and Communication Technologies, also approved in the framework of the EU Chips Act.

development projects. The total funding is a little less than 8 billion euros to be allocated over the 2021–2027 period. Despite its small size, the EDF signals a growing assertiveness by the EU in the realm of defense and security policy and was passed in response to a combination of rising geopolitical tensions related in particular to the outbreak of the conflict in Ukraine and growing tensions with the Trump administration over NATO. All these factors contributed to increasing the perceived vulnerability of the EU (Hoeffler 2023, 160). The Commission explicitly mentioned the link to the geopolitical context that “has changed dramatically in the last decade” in the opening paragraph of the Regulation establishing the EDF (see also Hoeffler 2023, 160). Crucially, the feeling of urgency concerning geopolitical tensions in the field of defense led to an alignment within the Council in favor of the introduction of encompassing performance standards. Notably, due to security concerns the regulation restricts access to EDF funding to companies established in at least two EU member states, or associated members of the European Economic Area. Third-country entities can participate only in exceptional cases. The regulation also includes conditions related to the use of IPRs resulting from funded projects, which should not be controlled by any third countries or third-country entities. If these IPR conditions are not met, the Commission can claw back the initial funding. IPR-related conditionalities were met with a harsh reaction from the US administration that unsuccessfully lobbied for their withdrawal (see Hoeffler 2023 for a detailed analysis).

The politics of conditionality in the EU

The main *institutional* element limiting the systematic introduction of conditionality is the lack of a large-scale centralized borrowing and taxing system in the EU, leaving the Commission with very limited spending capacity (Redeker 2021). While the EU budget increased substantially after COVID-19 (McNamara 2023), the EU's financial firepower pales in comparison to the budgetary resources of the US government. Most of the targeted subsidies distributed as part of the EU's industrial policy efforts come from the budget of the member states (Di Carlo and Schmitz 2023) or special funding sources like the Emissions Trading System (Ergen and Schmitz 2023), with the Commission called upon at best to *coordinate*, but more often simply to *approve*, these subsidies. Lack of a centralized budget, coupled with the shortage of expertise and manpower, weakens the Commission's capacity to introduce strong conditionality. As a result, the Commission sets vague conditions (Cooiman 2023b), like in the RRF, leaving it to the member states to regulate their relationship with companies receiving funding under EU industrial policy programs. This in turn leads to cross-country variation in the introduction of conditionalities due to heterogeneous levels of administrative capacity or political will to enforce discipline (Ducastel, Rivière, and Ferlazzo 2023).

From a coalitional perspective, geopolitics had a more differentiated impact on the EU as a coalitional magnet in favor of conditionality. Indeed, while growing tensions between the United States and China, coupled with the acquisition of strategic European

companies by Chinese multinationals, particularly in Germany (Di Carlo and Schmitz 2023), tipped the balance within the Council in favor of a more activist industrial policy strategy based on strategic autonomy (Schmitz and Seidl 2022), there is still great variation in the way in which member states perceive Chinese competition from a geoeconomic perspective. Indeed, while some member states align with the US, others member states perceive China more as an economic competitor and important trading partner (McNamara 2023). As a result, “the geopolitical turn happened earlier and more strongly in the US than in the EU” (Donnelly 2023, 130). This in turn prevented the emergence of consensus within the Council in favor of strong place-based performance standards against Chinese companies as in the US, with France supporting a “Buy European Act,” while the German government remains more critical of IRA-like conditionalities (Financial Times 2022). Only in the realms of defense policy and semiconductor production, where geopolitical tensions were felt more clearly, did the Council agree on the introduction of encompassing conditions.

Coalitional dynamics can also help account for the lack of “social” performance standards for job creation and collective bargaining in the EU, in contrast to the US. Indeed, trade unions and labor movements have played a marginal role in shaping the EU industrial strategy, most notably in the case of the RRF and its implementation (Munta, Pircher, and Bekker 2023), and their influence has therefore been more limited than with the US Democratic Party. It is not surprising in this regard that the European Trade Union Confederation lamented the lack of employment targets in the EU's industrial policy and issued an “urgent” appeal to EU authorities to include IRA-style conditionalities to protect workers' rights (Moller-Nielsen 2024). On this latter point, however, it is worth bearing in mind that the social conditionalities introduced in the US involve employment protections that are well established in Europe with the support of *both* trade unions and employers.

6 Conclusion

In recent years, the question of “corporate guardrails” has sparked an extensive political debate. Particularly in North America and Europe, commentators have warned against unconditioned industrial policies as distributionally one-sided, doomed to produce unsustainable change, and politically unstable (Mazzucato and Rodrik 2023; Palladino and Estevez 2022). Our paper contributes to debates on the return of industrial policy by highlighting how conditionality should be a key concern for scholars and policy-makers alike. Indeed, we see conditionality as one of the few remaining instruments available to high-income and low-income economies limited by structural constraints.

