

# Coordination Rights, Competition Law and Varieties of Capitalism

Chase Foster and Kathleen Thelen<sup>1</sup>

Corresponding author: [chase.foster@soas.ac.uk](mailto:chase.foster@soas.ac.uk)

Forthcoming in *Comparative Political Studies*

*Abstract:* Competition law is a constitutive institution in capitalist markets, establishing the rules for when interfirm coordination is allowed and where competition is required. Yet comparativists have spent decades debating the varieties of capitalism framework—which places the issue of coordination at the center of the distinction between capitalist types—while paying virtually no attention to cross-national variation in antitrust rules. This article develops an original theoretical framework to conceptualize the relationship between competition law and the organization of capitalism. We go beyond the usual binaries (coordinated versus liberal market economies, “restrictive” versus “permissive” antitrust regimes) to disentangle two dimensions of the law that fundamentally shape patterns of coordination and competition both across regulatory jurisdictions and over time. Applying our framework to analyze the evolution of American and European competition law, we show how a comparative coordination rights framework can be used to conceptualize key institutional changes within contemporary capitalist systems.

---

<sup>1</sup> Chase Foster is Lecturer in Public Policy & Management at SOAS University of London. Kathy Thelen is Ford Professor Political Science at the Massachusetts Institute of Technology.

## I. Introduction

Nearly a century and a half after the Sherman Antitrust Act of 1890, the ascent of mega-companies such as Amazon and Apple has put “monopoly power” and antitrust back in the headlines. Legal scholars and economists have begun to analyze recent developments in competition policy, but with the notable exception of a few EU scholars, students of the comparative political economy of the rich democracies have not had much at all to say about antitrust law and enforcement.<sup>2</sup> This is peculiar, because competition policy is a key constitutive institution in capitalist markets, establishing the rules for where interfirm coordination is allowed and where competition is required.<sup>3</sup> Yet even the dominant varieties of capitalism literature – which famously distinguishes political economies according to the institutional features that support two distinct models of coordination – is strikingly silent when it comes to the role of competition law and policy in structuring markets.

This gap is consequential because both the American and European political economies have undergone massive structural changes over the past four decades that are linked to competition law changes, but have flown under the radar of dominant theories of CPE. Specifically, the US has diverged from fellow liberal market economies, migrating from a classically liberal model to become highly oligopolistic in a trend that tracks significant developments in American antitrust theory and jurisprudence that the CPE literature has largely ignored (Philippon, 2019). Meanwhile, Europe’s coordinated market economies have experienced a mix of changes that are also connected to competition law developments. Some of these, such as the liberalization of regulated industries

---

<sup>2</sup> Important exceptions include Peinert (2023), Guardiancich and Guidi (2016), Billows, Kohl, and Tarissan (2021) and Thatcher (2014).

<sup>3</sup> The role of the law in structuring capitalist markets has been explored by a diverse group of scholars in law, economics, and economic sociology. See especially Beckert (2009); Christophers (2016); Deakin, Gindis, Hodgson, Huang, and Pistor (2017); Paul (2020); Pistor (2019); Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998).

and the greenlighting of transnational mergers, have brought European economies closer to the neoliberal model of capitalism (Buch-Hansen & Wigger, 2010). Other developments, however, such as legal protections for interfirm and worker coordination, and an increasingly proactive approach to economic dominance, are more consonant with coordinated market economies (Foster & Thelen, 2023).

In this article, we propose a general framework for analyzing changes in competition law and their impact, both across countries and within countries over time, that helps explain these developments. Building on the legal scholar Sanjukta Paul's (2020) seminal reconceptualization of US antitrust law, we move beyond the usual binaries (liberal versus coordinated market economies, "restrictive" versus "permissive" antitrust regimes) to disentangle change along two distinct dimensions: in the rules governing *horizontal* coordination (between non-dominant economic actors) and those governing *hierarchical* coordination (controls imposed by dominant players). Based on these distinctions, we identify four ideal-typical competition models that reflect different combinations of coordination rights: cartelistic competition, oligopolistic competition, arm's length competition, and cooperative competition. Furthermore, we show how this framework can be used to understand important recent and ongoing trajectories of change in the organization of capitalism.

We apply our framework to developments over the postwar period in the US and Europe to show how it yields insights of interest both to VOC scholars and to EU scholars—highlighting important blind spots in the VOC literature while also resolving longstanding debates in the EU literature. Specifically, we show how changes in the American competition regime since the 1970s and 1980s have moved the US away from the arm's length relationships and fluid labor markets traditionally associated with the "liberal" model and toward highly concentrated oligopolistic

product markets and significant labor market rigidities. Turning to Europe, we revisit – and revise – dominant accounts that emphasize convergence on the US by drawing attention to key dimensions along which competition rules have diverged sharply from American developments.

The paper is organized as follows. We begin our analysis by noting the striking absence in the comparative political economy literature of substantial discussion of competition policy and its role in shaping the organization of capitalism cross nationally and over time. We contrast this with the attention paid to these issues by economists and legal scholars who attribute growing oligopoly power in American capitalism to changes in antitrust policy since the 1970s. We turn then to unresolved debates among EU scholars about the extent to which European competition rules have embraced American practices in ways that undermine the cooperative arrangements that have long anchored Europe’s alternative model of CMEs.

We argue that contemporary debates relating both to the US and to Europe fail to distinguish two distinct dimensions of competition rules: those governing *horizontal* coordination between small and medium sized companies (SMEs) that individually lack market power, and those governing *hierarchical* controls by dominant players. We show that different combinations of coordination rights produce four ideal-typical models of competition, and we apply our framework to conceptualize the trajectories of competition law change in Europe and the United States. Disentangling the two distinct dimensions of coordination allows us to document important continuities in the US, alongside some convergence by the EU with respect to horizontal coordination, but also – more importantly – to highlight the ways in which the EU and US have diverged in their approaches to hierarchical coordination. A final section highlights the contribution of the framework we propose to the literature on the comparative political economy of rich democracies and beyond.

## **II. Theories: Varieties of Competition Law in Political Economy and Legal Scholarship**

The dominant “varieties of capitalism” framework famously distinguishes political economies according to the institutional features that support two distinct models of coordination. Liberal market economies, or LMEs, are those in which “firms coordinate their activities primarily via hierarchies and competitive market arrangements,” and in which coordination outside of the firm primarily occurs via “arm’s-length exchange of goods or services in a context of competition and formal contracting” (Hall & Soskice, 2001, p. 8). Coordinated market economies, or CMEs, by contrast, are characterized by heavier reliance on non-market institutions, and where firms are often embedded in arrangements that involve “more extensive relational or incomplete contracting, network monitoring based on the exchange of private information inside networks, and more reliance on collaborative, as opposed to competitive, relationships to build the competencies of the firm” (Ibid).

Given the centrality within the VOC framework of different modes of coordination—whether through corporate hierarchy and competitive market arrangements as in LMEs or through various nonmarket institutions as in CMES—it is surprising that competition policy has not been a major focus of comparative capitalism scholarship. Historical treatments of capitalist development underscored the central importance of competition law in conditioning national market structures and corporate organization in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries (Berk, 2009; Chandler & Hikino, 2009; Djelic, 2001; Fligstein, 1993; Keller, 1981; Lamoreaux, 1988; Thelen, 2020, Forthcoming). Yet the relationship between contemporary capitalist organization and competition law has not been a major theoretical or empirical focus within the VOC literature. The introduction to Hall and Soskice’s seminal volume mentions US antitrust policy in passing (2001: 31), and other chapters address the role of the law in structuring production regimes (Casper, 2001;

Teubner, 2001), but competition law is not central to the framework and has been neglected by subsequent VOC scholars.