Bringing a political economy perspective to the debate, we argue that conditionality is not only a matter of policy design (for a review of this dimension see Mazzucato and

Rodrik 2023), but also a matter of political struggle. While we see conditionality as a necessary condition for transformative industrial policy, we also recognize that structural and geopolitical dynamics associated with the post-neoliberal pattern of accumulation make it difficult for both high-income and low-income countries to implement and enforce disciplining mechanisms. This is not to say, however, that conditionality is a tool available only to a restricted club of core economies. In fact, our review identified instances where coalitions, institutions, ideas, and global system-level factors enabled peripheral economies to introduce and enforce industrial policies based on conditionality. Our efforts to map the political economy of conditionality should therefore be pursued and systematized. In the final part of the conclusions, we identify avenues for future research based on our taxonomy.

First, the main goal of our paper was to map the political economy of conditionality. As such, our analysis was necessarily static and could not give due space to historical and dynamic issues. As noted in our two vignettes, there is ample evidence that typical configurations of coalitions, ideas, institutions, and global mechanisms exist in specific periods and geographic contexts. The same is true for the types of conditions that are commonly used. Future work should make the role of time and space more central to the analysis (see Pipkin 2023) by tracing which of the policy and political economy configurations identified in the literature are still relevant today and which have become obsolete because they are difficult to implement in a globalized economy. This is an important exercise as the goals of industrial policy interventions have broadened beyond the traditional focus on upgrading to include achieving the green transition or strategic autonomy. With respect to the latter goal, future research should also systematically unpack the implications of the growing importance of geopolitical factors for the introduction of conditionality in high-income economies. Given our goal of providing a political economy of conditionality, our distillatory exercise deliberately focused on cases where conditionality was successfully introduced. Future research, for example based on the most similar system design, could compare these successful examples with dynamics of unconditional corporate welfare or weak directionality to unpack the causality behind transformative industrial change, or lack thereof (Pipkin and Fuentes 2017; Rothstein 2022). Third, we have deliberately omitted issues of economic efficiency and normative evaluation. There is a tendency in public debates to equate good industrial policies with politically demanding, highly conditional ones⁴. We are cautious about such claims, as a systematic review of the effectiveness of different conditionalities is beyond the scope of our paper. However, it is an urgent and important endeavor for future research.

4 For a recent reflection on the trade-offs associated with the introduction and enforcement of conditionality in relation to other objectives such as subsidiarity, see Molica (2024).

References

- Aggarwal, Vinod K., and Simon J. Evenett. 2014. "Do WTO Rules Preclude Industrial Policy? Evidence from the Global Economic Crisis." *Business and Politics* 16 (4): 481–509.
- Amsden, Alice. 1989. *Asia's Next Giant: South Korea and Late Industrialization*. Oxford: Oxford University Press.
- Amsden, Alice. 2004. *The Rise of "The Rest": Challenges to the West from Late-Industrializing Economies*. Oxford: Oxford University Press.
- Amsden, Alice, and Wan-Wen Chu. 2003. *Beyond Late Development: Taiwan's Upgrading Policies*. Cambridge: MIT Press.
- Amsden, Alice, and Takashi Hikino. 2000. "The Bark Is Worse Than the Bite: New WTO Law and Late Industrialization." *Annals of the American Academy of Political and Social Science* 570 (1): 104–14.
- Block, Fred. 2008. "Swimming against the Current: The Rise of a Hidden Developmental State in the United States." *Politics and Society* 36 (2): 169–206.
- Block, Fred, and Marian Negoita. 2016. "Beyond Embedded Autonomy: Conceptualizing the Work of Developmental States." In *The Asian Developmental State: Reexaminations and New Departures*, edited by Yin-wah Chu, 57–72. London: Palgrave.
- Block, Fred, Matthew R. Keller, and Marian Negoita. 2023. "Revisiting the Hidden Developmental State." *Politics and Society*, published online February 23, 2023, doi: 10.1177/00323292231152061.
- Bocquillon, Pierre, Eleanor Brooks, and Tomas Maltby. 2023. "Talkin' Bout a Revolution? Institutional Change in the EU Recovery and Resilience Facility: The Case of Climate Policy." *Journal of Common Market Studies*, published online August 15, 2023, doi: 10.1111/jcms.13536.
- Bolton, Alexander. 2022. "Senate Passes Chips and Science Bill Aimed at Better Competing with China." *The Hill*, July 27. Accessed July 16, 2024. <https://thehill.com/homenews/senate/3576405-senate-passes-chips-and-science-bill-aimed-at-better-competing-with-china/>
- Braun, Benjamin. 2020. "Central Banking and the Infrastructural Power of Finance: The Case of ECB Support for Repo and Securitization Markets." *Socio-Economic Review* 18 (2): 395–418.
- Breznitz, Dan. 2012. "Ideas, Structure, State Action and Economic Growth: Rethinking the Irish Miracle." *Review of International Political Economy* 19 (1): 87–113.
- Breznitz, Dan, and Darius Ornston. 2013. "The Revolutionary Power of Peripheral Agencies: Explaining Radical Policy Innovation in Finland and Israel." *Comparative Political Studies* 46 (10): 1219–45.
- Breznitz, Dan, and Darius Ornston. 2018. "The Politics of Partial Success: Fostering Innovation in Innovation Policy in an Era of Heightened Public Scrutiny." *Socio-Economic Review* 16 (4): 721–41.
- Bulfone, Fabio. 2019. "New Forms of Industrial Policy in the Age of Regulation: A Comparison of Electricity and Telecommunications in Italy and Spain." *Governance* 33 (1): 93–108.
- Bulfone, Fabio. 2023. "Industrial Policy and Comparative Political Economy: A Literature Review and Research Agenda." *Competition and Change* 27 (1): 22–43.
- Bulfone, Fabio. 2024. "Selling the Jewels: Patient Capital, State-Business Relations, and the Privatization of Strategic Utilities in Italy and Spain." *Review of International Political Economy*, published online February 5, 2024, doi: 10.1080/09692290.2023.2284323.
- Bulfone, Fabio, Donato Di Carlo, Filippo Bontadini, and Valentina Meliciani. 2024. "Adjusting to New Geopolitical Realities Semiconductors Industrial Policy in the US and EU." *IAI Papers* 24/13, Istituto Affari Internazionali, Rome.
- Bulfone, Fabio, Timur Ergen, and Manolis Kalaitzake. 2023. "No Strings Attached: Corporate Welfare, State Intervention, and the Issue of Conditionality." *Competition and Change* 27 (2): 253–76.
- Carrasco, Sebastián, and Aldo Madariaga. 2022. "The Resource Curse Returns?" *NACLA Report on the Americas* 54 (2): 445–52.
- Chang, Ha-Joon. 2003. *Kicking Away the Ladder: An Unofficial History of Capitalism, Especially in Britain and the United States*. London: Anthem.
- Chen, Geoffrey C., and Charles Lees. 2016. "Growing China's Renewables Sector: A Developmental State Approach." *New Political Economy* 21 (6): 574–86.

- Chibber, Vivek. 2003. *Locked in Place: State-Building and Late Industrialization in India*. Princeton: Princeton University Press.
- Chibber, Vivek. 2014. "The Developmental State in Retrospect and Prospect: Lessons from India and South Korea." In *The End of the Developmental State?*, edited by Michelle Williams, 30–54. London: Routledge.
- Chu, Wan-Wen. 2011. "How the Chinese Government Promoted a Global Automobile Industry." *Industrial and Corporate Change* 20 (5): 1235–76.
- Chu, Yun-han. 2002. "Re-engineering the Developmental State in an Age of Globalization: Taiwan in Defiance of Neo-Liberalism." *China Review* 2 (1): 29–59.
- Cooiman, Franziska. 2023a. "The Limits of Derisking: (Un)conditionality in the European Green Transformation." *Competition and Change*, published online December 26, 2023, doi: 10.1177/10245294231224137.
- Cooiman, Franziska. 2023b. "Veni vidi VC – the Backend of the Digital Economy and Its Political Making." *Review of International Political Economy* 30 (1): 229–51.
- Crouch, Colin. 2019. *The Globalization Backlash*. London: Polity.
- de Gaspi, Renato. 2023. "Forging Alliances: Political Competition and Industrial Policy in Democratic Brazil." *Third World Quarterly* 45 (4): 981–1002.
- Deeg, Richard. 1992. "Banks and the State in Germany: The Critical Role of Subnational Institutions in Economic Governance." PhD diss., MIT, Cambridge, MA.
- Di Carlo, Donato, and Luuk Schmitz. 2023. "Europe First? The Rise of EU Industrial Policy Promoting and Protecting the Single Market." *Journal of European Public Policy*, published online May 23, 2023, doi: 10.1080/13501763.2023.2202684.
- Doner, Richard F. 2009. *The Politics of Uneven Development*. Cambridge: Cambridge University Press.
- Doner, Richard F., Bryan K. Ritchie, and Dan Slater. 2005. "Systemic Vulnerability and the Origins of Developmental States: Northeast and Southeast Asia in Comparative Perspective." *International Organization* 59 (2): 327–61.
- Donnelly, Shawn. 2023. "Semiconductor and ICT Industrial Policy in the US and EU: Geopolitical Threat Responses." *Politics and Governance* 11 (4): 129–39.
- Ducastel, Antoine, Camille Rivière, and Edoardo Ferlazzo. 2023. "The European Investor State Has No Clothes: Generic Promises and Local Weaknesses of Green Public Subsidies in France." *Competition and Change* 28 (3-4), published online November 26, 2023, doi: 10.1177/10245294231213413.
- Durand, Cédric. 2023. "Hollow States." *Sidecar*, May 15. <https://newleftreview.org/sidecar/posts/hollow-states>
- Ergen, Timur, and Luuk Schmitz. 2023. "The Sunshine Problem: Climate Change and Managed Decline in the European Union." *MPIfG Discussion Paper 23/6*, Max Planck Institute for the Study of Societies, Cologne.
- Esser, Josef, Wolfgang Fach, and Werner Fäth. 1983. *Krisenregulierung: Zur politischen Durchsetzung ökonomischer Zwänge*. Frankfurt a.M.: Suhrkamp.
- European Commission. 2023. "European Chips Act – Questions and Answers." November 30. Accessed June 6, 2024. https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_4519
- European Court of Auditors. 2023. *Special Report 26/2023: The Recovery and Resilience Facility's Performance Monitoring Framework – Measuring Implementation Progress But Not Sufficient to Capture Performance*. Luxembourg: European Court of Auditors.
- European Parliament and European Council. 2021. "Regulation (EU) 2021/241 of 12 February 2021 establishing the Recovery and Resilience Facility." *Official Journal of the European Union* L 57, 18 February 2021, 17–75.
- Evans, Peter. 1995. *Embedded Autonomy: States and Industrial Transformation*. Princeton: Princeton University Press.
- Evers-Hillstrom, Karl. 2021. "Coal Miners' Union Urges Manchin to Reconsider Opposition to Biden Plan." *The Hill*, December 20. Accessed June 16, 2024. <https://thehill.com/business-a-lobbying/business-a-lobbying/586661-coal-miners-union-urges-manchin-to-reconsider/>