Critics of varieties of capitalism have paid somewhat more attention to the role of competition law. For example, studies emphasizing the common neoliberal trajectory of capitalist systems have sometimes portrayed competition law as a homogenizing force that reinforces processes of economic liberalization, financialization, and marketization that undermine producer group coordination and organized capitalism. In particular, the intensification of competition law at the EU level and its enforcement by the European Commission is often seen as contributing to the disorganization of capitalism and a gradual convergence on a common liberal model (Buch-Hansen & Wigger, 2010; Höpner & Schäfer, 2012; Wigger & Nölke, 2007). Such research has been important for drawing our attention to the ways American influence in the post WWII period shaped early developments in Europe, and how the more recent adoption of some elements of ‘law and economics’ theories (including elements of the Chicago school) has affected some areas of policy and enforcement (Bartalevich, 2016; Buch-Hansen & Wigger, 2010). However, in emphasizing liberalization, critics have often over simplified the effects of competition law on Europe’s coordinated market economies, missing important elements of continuity in European competition policy as well as new divergences that have intensified the enforcement of rules regulating the exploitation of economic power. Moreover, studies that conflate “liberalization” with “Americanization” often miss the extent to which the US is no longer itself particularly “liberal.”

In short, the current state of the debate – mostly absent from VOC scholarship and viewed primarily as a tool of liberalization among VOC’s critics – has led CPE scholars to overlook a number of important developments in the political economies of the advanced industrial

economies on both sides of the Atlantic – developments that have been more central to discussions within the disciplines of economics and legal studies. In the United States there is growing evidence that the collapse of antitrust enforcement following the so-called ‘Chicago School’ revolution in antitrust (R. A. Posner, 1979) has contributed to growing oligopolistic power and caused the American economy to drift away from the classic LME model. The U.S. economy is increasingly characterized not by competitive and contestable markets and arm’s-length contracting, but rather by oligopolistic market structures, where a handful of entrenched firms predominate (Azar, Marinescu, & Steinbaum, 2022; Grullon, Larkin, & Michaely, 2019; Philippon, 2019). Profit rates have soared to historic highs, particularly in the most concentrated sectors and among firms with high numbers of patents, suggesting the presence of market power (Grullon et al., 2019; Gutiérrez & Philippon, 2018). As pure profits have increased, labor income shares have fallen, particularly in the most concentrated industries (Barkai, 2020)

In addition, labor markets have long since ceased to be characterized by the kind of fluidity that is a core defining feature of the classic liberal model; indeed, labor market mobility in the US is at the lowest rate since the Census Bureau began keeping track.<sup>4</sup> Increasing industrial concentration across a wide range of sectors means that declining regions are often dominated by a few monopsonistic employers (Azar et al., 2022; Naidu, Posner, & Weyl, 2018; E. A. Posner, 2021; Yeh, Macaluso, & Hershbein, 2022). Workers are increasingly stuck in place by the lack of opportunity in the country’s most dynamic regions (Autor, Dorn, Katz, Patterson, & Van Reenen, 2020; Hafiz, 2022), declining employer-based benefits (Madrian, 1994), rising housing costs (Ansell & Cansunar, 2021; Coate & Mangum, 2021), and employers’ growing use of non-compete

---

<sup>4</sup> <https://www.nytimes.com/2019/11/20/us/american-workers-moving-states-.html>.

and no-poach agreements in employment contracts (Krueger & Ashenfelter, 2022; E. A. Posner, 2020; Staszak, 2020).

Meanwhile, European political economies have developed along a different trajectory. The trend toward greater employer market power observed in the United States is not observed in the United Kingdom, where labor market concentration has slightly declined over the last quarter century (CMA, 2024). A growing body of evidence also suggests that the secular trend toward increased concentration in product markets is less pronounced in many European countries. A number of close studies have concluded that economic concentration levels and markups in Europe have been either stable or characterized by modest decreases following the integration of the European single market (Cavalleri et al., 2019; Döttling, Gutiérrez, & Philippon, 2017; Gutiérrez & Philippon, 2018; Kalemli-Ozcan, Sørensen, Villegas-Sanchez, Volosovych, & Yesiltas, 2024).<sup>5</sup> Other studies, using different data, have identified some secular trends similar to the US, toward lower labor shares (Autor et al., 2020; Piketty, 2014), increases in industrial concentration levels (Bajgar, Berlingieri, Calligaris, Criscuolo, & Timmis, 2023; Koltay, Lorincz, & Valletti, 2023), and a rise in consumer markups (De Loecker & Eeckhout, 2018) in many European countries. However, even in these studies, the observed changes are usually more modest in magnitude and starting from lower baselines than in the United States (De Loecker & Eeckhout, 2018; Koltay et al., 2023).

While Europe's coordinated market economies have no doubt faced new pressures stemming from globalization and technological change, they nevertheless also continue to be characterized by much higher levels of nonmarket coordination. European trade unions have

---

<sup>5</sup> For instance, in a review of economic developments in the eurozone, the European Central Bank found that concentration ratios were “broadly flat,” markups were “fairly stable”, and that economic dynamism was characterized by “no obviously secular change.” See Cavalleri et al. (2019).



weakened but they still retain higher coverage rates than in the United States, particularly in the private sector (Darvas, Gotti, & Sekut, 2023). European employer and trade associations have proven even more resilient, with membership levels remaining stable in most countries since the 1970's even as their role in collective goods provision and advocacy has continually evolved (Brandl & Lehr, 2019). Compared to the United States, EU business associations are denser and less fragmented (Spillman, 2012; Traxler, 2004) and more actively involved in coordinating research, standard setting, skills development, and collective bargaining (Gooberman & Hauptmeier, 2022).<sup>6</sup> Comparative business demography studies clearly indicate that, across most major sectors of the economy, small and medium sized enterprises continue to play a more prominent role in European economies (Del Sorbo, Vértessy, & Damioli, 2018).

Existing frameworks have a difficult time accounting for both the shift toward oligopoly in the US and the mix of continuity and change observed in Europe. The broad distinction between “liberal” and “coordinated” capitalism used in VOC theory is not supple enough to capture these developments and assess their implications. Economic liberalization and convergence frameworks proposed by VOC critics better account for some elements of change in the EU, particularly the weakening of labor unions and the transnational consolidation of industry. However, they are less effective at explaining how and why the EU has continued to diverge from the US on other dimensions. And they have very little to say about the oligopolistic tendencies found in the American economy, or indeed about the dramatic differences in the treatment of dominant firms on the two sides of the Atlantic.

---

<sup>6</sup> Gooberman and Hauptmeier note that in European CMEs, employer organizations “retained their role within collective bargaining despite some erosion” as well as in “corporatist structures governing training regimes and social programmes” (2022, 28).

One of the core reasons for this oversight is the tendency of nearly all observers to view competition law in a unidimensional way. Both VOC theorists and VOC's critics conflate the different *targets* of competition law—whether aimed at horizontal coordination, hierarchical restraints or mergers. So, any move by a jurisdiction on one dimension (whether procedural or substantive; whether relating to horizontal or hierarchical coordination; and whether the rules relate to cartels, abuse of dominance or mergers) is coded as signaling more or less stringent competition rules. As closely connected as these different dimensions are on some issues and at some times, nothing in the broader historical record suggests that they necessarily go together. In fact, variation on both dimensions is important for tracking key changes in the evolution of capitalist organizations over time.