- Financial Times. 2022. "Trade Rift between EU and US Grows over Green Industry and Jobs." *Financial Times*, October 30. Accessed June 16, 2024. <https://www.ft.com/content/48178f1e-5572-496e-8f8e-bb4c0e3ec8ea>
- Financial Times. 2023. "Chipmakers Receiving US Federal Funds Barred from Expanding in China for 10 Years." *Financial Times*, February 28. Accessed June 16, 2024. <https://www.ft.com/content/9f4f9684-088c-45eb-b6bf-962061bfea7b>
- Fuchs, Erika. 2010. "Rethinking the Role of the State in Technology Development: DARPA and the Case for Embedded Network Governance." *Research Policy* 39 (9): 1133–47.
- Fuentes, Alberto, and Seth Pipkin. 2022. "Appetite for Reform: When do Exogenous Shocks Motivate Industrial Policy Change?" *Journal of Development Studies* 58 (6): 1081–101.
- Gabor, Daniela. 2023. "The (European) Derisking State." *Stato e mercato* 1/2023: 53–84. <https://www.rivisteweb.it/doi/>
- Gomes, Alexandre De Podestá, and Tobias ten Brink. 2023. *A Chinese Bureaucracy for Innovation-Driven Development?* Cambridge: Cambridge University Press.
- Haggard, Stephen. 2018. *Developmental States*. Cambridge: Cambridge University Press.
- Hall, Peter A. 1997. "The Role of Interests, Institutions, and Ideas in the Comparative Political Economy of the Industrialized Nations." In *Comparative Politics: Rationality, Culture, and Structure*, edited by Mark Irving Lichbach and Alan S. Zuckerman, 174–207. Cambridge: Cambridge University Press.
- Harris, Lee. 2022. "Industrial Policy Without Industrial Unions." *The American Prospect* October 2022, published online September 28. <https://prospect.org/labor/industrial-policy-without-industrial-unions/>
- Hauge, Jostein. 2023. "Manufacturing-Led Development in the Digital Age: How Power Trumps Technology." *Third World Quarterly* 44 (9): 1960–80.
- Hoeffler, Catherine. 2023. "Arming Fortress Europe? Spaces and Instruments of Economic Patriotism in EU Armament Policy." *Politics and Governance* 11 (4): 154–64.
- Holz, Annika. 2023. "Politische Konditionalitäten in der EU: Vom Aufstieg neuer Governance-Instrumente in den Europäischen Struktur- und Investitionsfonds." PhD diss., University of Cologne.
- Johnson, Chalmers. 1982. *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925–1975*. Stanford: Stanford University Press.
- Johnson, Chalmers. 1999. "The Developmental State: Odyssey of a Concept." In *The Developmental State*, edited by Meredith Woo-Cumings, 32–60. Ithaca: Cornell University Press.
- Kentikelenis, Alexandros, Thomas Stubbs, and Lawrence King. 2016. "IMF Conditionality and Development Policy Space, 1985–2014." *Review of International Political Economy* 23 (4): 543–82.
- Kine, Phelim. 2021. "Powerful Signal: Biden's Infrastructure Bill Sends Message to China." *Politico*, August 7. Accessed June 16, 2024. <https://www.politico.com/news/2021/08/07/biden-infrastructure-bill-message-china-502739>
- Koch, Svea. 2015. "A Typology of Political Conditionality beyond Aid: Conceptual Horizons Based on Lessons from the European Union." *World Development* 75: 97–108.
- Kohli, Atul. 2004. *State-Directed Development: Political Power and Industrialisation*. Cambridge: Cambridge University Press.
- Lewis, Joanna I. 2013. *Green Innovation in China: China's Wind Power Industry and the Global Transition to a Low-Carbon Economy*. New York: Columbia University Press.
- Linden, Greg. 2004. "China Standard Time: A Study in Strategic Industrial Policy." *Business and Politics* 6 (3): 1–26.
- Maggor, Erez. 2021a. "The Politics of Innovation Policy: Building Israel's 'Neo-Developmental' State." *Politics and Society* 49 (4): 451–87.
- Maggor, Erez. 2021b. "Sources of State Discipline: Lessons from Israel's Developmental State, 1948–1973." *Socio-Economic Review* 19 (2): 553–81.
- Mazzucato, Mariana. 2015. *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*. London: Anthem Press.

- Mazzucato, Mariana, and Dani Rodrik. 2023. "Industrial Policy with Conditionalities: A Taxonomy and Sample Cases." *Working Paper* 2023/07, UCL Institute for Innovation and Public Purpose, London.
- McNamara, Kathleen. 2023. "Transforming Europe? The EU's Industrial Policy and Geopolitical Turn." *Journal of European Public Policy*, published online July 21, 2023, doi: 10.1080/13501763.2023.2230247.
- Meckling, Jonas, and Jonas Nahm. 2018. "The Power of Process: State Capacity and Climate Policy." *Governance* 31 (4): 741–57.
- Meckling, Jonas, and Jonas Nahm. 2021. "Strategic State Capacity: How States Counter Opposition to Climate Policy." *Comparative Political Studies* 55 (3): 493–523.
- Meckling, Jonas, and Jesse Strecker. 2023. "Green Bargains: Leveraging Public Investment to Advance Climate Regulation." *Climate Policy* 23 (4): 418–29.
- Molica, Francesco. 2024. "Regional Innovation Policies and Directionality: Exploring the Role of Conditionality." *European Planning Studies* 32 (8): 1653–70.
- Moller-Nielsen, Thomas. 2024. "Unions Issue 'Urgent' Call for EU Industrial Policy to Respect Workers' Rights." *Euractiv*, February 14. Accessed June 16, 2024. <https://www.euractiv.com/section/competition/news/unions-issue-urgent-call-for-eu-industrial-policy-to-respect-workers-rights/>
- Mullins, Brody, and Ted Mann. 2021. "Unions Spend Big to Push Democrats' \$3.5 Trillion Spending Plan." *Wall Street Journal*, October 1. Accessed June 16, 2024. <https://www.wsj.com/articles/unions-spend-big-to-push-democrats-3-5-trillion-spending-plan-11633104618>
- Munta, Mario, Brigitte Pircher, and Sonja Bekker. 2023. "Ownership of National Recovery Plans: Next Generation EU and Democratic Legitimacy." *Journal of European Public Policy*, published online August 22, 2023, doi: 10.1080/13501763.2023.2248202.
- Naqvi, Natalya. 2021. "Renationalizing Finance for Development: Policy Space and Public Economic Control in Bolivia." *Review of International Political Economy* 28 (3): 447–78.
- Naseemullah, Adnan. 2022. "Dependent Development in the Twenty-First Century." *Third World Quarterly* 43 (9): 2225–43.
- Natsuda, Kaoru, and John Thoburn. 2014. "How Much Policy Space Still Exists under the WTO? A Comparative Study of the Automotive Industry in Thailand and Malaysia." *Review of International Political Economy* 21 (6): 1346–77.
- Noble, Gregory W., John Ravenhill, and Richard Doner. 2005. "Executioner or Disciplinarian: WTO Accession and the Chinese Auto Industry." *Business and Politics* 7 (2): 1–33.
- Ó Riain, Seán. 2004. *The Politics of High Tech Growth: Developmental Network States in the Global Economy*. Cambridge: Cambridge University Press.
- Ó Riain, Seán. 2010. "From Developmental Network State to Market Managerialism in Ireland." In *State of Innovation: The U.S. Government's Role in Technology Development*, edited by Fred Block and Matthew R. Keller, 196–216. Boulder: Paradigm.
- Ó Riain, Seán. 2016. "The Shifting Politics of Innovation and State Developmentalism in Ireland." *Stato e Mercato* 106: 41–67.
- Ornston, Darius. 2013. "Creative Corporatism: The Politics of High-Technology Competition in Nordic Europe." *Comparative Political Studies* 46 (6): 702–29.
- Painter, Dustin. 2021. "Build American Buy America: Strong Domestic Procurement Provisions in Infrastructure Bill Signal Increased Commitment to U.S. Manufactured Goods." *JDSupra*, November 15, 2021. Accessed July 16, 2024. https://www.jdsupra.com/legalnews/build-american-buy-america-strong-7260401/#_ftnref1
- Palladino, Lenore, and Isabel Estevez. 2022. "The Need for Corporate Guardrails in US Industrial Policy." *Roosevelt Institute Brief*, August 18, Roosevelt Institute, New York.
- Perez-Aleman, Paola. 2003. "Decentralised Production Organisation and Institutional Transformation: Large and Small Firm Networks in Chile and Nicaragua." *Cambridge Journal of Economics* 27 (6): 789–805.
- Pipkin, Seth. 2023. "Industrial Policy Discipline." Conference paper. Annual meeting of the Society for the Advancement of Socio-Economics, Rio de Janeiro, July 20–22.