#### *A Comparative Coordination Rights Framework*

Building on the work of Sanjukta Paul (2020) we propose a new framework for analyzing such changes. Among legal scholars of antitrust, Paul is distinctive in that she conceives of competition regimes not in terms of competition law stringency, but rather in terms of coordination *rights*. In doing so, she effectively flips the script of antitrust as it is typically presented: instead of thinking about competition law as concerned primarily with the regulation of anti-competitive practices (strict or permissive), she pushes us instead to consider how competition law allows, permits or even encourages certain kinds of coordination between firms and other producer groups, while preventing other kinds. As she puts it: “antitrust law’s core function is to allocate coordination rights to some economic actors and deny them to others” (382). Her key insight is that both coordination and competition are required in capitalism, but that the structure of

coordination and competition—and in particular who gets to coordinate and who is forced to compete—will differ depending on the competition regime.

Although Paul did not conceive hers as a framework for comparative analysis, it can be fruitfully deployed to re-conceptualize cross-national differences as well as trajectories of change over time in competition regimes and in the organization of capitalism writ large. Adapting her framework, we distinguish between two main dimensions of economic coordination in capitalist economies, and use these to conceptualize four competition models that reflect different combinations of coordination rights.<sup>7</sup> The first dimension is *horizontal* coordination beyond the boundaries of the firm. This refers to restrictive agreements, practices, or mergers between firms that lack market power and that are operating in either the same market or adjacent markets. Horizontal coordination can thus include restrictive practices between direct competitors that sell the same or similar products or services. It can also include agreements between suppliers and distributors as long as none of the involved firms are economically dominant. In both cases, competition regimes vary in the extent to which they permit or forbid such arrangements.

This is distinct from a second dimension, which we term *hierarchical* coordination beyond the boundaries of the firm. This encompasses a range of unilateral practices, restrictive agreements or mergers involving large companies that have significant market shares, with the most extreme example being the establishment of a monopoly or the erection of a permanent barrier to entry. Here again, competition regimes vary from more permissive (“forbearing”) to more restrictive (limiting or restricting such coordination through state regulation).<sup>8</sup>

---

<sup>7</sup> In line with the VOC literature, our focus is on economic coordination by firms and workers. Industrial policy and other forms of direct public economic coordination are therefore beyond the scope of our analysis.

<sup>8</sup> Our use of ‘hierarchical’ and ‘horizontal’ to refer to differences in economic power should not be confused with the common distinction in antitrust law between ‘horizontal’ agreements or practices involving direct competitors and ‘vertical’ agreements or practices between actors at different stages in the production and distribution process.

**Table 1: Coordination rules and competition models**

Hierarchical Coordination Rules	Strict	Cooperative competition model	Arm's length competition model
	Forbearing	Cartelistic competition model	Oligopolistic competition model
Horizontal Coordination Rules			

The emphasis on horizontal or hierarchical coordination rights can and does differ both across regulatory jurisdictions and historically over time. We propose that these differences help shape the forms of producer group coordination that have long been central to theories of advanced capitalism. Based on these distinctions, we identify four ideal-typical competition models that reflect different combinations of horizontal and hierarchical coordination rights: cartelistic competition, oligopolistic competition, arm's length competition and cooperative competition. The horizontal dimension of Table 1 refers to the extent to which non-dominant firms have the right to

use nonmarket forms of coordination in their relationships with competitors, i.e., firms selling the same or similar products or services, as well as their suppliers and distributors. On the left side of the table, horizontal coordination rights are extensive, while on the right side, they are narrow, and companies must interact with other firms primarily through arm's-length, market-based contracts. The hierarchical dimension refers to the extent to which dominant companies have the right to use exclusionary agreements or unilateral practices to structure the marketplace in their interests. On the permissive ("forbearing") side of the continuum, competition regimes enable hierarchical control by dominant firms, while on the other end, hierarchical coordination is subject to state regulation that limits or redirects it.

These distinctions yield the following four ideal types:

*Cartelistic competition model.* The regulatory regime in the lower left quadrant of Table 1 permits firms to coordinate on both the horizontal and hierarchical dimensions without being subject to state interference. Since firms are interested in stabilizing profit expectations by creating 'market structures' (Beckert, 2009), this regulatory regime tends to produce cartelized markets, where competition is partially restricted through private agreements between producers in the same industry (Schröter, 2013). Cartelistic market structures have historically facilitated economic stability and growth in some countries (Tilly, 1982; Webb, 1980), while simultaneously enabling horizontal nonmarket coordination institutions to develop (Thelen, 2020). But in the absence of regulation, the largest cartel members are free to leverage their economic power over other actors within the economy. This ideal-type is closest to Japan, Germany, and many other European countries prior to World II, when states not only permitted but often encouraged interfirm coordination and most industries were highly cartelized.

*Oligopolistic competition model.* The lower right quadrant of Table 1 indicates a regulatory regime where horizontal coordination between smaller companies is strictly prohibited, but dominant companies are given wide leeway to create barriers to entry and impose hierarchical controls on their suppliers and distributors. In contrast to the cartelized competition model, where the market is stabilized through horizontal agreements while maintaining firm independence, hierarchical coordination systems rely primarily on corporate hierarchy and economic concentration to stabilize market volatility (Lamoreaux, 1988; Sklar, 1988). This encourages the development of oligopolistic markets, characterized by a small number of large producers or sellers. Like cartelized competition, oligopolistic competition can reduce transaction costs and facilitate economic stability, scale economies, and long-term investment (Chandler & Hikino, 2009; Williamson, 1985). However, oligopolistic structures also enable economic exploitation, rent-seeking, and the entrenchment of incumbent players. This ideal-type is closest to the United States at the beginning of the 20<sup>th</sup> century when horizontal coordination between smaller firms and workers was limited by antitrust law while exclusionary practices by large companies were largely permitted as ‘reasonable’ restraints of trade.

*Cooperative competition model.* The regulatory regime in the top left quadrant allows competing firms to extensively cooperate while limiting the power of dominant companies to impose hierarchical restraints on other firms. Like cartelistic competition, firms and workers are permitted to establish robust trade associations and unions, which can be used to upgrade competition, and push the coordinates of competition away from price and toward quality. But unlike cartelistic competition, the state regulates both exclusionary private market structures as well as hierarchical controls by dominant companies (Ergen & Kohl, 2019). This ideal-type can facilitate the development of coordinated market structures, where competing firms engage in substantial

nonmarket coordination to facilitate collective goods, reduce problems of free riding, and pool resources so that smaller firms can better compete against bigger ones (Crouch, 1993). Cooperative competition is best exemplified by many northern European countries during the second half of the 20<sup>th</sup> century, when companies were permitted to pursue extensive forms of horizontal coordination, but where the exploitation of economic power by large companies was strictly regulated by the state or held in check by countervailing corporatist institutions.

*Arm's-length competition model.* A regulatory regime characterized by strict rules limiting both horizontal and hierarchical coordination beyond the boundary of the firm will instantiate an arm's length market regime (upper right quadrant). Chandlerian hierarchies are found within individual firms, but relationships beyond the boundaries of the firm, including with competitors, suppliers, distributors, creditors, and employees, are organized through formal contracts and competitive markets (Hall & Soskice, 2001, pp. 33-36). Crucially, the state not only enforces price competition between equally matched competitors, but also aggressively polices the exploitation of economic power by large corporations. Companies with market power not only are prevented from establishing barriers to entry, but are sometimes also required to actively facilitate entry. This ideal-type is best exemplified by the United States from the 1940's until the 1980's, when both horizontal cooperation and the exclusionary practices of dominant companies were limited by regulators.