- Pipkin, Seth, and Alberto Fuentes. 2017. "Spurred to Upgrade: A Review of Triggers and Consequences of Industrial Upgrading in the Global Value Chain Literature." *World Development* 98: 536–54.
- Redeker, Nils. 2021. *Go Big or Go Home: How to Make European Industrial Policy Work*. Berlin: Jacques Delors Centre.
- Rodrik, Dani. 2009. "Industrial Policy: Don't Ask Why, Ask How." *Middle East Development Journal* 1 (1): 1–29.
- Rothstein, Sid. 2022. "Transnational Governance of Digital Transformation: Financing Innovation in Europe's Periphery." *New Political Economy* 29 (2): 227–39.
- Sabel, Charles. 1995. "Bootstrapping Reform: Rebuilding Firms, the Welfare State, and Unions." *Politics and Society* 23 (1): 5–48.
- Samford, Steven. 2017. "Networks, Brokerage, and State-Led Technology Diffusion in Small Industry." *American Journal of Sociology* 122 (5): 1339–70.
- Schmitz, Luuk, and Timo Seidl. 2022. "As Open as Possible, as Autonomous as Necessary: Understanding the Rise of Open Strategic Autonomy in EU Trade Policy." *Journal of Common Market Studies* 61 (3): 834–52.
- Schnell, Mychael. 2022. "These Are the 24 House Republicans Who Broke with the Party to Support Chips and Science Bill." *The Hill*, July 28. Accessed July 16, 2024. <https://thehill.com/homenews/house/3578779-these-are-the-24-house-republicans-who-broke-with-the-party-to-support-chips-and-science-bill/>
- Schrank, Andrew. 2017. "The Political Economy of Performance Standards: Automotive Industrial Policy in Comparative Historical Perspective." *Journal of Development Studies* 53 (12): 2029–49.
- Schrank, Andrew, and Marcus J. Kurtz. 2005. "Credit Where Credit Is Due: Open Economy Industrial Policy and Export Diversification in Latin America and the Caribbean." *Politics and Society* 33 (4): 671–702.
- Schrank, Andrew, and Josh Whitford. 2009. "Industrial Policy in the United States: A Neo-Polanyian Interpretation." *Politics and Society* 37 (4): 521–53.
- Schreiber, Noam. 2021. "Visible Hands." *New York Times Magazine*, February 14, 26.
- Shadlen, Kenneth. 2005. "Exchanging Development for Market Access? Deep Integration and Industrial Policy under Multilateral and Regional-Bilateral Trade Agreements." *Review of International Political Economy* 12 (5): 750–75.
- Stubbs, Richard. 2009. "What Ever Happened to the East Asian Developmental State? The Unfolding Debate." *The Pacific Review* 22 (1): 1–22.
- Thurbon, Elizabeth. 2016. *Developmental Mindset: The Revival of Financial Activism in South Korea*. Ithaca: Cornell University Press.
- Thurbon, Elizabeth. 2019. "The Future of Financial Activism in Taiwan? The Utility of a Mindset-Centred Analysis of Developmental States and Their Evolution." *New Political Economy* 25: 320–36.
- U.S. DOE Alternative Fuels Data Center. 2023. *Laws and Incentives: Electric Vehicle (EV) and Fuel Cell Electric Vehicle (FCEV) Tax Credit*. Washington, DC, February 28. Accessed July 16, 2024. <https://afdc.energy.gov/laws/409>
- U.S. NIST. 2023. *CHIPS for America Fact Sheet: Funding Opportunity – Commercial Fabrication Facilities; Protecting U.S. Taxpayers*. Washington, DC, February 28.
- U.S. White House. 2021. *FACT SHEET: The Bipartisan Infrastructure Investment and Jobs Act Creates Good-Paying Jobs and Supports Workers*. Washington, DC, August 3.
- U.S. White House. 2022a. *FACT SHEET: CHIPS and Science Act Will Lower Costs, Create Jobs, Strengthen Supply Chains, and Counter China*. Washington, DC, August 9.
- U.S. White House. 2022b. *FACT SHEET: How the Inflation Reduction Act Will Help Small Businesses*. Washington, DC, September 12.
- U.S. White House. 2022c. *FACT SHEET: The Inflation Reduction Act Supports Workers and Families*. Washington, DC, August 19.
- Viță, Viorica. 2017. "Revisiting the Dominant Discourse on Conditionality in the EU: The Case of EU Spending Conditionality." *Cambridge Yearbook of European Legal Studies* 19: 116–43.