### *Mapping Trajectories of Change*

Opening up the analytic space to disentangle the complex (multi- not uni-dimensional) evolution of competition rules governing different types of market coordination allows us to move beyond the current terms of debate in both the VOC and EU literatures. It forces us to think harder

about how different competition regimes affect *who* exactly is allowed to coordinate *with whom*, and *to do what*, and about how differences in the answers to these questions drive variation in the trajectories of change in competition law on both sides of the Atlantic. By distinguishing movement related to horizontal versus hierarchical coordination we can identify with more precision the arenas in which American antitrust law continues to enforce arms-length relations, and those where the law permits (or even encourages) hierarchical coordination. Similarly, we can also better evaluate where EU competition law and practice have converged on the liberal competition model, where they remain distinct (in degree if not in kind), and where they have diverged in new ways.

Figure 1 captures in a stylized way the overall trajectory of change in the rules governing market competition in the European Union and the United States since the 1970's.<sup>9</sup> On the *horizontal* dimension, the US has maintained and even sharpened its traditionally strict policies toward almost all forms of interfirm (horizontal) coordination. Meanwhile, the EU has indeed moved in the direction of an arm's length competition model, by developing stricter rules for both cartels and many other forms of horizontal coordination (Billows et al., 2021; Buch-Hansen & Wigger, 2010; Philippon, 2019). Nonetheless, especially compared to the US, EU competition law continues to allow substantial horizontal nonmarket coordination in certain areas, particularly for SMEs, workers, and interfirm cooperation agreements aimed at generating productive efficiencies – thus retaining significant elements that are historically characteristic of CMEs (Foster & Thelen, 2023).

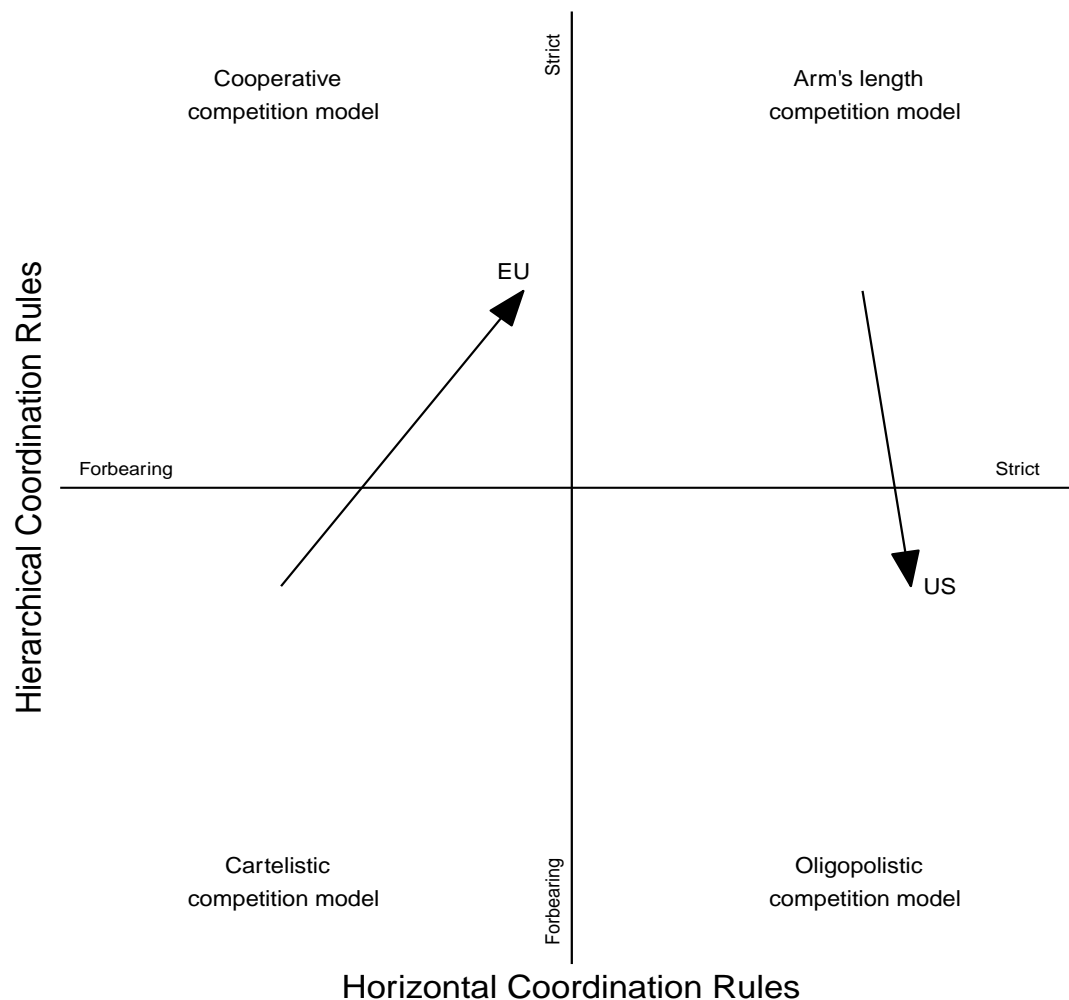
On the *hierarchical* dimension, however, the US and EU have sharply diverged, as the US has largely abandoned anti-monopoly, vertical restraint, and non-horizontal merger enforcement

---

<sup>9</sup> Our schematic diagram is based on a combination of qualitative assessment of rules (elaborated at length below) and a quantitative assessment of enforcement. More details are available in the online Appendix.



**Figure 1: Trajectories of Change in Postwar US and EU Competition Regimes**



*Source: Authors' characterization of competition law change, 1970-2020.*

and the EU has intensified enforcement in each of these areas, particularly for dominant companies that control key infrastructures such as online platforms. In the EU, strengthening enforcement against abuse of dominance has helped protect nonmarket coordination by smaller firms from the exploitative and exclusionary practices of larger companies. Meanwhile, the move in the US toward hierarchical forbearance has pushed antitrust policy away from an arms-length competition model characterized by extensive anti-dominance and horizontal enforcement to maintain market contestability, and toward an oligopolistic model where horizontal coordination continues to be

aggressively policed, but large companies are given wide leeway to structure the marketplace through hierarchical coordination.

In the next two sections, we analyze how and why the trajectories of change have proceeded in this way, examining developments in policy and law, as well as patterns of enforcement in order to draw a connection between competition rules and the political economy. Our analysis builds on previous work by economists and legal scholars who have focused closely on changes to hierarchical rules in the US, alongside that by EU scholars who have tracked changes to horizontal rules in Europe and the effect on CMEs (e.g. (Billows et al., 2021; Wigger & Nölke, 2007). However, we expand and refine both streams of analysis by distinguishing changes across both the horizontal and hierarchical dimensions, and by pointing out how the changes we document track the divergent trajectories of the American and European economies discussed above. While space precludes a full empirical test of the framework, these two case studies serve to illustrate the utility of our comparative coordination rights framework for better conceptualizing the co-evolution of regulatory institutions, producer group organization, and market structures within contemporary capitalist systems.<sup>10</sup>

### **III. Coordination Rights and the Evolution of the American Political Economy**

Historically, the US embraced what in comparative perspective was in fact a wholly unique approach to competition policy and jurisprudence (or what in American parlance is called antitrust). In the closing years of the 19<sup>th</sup> century, the political economies in both the US and Europe were upended by financial crises and deep economic depressions. Overcapacity across key

---

<sup>10</sup> In the online appendix, we provide additional evidence that CMEs and LMEs have enacted systematically different competition rules, which are correlated with objective measures of nonmarket coordination.

markets set in motion vicious cutthroat competition among firms, provoking considerable market turmoil and industrial strife. American and European firms alike sought to stabilize markets by banding together into arrangements to defend against destructive competition and to restore industrial peace. European governments encouraged and often actively reinforced coordination among firms within industries, and judicial forbearance toward these forms of cooperation supported the flourishing of the dense associational landscape of producer group politics (trade associations, employer organizations, and labor unions) that we now associate with coordinated capitalism.

In the United States, by contrast, the passage of the Sherman Act, and the Supreme Court's interpretation of that law, created strong prohibitions against what Paul calls "horizontal" coordination – i.e., coordination among non-dominant actors beyond the boundaries of the firm, including but not limited to labor (Paul 2020: 383).<sup>11</sup> Large producers turned to alternative strategies to stabilize markets through corporate consolidation or the use of vertical restraints to restrict competition from above. These firms avoided antitrust prosecution by internalizing coordination functions – merging with their former rivals and swallowing up smaller competitors. This was the context that inspired the 'great merger movement' in the US at the turn of the century that resulted in a dramatic increase in industrial concentration and led to corporate hierarchy and arms-length exchange becoming the dominant modes of coordination (Lamoreaux, 1988; Sklar, 1988).<sup>12</sup> The strong binary between "pure" competition and corporate hierarchy that the American judiciary enforced and policed left a deep imprint on the American political economy (Berk, 1996).

---

<sup>11</sup> Sklar (1988), Roy (1999), and Paul (2021) all emphasize that common law itself was not entirely hostile toward combinations among firms, and indeed Roy documents the existence of many such arrangements in the United States before the Sherman Act.

<sup>12</sup> As Sanders (1986, p. 159) points out, in 1899 alone over 1,000 companies had disappeared in mergers, and just a few years later over 100 industrial fields were dominated by a single firm.

It also helped instantiate an oligopolistic competition model, where many industries were dominated by a small number of firms and large corporations had broad economic power to structure the marketplace in their interests (Chandler & Hikino, 2009; Sklar, 1988).

American competition policy continued to combine strict enforcement against horizontal combinations with more lenient (“rule of reason”) treatment of hierarchical coordination through the interwar period.<sup>13</sup> But the Great Depression and the accompanying dramatic increase in industrial concentration inspired a deep rethinking of American competition policy. A series of government studies assessing the impact of economic concentration on the economy in the late 1930’s delivered a scathing indictment of the behavior of the country’s dominant producers, contributing to an abrupt reversal on the American approach to hierarchical coordination (Peinert, 2023). Allying with populist Democrats in Congress, President Roosevelt expanded the Department of Justice’s (DOJ) Division of Antitrust budget five-fold, growing its staff from 58 lawyers to over 300 (Brinkley, 1996, p. 111). The new head of the Antitrust Division, Thurman Arnold, launched a period of reinvigorated enforcement, taking on some of the biggest names in American industry, including Paramount Studios, the Pullman Company, the Big Three car companies, and major steel and aluminum producers, during what in retrospect is now considered the “Golden Age” of American antitrust enforcement.

During his five-year tenure, Arnold pursued many major anti-monopoly cases, several of which resulted in the structural reorganization of dominant companies.<sup>14</sup> At the same time, he intensified horizontal enforcement, launching major cases against dairy producers, construction

---

<sup>13</sup> For a discussion of important but ultimately unsustainable efforts to develop a more cooperative competition model in the 1920’s see Berk (2009); Hawley (1976); Phillips Sawyer (2018).

<sup>14</sup> For instance, the Pullman Company was required to divorce the manufacture of sleeping cars from the provision of sleeping car services. In another judgment, Paramount was ordered to move out of the exhibition part of the film industry (Hawley 1966: 451).

companies, oil refineries, and newspapers, among other industries. In many of these cases, the targets were large companies, but in others they were small firms or labor unions (Waller, 2004, pp. 600-603). Altogether, Arnold prosecuted more cases during his short (1938-43) tenure as head of the DOJ's Antitrust Division than the previous fifty years of antitrust combined (Waller, 2004, p. 583). The combination of a strict approach to *both* hierarchical and horizontal coordination pushed the American antitrust system squarely toward the top right 'arm's length competition model' in Table 1.

Following World War II, the arm's length model was further institutionalized. The Celler-Kefauver Act in 1950 made it much easier for regulators to block mergers and acquisitions. From 1955-1969, the government challenged 167 combinations through litigation (R. A. Posner, 1970, p. 407). Although these enforcement actions did not always prevent aggregate consolidation via conglomerate mergers, they did slow down and occasionally reverse concentration trends within many industries. Careful economic studies from the period suggest that anti-merger prosecutions deterred or blocked a large number of horizontal and vertical mergers leading to a decline in the concentration rates of many sectors.<sup>15</sup>

In addition to placing a new democratic check on mergers, the government also continued to limit hierarchical coordination beyond the boundaries of the firm through the active enforcement of anti-monopoly and vertical restraint rules. During the 1950's and 1960's, the DOJ and FTC successfully prosecuted dominant companies for monopoly violations in a variety of areas, from the exclusionary use of intellectual property to localized price cuts (Kovacic & Shapiro, 2000, pp.

---

<sup>15</sup> In a study of industrial concentration trends from 1947-1963, Mueller (1967) provides evidence that merger enforcement likely reduced concentration in the dairy, shoe manufacturing, cement, and steel industries. He concludes that "antimerger policy has created an environment preventing increases in concentration in some industries and encouraging decreases in concentration in others." See especially pp. 14-34.

9-12). Many of these prosecutions constrained the autonomy of the corporate monoliths of the era including Eastman Kodak, General Electric, Westinghouse, Procter & Gamble, and Bell Laboratories (Kovaleff, 1980; Watkins, 1961). Sometimes the mere threat of prosecution was sufficient to force powerful companies to show pricing restraint, as arguably occurred in the petroleum sector in response to ongoing DOJ investigations of the seven largest oil and gas companies (McFarland & Colgan, 2023). To be sure, regulators also continued to place limits on horizontal coordination by prosecuting Sherman Act cases against small firms. However, to a greater degree than in prior or future eras, the enforcement emphasis was on large companies.<sup>16</sup> Furthermore, courts and regulators largely avoided using antitrust to limit the coordination rights of workers, at least when coordination occurred in the context of labor unions. The result was a political economy that, while retaining many oligopolistic features, was also characterized by contestable markets and countervailing power in most industries (Galbraith, 1952).

The era, however, was short-lived. Already in the 1960s, American antitrust policy and practice had come under attack from both the left and right. Liberals such as Ralph Nader complained of corporate capture, while conservatives blasted an overweening bureaucracy. By the late 1960s, economists and legal scholars attached to the so-called “Chicago School” of Law and Economics had become vocally skeptical about the wisdom of the entire postwar antitrust regime. Robert Bork’s influential book, *The Antitrust Paradox* (published in 1978, but much longer in the works), had steadily gained influence in legal circles throughout the late 1960s and 1970s. Federal courts and regulators began to incrementally adjust existing precedents and policies in ways that led to more permissive hierarchical coordination rules. In several key cases at the end of the 1970’s, the Supreme Court reversed its own precedents by establishing a new ‘consumer welfare’ test as a

---

<sup>16</sup> From 1955-1970, nearly half (47%) of DOJ antitrust prosecutions were against Fortune 500 companies (Gallo, Dau-Schmidt, Craycraft, and Parker (2000, p. 78).

requirement for prosecuting hierarchical restrictions (Orbach, 2011). In the aftermath of these decisions, most of the non-horizontal ‘per se’ rules that had been established during the post-war period were reversed and replaced with the more permissive ‘rule of reason’ (Khan, 2016; Kovacic & Shapiro, 2000). The change in jurisprudence made it much more difficult for US regulators to enforce hierarchical coordination rules, leading to a series of government losses in major merger and anti-monopoly cases (Kovacic & Shapiro, 2000, p. 54).<sup>17</sup> These changes gave large firms more autonomy to impose vertical restraints on their suppliers and distributors, erect barriers to entry, and pursue mergers that consolidated their market position.