- Wade, Robert. 1990. "Industrial Policy in East Asia: Does it Lead or Follow the Market." In *Manufacturing Miracles: Paths of Industrialization in Latin America and East Asia*, edited by Gary Gereffi and Donald Wyman, 231–66. Princeton: Princeton University Press.
- Wade, Robert. 2004. *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*. Princeton: Princeton University Press.
- Wade, Robert. 2010. "After the Crisis: Industrial Policy and the Developmental State in Low-Income Countries." *Global Policy* 1 (2): 150–61.
- Wade, Robert. 2018. "The Developmental State: Dead or Alive?" *Development and Change* 49 (2): 518–46.
- Wade, Robert. 2019. "Catch-Up and Constraints in the Twentieth and Twenty-First Centuries." In *How Nations Learn: Technological Learning, Industrial Policy, and Catch-Up*, edited by Arkebe Oqubay and Kenichi Ohno, 15–37. Oxford: Oxford University Press.
- Warwick, Ken. 2013. "Beyond Industrial Policy: Emerging Issues and New Trends." *OECD Science, Technology and Industry Policy Paper 2*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5k4869clw0xp-en>
- Weber, Beat, and Stefan Schmitz. 2011. "Varieties of Helping Capitalism: Politico-Economic Determinants of Bank Rescue Packages in the EU during the Recent Crisis." *Socio-Economic Review* 9 (4): 639–69.
- Weiss, Linda. 1998. *The Myth of the Powerless State*. Ithaca: Cornell University Press.
- Weiss, Linda. 2005. "Global Governance, National Strategies: How Industrialized States Make Room to Move under the WTO." *Review of International Political Economy* 12 (5): 723–49.
- Weiss, Linda. 2014. *America Inc.?: Innovation and Enterprise in the National Security State*. Ithaca: Cornell University Press.
- Wilhelm, Cindy. 2023. "'Local Content Is Politics': An Examination of the Origins of Local Content Policies in Guinea's Mining Sector." *The Extractive Industries and Society* 13: 101158.
- Wilson, Paul, and Peter L. Borowitz. 1984. "Working Out with the Government: The Chrysler Loan Guarantee Program." *Journal of Law and Commerce* 19: 19–44.
- Woo, Jung-en. 1991. *Race to the Swift: State and Finance in Korean Industrialization*. New York: Columbia University Press.
- Woo-Cummings, Meredith. 1999. "Introduction: Chalmers Johnson and the Politics of Nationalism and Development." In *The Developmental State*, edited by Meredith Woo-Cummings, 1–31. Ithaca: Cornell University Press.
- Zheng, Lingwen, and Mildred Warner. 2010. "Business Incentive Use Among U.S. Local Governments: A Story of Accountability and Policy Learning." *Economic Development Quarterly* 24 (4): 325–36.
- Ziegler, J. Nicholas. 1997. *Governing Ideas: Strategies for Innovation in France and Germany*. Ithaca: Cornell University Press.
- Zysman, John. 1984. *Governments, Markets, and Growth: Financial Systems and Politics of Industrial Change*. Ithaca: Cornell University Press.