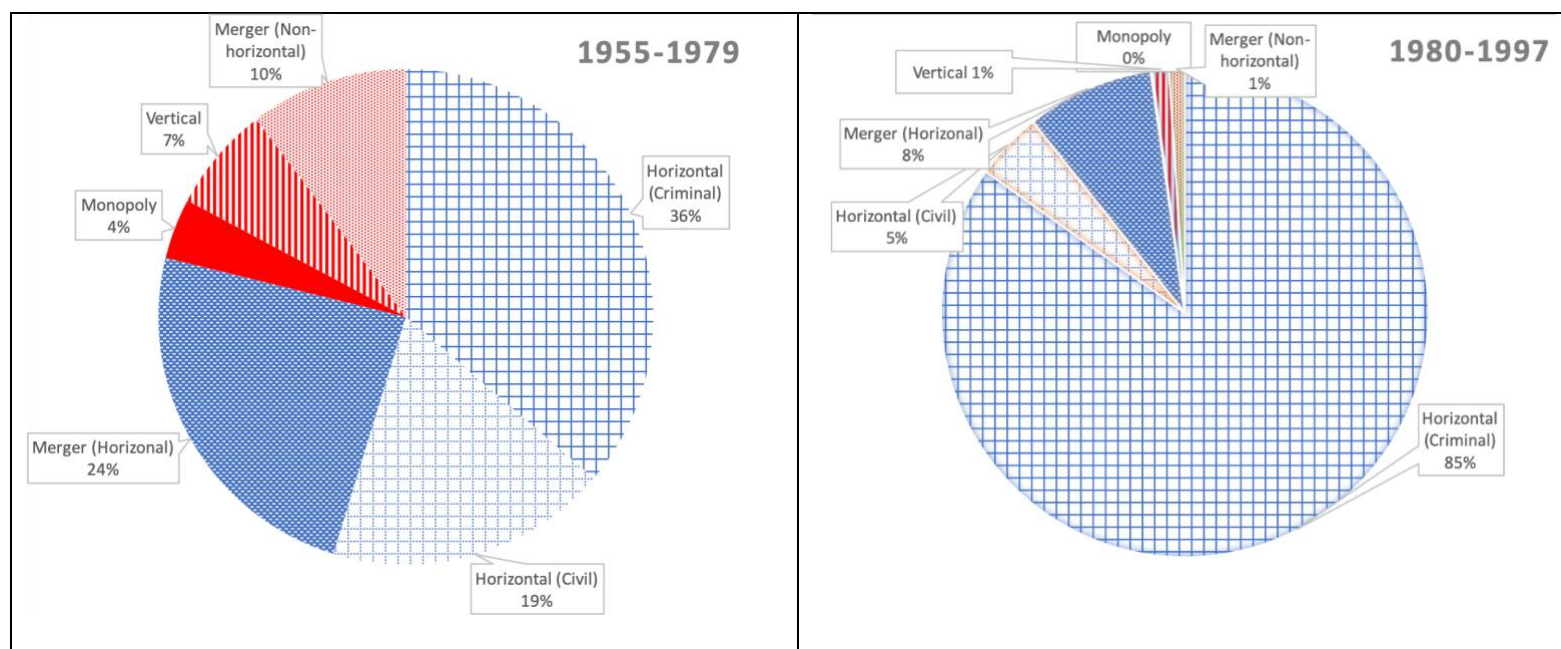
In 1981 Reagan elevated Chicago School thinking to government policy with his appointments of Borkian acolyte William F. Baxter to head the DOJ’s Antitrust Division and fellow Chicago schooler James Miller III as FTC chair. The new appointees presided over a sharp decline in *all* forms of antitrust enforcement against dominant market actors, while simultaneously intensifying horizontal enforcement, especially against smaller firms. Henceforth, antitrust policy and enforcement would fully embrace the Chicago school formula; the core criterion against which anti-competitive actions would be judged was whether they explicitly harmed consumer welfare, defined largely in terms of price (Khan, 2016). The shift toward a permissive approach to hierarchical coordination has only intensified since the early 2000’s, as the Supreme Court has ruled in favor of hierarchical controls by dominant firms – and against antitrust interventions – in almost all of its major cases (Wu, 2018).

Combined with the empowerment of economists relative to lawyers within US regulatory agencies, these court-led changes in coordination rights have contributed to a systematic collapse

---

<sup>17</sup> In 1974, the U.S. government suffered its first ever merger defeat. Over the following decade, courts blocked or regulators abandoned major anti-monopoly cases against IBM, Exxon Mobile, Xerox, Good Year Tires, food manufacturers, and chemical companies (Kovacic & Shapiro, 2000, p. 54).

**Figure 2: DOJ Enforcement Before and After the Chicago Paradigm**



*Source: Gallo et al. 2000. Calculations by authors. Blue shaded areas represent enforcement limiting hierarchical coordination; red-shaded areas indicate enforcement limiting horizontal coordination.*

in anti-monopoly and hierarchical restraint enforcement (Berman, 2022; Ergen & Kohl, 2019). Figure 2 reports the pattern of DOJ enforcement before and after the adoption of the consumer welfare standard by courts in 1979. It shows that monopoly, vertical restraints, and non-horizontal merger cases made up only 2% of enforcement actions in the 1980's and 1990's, representing a dramatic decrease from the 1960's and 1970's when such actions represented one in five DOJ prosecutions. A similar pattern can be seen in merger enforcement. While in the 1960's and 1970's, the DOJ blocked a steady mix of horizontal and vertical measures, after 1980, merger challenges significantly declined. As can be seen in Figure 2, horizontal merger challenges became rarer after 1980, and non-horizontal merger enforcement almost entirely disappeared.

In response to this *carte blanche*, corporate America pursued an unprecedented merger boom. According to one study, the total annual volume of mergers and acquisitions tripled in the



years following the adoption of new merger guidelines in 1984 (Pryor, 2001). From 1985-2000, more than 20,000 mergers and acquisitions, valued at \$2T, were finalized. Over the same period, the average degree of industrial concentration in individual industries significantly increased—the reverse of the trend observed from 1960 - 1980, when hierarchical coordination rights were more restricted by US antitrust law (Ibid).

Even as U.S. regulators largely abandoned anti-monopoly and merger enforcement, they intensified enforcement of cartels and other forms of horizontal coordination, successfully prosecuting hundreds of cases (Gallo et al., 2000; Kovacic, 2003, pp. 415-420). Unlike the Golden Era of antitrust when large corporations were the main focus, the vast majority of these prosecutions were against small and medium-sized companies.<sup>18</sup> Within many industries, these prosecutions undermined the ability of domestic firms to effectively compete against foreign firms in Japan and Europe that enjoyed extensive horizontal coordination rights (Arslan, 2022). Workers and independent contractors seeking to pool their bargaining power were also more frequently targeted; these included, among others, groups of low-paid attorneys, piano teachers, ice skating instructors and church organists (Paul, 2020, pp. 391-392). Regulators not only prosecuted smaller firms, independent contractors and workers more frequently, but they did so with criminal sanctions. From 1980-1997, horizontal criminal cases constituted 85% of DOJ enforcement actions, compared to just 36% prior to 1980.

In the United States, the combination of weak enforcement against hierarchical coordination by dominant firms and intensified prosecution of horizontal collusion by smaller firms has allowed the US to drift toward the oligopolistic competition model in the bottom right quadrant of Figure 1. Scholars have identified clear links between specific changes to antitrust rules

---

<sup>18</sup> The proportion of cases against non-Fortune 500 companies increased from around half in the 1960's and 1970's to 95% in the 1980's (Gallo et al. (2000, p. 78).

regulating mergers, hierarchical restraints, and independent contractors and the decline of worker power and increase in labor market rigidity described earlier (Azar et al., 2022; Callaci, 2021a, 2021b; Hafiz, 2022; Naidu et al., 2018). A growing number of economic studies have also provided evidence that the decline in anti-monopoly enforcement likely contributed to the trend toward oligopoly (Gutiérrez & Philippon, 2017, 2018) and that the largest American firms have supported this shift through the political process (Lancieri, Posner, & Zingales, 2022). Indeed, a competition regime that combines strict rules on horizontal coordination with permissive rules on hierarchical control beyond the boundaries of the firm allows dominant firms to effectively have their cake and eat it too. On the one hand, they are provided significant autonomy to structure the marketplace in their own interests, through extensive vertical contracting and exclusionary behavior. At the same, they are largely free from horizontally organized forms of countervailing power such as organized SMEs or workers that might limit this autonomy or provide a significant competitive challenge. Put differently, the largest firms in the United States are able to exploit the asymmetry in who has coordination rights in ways that lead to the predominance of hierarchical over horizontal forms of coordination (Paul, 2020).

#### **IV. Coordination Rights and the Evolution of the European Political Economy**

In the formative period of industrial capitalism, most European industry was highly organized through cartels and other forms of business associations that relied heavily on both horizontal and hierarchical coordination beyond the boundaries of the firm. This placed European market structures in most countries clearly in the cartelistic competition model found in the bottom left of Table 1. Virtually all western and northern European countries – including not only Germany but also Austria, Belgium, Finland, the Netherlands, Norway, Sweden, Switzerland,

Spain, Italy, and even the United Kingdom – took a much more permissive stance toward horizontal coordination than the United States (Schröter, 1996). Well into the postwar period, cartel organizations remained a prominent feature of most capitalist economies on the continent (Gerber, 1998; Shanahan & Fellman, 2022).

The creation of a supranational European competition law through the Treaties of Paris and Rome presented a direct challenge to the cartelistic competition model. American officials were heavily involved in designing the competition provisions of the European Coal and Steel Community and the U.S. experience with the Sherman Act provided a primary reference point (Djelic, 2001; Wells, 2001). The prohibition against anti-competitive agreements, enshrined in the Treaty of Rome, would have a lasting effect on the European economy, contributing to the decartelization of European industry and instantiating a more ‘arm’s length’ competition model within many sectors (Djelic, 2001; Harding & Joshua, 2010).

Yet across all six of the founding EEC countries, trade associations and labor unions had also expressed hesitation toward (in many cases outright opposition to) the establishment of a ‘Sherman Act’ in Europe, which they saw as undermining their ability to pursue the cooperative arrangements and long-investments needed to rebuild the economy (Buch-Hansen & Wigger, 2011; Gillingham, 2004; Milward, 1984). The supranational European system established under the Treaties of Paris and Rome accommodated these concerns. The enactment of substantive rules that prohibited cartels while providing broad exemptions for ‘beneficial’ horizontal agreements reflected a compromise between “cross-national liberal modernizers” supportive of the American cartel prohibition model and European business associations and unions, which saw horizontal cooperation as essential for rationalization, standardization, and specialization in European industry (Djelic, 2001, pp. 232-235).

So, while US influence clearly made a mark on Europe's postwar competition regime, Europe would never go so far as the US in prohibiting all forms of horizontal non-market coordination through rules that could be enforced by both private and public parties in the courts.<sup>19</sup> Indeed, EU competition law preserved a significant space for coordination beyond the boundaries of the firm. Thus, for example, the Treaty of Rome's prohibition of restrictive practices included a broad exception for any agreement "which contributes to improving the production or distribution of goods or to promoting technical or economic progress" and did not run afoul of other general principles (Article 101[85]). One of the early laws enacted by the new EEC was Regulation 17/1962, which provided the Commission with the authority to permit restrictive agreements that fell within certain categories. A few years later, this power was expanded to include block exemptions, providing the Commission with a quasi-legislative role to determine what kinds of agreements were acceptable or unacceptable in the economy (Gerber, 1998, p. 351).

Over time, and in ongoing consultation with industry, these exemptions came to include a wide range of horizontal inter-firm collaborations and joint ventures seen as economically beneficial. This included cooperation in research and development and standard setting, joint licensing, and restrictive selling and purchasing contracts that involved two companies in different countries (Hawk, 1972). The Commission also encouraged coordination and technology transfer between small- and medium-sized enterprises (SMEs) by exempting companies with a level of economic activity below a certain threshold, covering an estimated 90% of all companies (Buch-Hansen & Wigger, 2011, p. 67). Indeed, the EEC competition authority actively sought to promote cooperation between SMEs as a way to allow them to more effectively compete against larger

---

<sup>19</sup> A similar set of compromises were necessary to enact Germany's first postwar competition law. The 1957 Act Against Restraints of Competition was held up for nearly a decade, and only enacted after the inclusion of broad economic coordination rights, a key demand of the Federation of Germany Industries (BDI). For a full history see Djelic (2001); Quack and Djelic (2005).

companies. By 1980, more than 4,000 cooperation agreements between SMEs had been approved by the Commission (Ninth Competition Report: 16). In the face of economic shocks or industrial difficulties, the EEC competition directorate even permitted the establishment of ‘crisis cartels’ designed to address excess capacity in an orderly manner (Fiebig, 1999).

At the same time, the EU also gradually strengthened hierarchical coordination rules that placed limits on the power of large companies to economically coerce less powerful ones: whether through trade associations, restrictive agreements, unilateral practices, or mergers (Büthe, 2007). In its first abuse of dominance investigation under Article 86 of the Treaty of Rome, which involved the American Continental Can Company, at the time the world’s largest producer of metal cans, the Commission charged the company with distorting the competitive process by creating barriers to entry and restricting the liberty of its smaller European distributors. In developing the case, the Commission drew directly from the ‘ordoliberal’ school of competition that had crystallized in Germany in the post war period and which called for a strong regulatory framework that limited the exploitation of private economic power (Gerber, 1994). The CJEU upheld the Commission’s decision, establishing the precedent that abuse of dominance covered not only exclusionary practices that directly harmed consumers but also those that caused indirect harm through “their impact on an effective competition structure” (Schweitzer, 2008). Subsequent cases and jurisprudence reinforced the ordoliberal paradigm, establishing a ‘special obligation’ on large companies not to exploit their economic power, and prohibiting a range of ‘unfair’ methods of competition. From 1971-1992, the Commission finalized 25 abuse of dominance decisions, with many decisions involving large penalties and behavioral remedies (Carree, Günster, & Schinkel, 2010, p. 110).

The combination of moderate rules for horizontal coordination with increasingly strict rules on hierarchical coordination placed the EU framework squarely in the “cooperative competition model” found in the top left box of our typology. Significant exemptions for horizontal coordination created important space for firms to continue to pursue a range of cooperative strategies that allowed them to more effectively compete against bigger firms. As long as firms, workers and the associations that represented them did not clearly discriminate against economic actors located in other EEC member states or violate a limited number of hard-core prohibitions, they rarely faced a challenge from the Commission. Indeed, many forms of coordination were explicitly endorsed by the Commission, especially if they were seen as increasing economic productivity, encouraging economic cooperation across member states or facilitating industrial transformation. This legal structure facilitated long-term relationships and specialization in high value-added products long seen as at the core of CMEs (Wigger & Nölke, 2007, p. 490).