Recent Titles in the Publication Series of the MPIfG

MPIfG Discussion Papers

- DP 24/5
J. Beckert
What Makes an Imagined Future Credible?
- DP 24/4
J. Beckert, L. Arndt
The Greek Tragedy: Narratives and Imagined Futures in the Greek Sovereign Debt Crisis
- DP 24/3
H. M. Schwartz
Triffin Reloaded: The Matrix of Contradictions around Global Quasi-State Money.
- DP 24/2
A. v. d. Heide
Dealing Government Bonds: Trading Infrastructures and Infrastructural Power in European Markets for Public Debt
- DP 24/1
A. Maschke
Talking Exports: The Representation of Germany's Current Account in Newspaper Media
- DP 23/6
T. Ergen, L. Schmitz
The Sunshine Problem: Climate Change and Managed Decline in the European Union
- DP 23/5
I. Stamm, A. Sandham
A Bitter Adjustment for German Family Capitalism: Succession and a Changing Ownership Transfer Regime

- DP 23/4
L. Baccaro, B. Bremer, E. Neimanns
What Growth Strategies Do Citizens Want? Evidence from a New Survey
- DP 23/3
R. Mayntz
Paradigm Shifts in Macrosociology
- DP 23/2
S. Hadziabdic
Turning No Tides: Union Effects on Partisan Preferences and the Working-Class Metamorphosis
- DP 23/1
D. Tisch, E. Ischinsky
Top Wealth and Its Historical Origins: An Analysis of Germany's Largest Privately Held Fortunes in 2019
- DP 22/9
M. Höpner, L. Baccaro
Das deutsche Wachstumsmodell, 1991–2019
- DP 22/8
E. Neimanns, N. Blossy
From Media-Party Linkages to Ownership Concentration: Causes of Cross-National Variation in Media Outlets' Economic Positioning
- DP 22/7
J. Beckert
Verkaufte Zukunft: Dilemmata des globalen Kapitalismus in der Klimakrise

MPIfG Books

- J. Beckert
Verkaufte Zukunft: Warum der Kampf gegen den Klimawandel zu scheitern droht
Suhrkamp, 2024
- G. Rilinger
Failure by Design: The California Energy Crisis and the Limits of Market Planning
Chicago University Press, 2024
- S. Rapic (Hg.)
Wege aus dem Kapitalismus?
Autorengespräche mit Colin Crouch, Nancy Fraser, Claus Offe, Wolfgang Streeck und Joseph Vogl
Nomos, 2023
- B. Bremer
Austerity from the Left: Social Democratic Parties in the Shadow of the Great Recession
Oxford University Press, 2023
- A. van der Heide
Dealing in Uncertainty: Insurance in the Age of Finance
Bristol University Press, 2023
- L. Wansleben
The Rise of Central Banks: State Power in Financial Capitalism
Harvard University Press, 2023
- A. Marktanner
Behördenconsulting: Unternehmensberater in der öffentlichen Verwaltung der Bundesrepublik, 1970er- bis 2000er-Jahre
De Gruyter Oldenbourg, 2023
- B. Braun, K. Koddenbrock (eds.)
Capital Claims: Power and Global Finance
Routledge, 2023

Ordering Information

MPIfG Discussion Papers
Order printed copies from the MPIfG or download PDF files from the MPIfG website (free).

MPIfG Books
At bookstores; abstracts on the MPIfG website.

www.mpifg.de
Go to "Publications."

New Titles

Consult our website for the most complete and up-to-date information about MPIfG publications and publications by MPIfG researchers. To sign up for newsletters and mailings, please go the MPIfG website. On request to info@mpifg.de, we will be happy to send you our "Recent Publications" brochure.

Das Max-Planck-Institut für Gesellschaftsforschung ist eine Einrichtung der Spitzenforschung in den Sozialwissenschaften. Es betreibt anwendungsoffene Grundlagenforschung mit dem Ziel einer empirisch fundierten Theorie der sozialen und politischen Grundlagen moderner Gesellschaftsordnungen. Im Mittelpunkt steht die Untersuchung der Zusammenhänge zwischen ökonomischem, sozialem und politischem Handeln. Mit einem vornehmlich institutionellen Ansatz wird erforscht, wie Märkte, Unternehmen und die Regulation der Wirtschaft in historische, politische und kulturelle Zusammenhänge eingebettet sind, wie sie entstehen und wie sich ihre gesellschaftlichen Kontexte verändern. Das Institut schlägt eine Brücke zwischen Theorie und Politik und leistet einen Beitrag zur politischen Diskussion über zentrale Fragen moderner Gesellschaften.

The Max Planck Institute for the Study of Societies conducts basic research on the governance of modern societies. It aims to develop an empirically based theory of the social and political foundations of modern economies by investigating the interrelation between economic, social, and political action. Using a variety of approaches and research methods, it examines how markets and business organizations are embedded in historical, institutional, political, and cultural frameworks, how they develop, and how their social contexts change over time. The Institute seeks to build a bridge between theory and policy and to contribute to political debate on major challenges facing modern societies.