At the same time, the EEC’s abuse of dominance rules placed some constraints on dominant companies’ ability to exert economic power over other firms. While abuse of dominance enforcement remained modest during this period, it did contribute to an emerging legal framework aimed at constraining economic coercion by more powerful firms. By providing smaller companies with some protection from exploitative practices, EU competition law may have therefore helped to “stabilize ownership and control structures” in ways that reduced pressures for ‘hostile takeovers’ as well as other means of firm consolidation (Wigger & Nölke, 2007, p. 490). Thus, at least indirectly, the EU’s restrictions on hierarchical coordination helped sustain horizontal and coordinative non-market relations.

#### *4.1 Liberalization and the intensification of hierarchical enforcement*

During the 1980's and 1990's, the European Community underwent major institutional and policy reforms that profoundly shaped the European coordination rights regime. As part of the broader economic liberalization program pursued under the Single European Act, the competition directorate pursued a number of high-profile enforcement actions against state-owned companies in the telecommunications, energy, and transportation sectors—sectors that previously had not been subject to a strict competition principle (Buch-Hansen & Wigger, 2010; Quack & Djelic, 2005). At the same time, the Commission received new authority to approve transnational mergers, providing a channel to facilitate corporate consolidation (and hierarchical coordination rights) over member state objections (Billows et al., 2021; Thatcher, 2014). Finally, the European Commission pursued procedural reforms that expanded the role of economic analysis in competition decisions – a move seen by many observers as aligning EU practices more closely with the consumer welfare standard in the United States (Bartalevich, 2016; Wigger & Nölke, 2007).

But what is equally striking (albeit less commented upon) is the extent to which policymakers also maintained and even reinforced core aspects of earlier arrangements conducive to CMEs. On the horizontal dimension, rules that facilitate and protect long-standing non-market forms of coordination were never directly supplanted and sometimes even expanded. On the hierarchical dimension, the EU not only continues to place limits on exclusionary practices by dominant companies, but actually has intensified enforcement. Even EU merger policy – which we agree bears some resemblance to the contemporary U.S. approach – is still comparatively stricter when it comes to dominant companies. Thus, even as the Commission articulated a “competition only vision” (Buch-Hansen & Wigger, 2010, p. 35) it maintained a number of policies and practices that are complementary to horizontal nonmarket coordination. As illustrated

in Figure 1, elements of continuity – and continued divergence from the US – can be seen in the resilience of horizontal exemptions, while new elements of divergence can be seen in the EU approach to vertical restraints, abuse of dominance and mergers.

Examining first the horizontal dimension of coordination, we can see a mixed pattern of continuity and change. On the one hand, the Commission, along with national regulators, has tightened horizontal cartel rules and increased enforcement (Harding & Joshua, 2010; Ordóñez-De-Haro, Borrell, & Jiménez, 2018). On the other hand, regulators have continued to provide significant exemptions for horizontal cooperation in areas such as research and development, specialization, joint production and distribution, information sharing, standard setting, and collective labor agreements that it deems to be economically or socially beneficial. In its 2010 and 2022 reviews of the two Horizontal Block Exemption Agreements and the Horizontal Guidelines for Cooperation, the Commission repeatedly affirmed that horizontal cooperation between competitors is a necessary and important aspect of the European economy.<sup>20</sup> Furthermore, and contrary to predications of convergence theories, these block exemptions have if anything been widened not narrowed. Over the past three decades, the European Commission has gradually increased the market share threshold for many types of horizontal agreements, allowing more companies to fall under existing exemptions, while also developing new exemptions for cooperation in areas such as sustainability and digital markets.<sup>21</sup> Recent business surveys indicate that substantial portions of industry continue to use these exemptions to cooperate in key areas,

---

<sup>20</sup> The reviews and accompanying expert reports and documents are available at [https://competition-policy.ec.europa.eu/public-consultations/2019-hbers\\_en](https://competition-policy.ec.europa.eu/public-consultations/2019-hbers_en).

<sup>21</sup> See Commission (2023a, 2023b, 2023c).

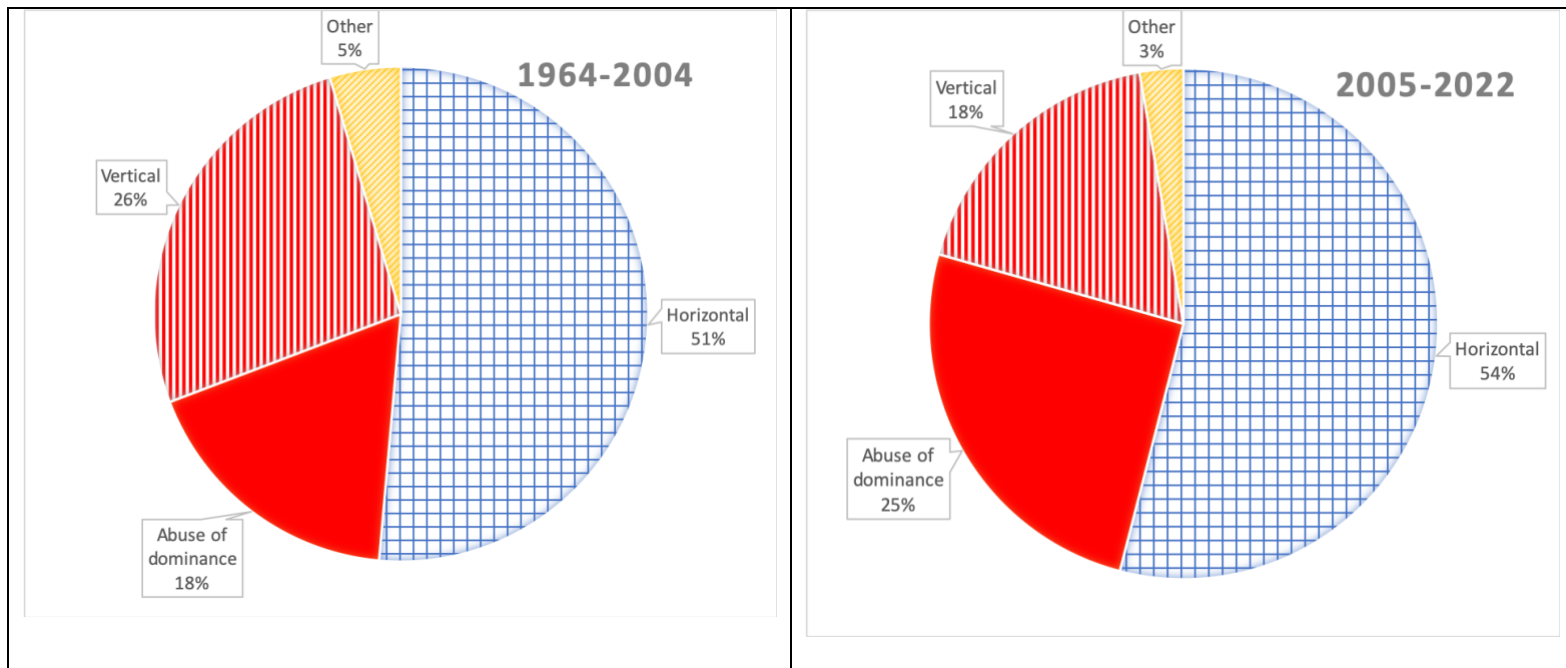


especially commercialization and purchasing, information exchange, specialization, and research and development (Commission, 2021).

In the labor arena, the Commission also continues a broader European tradition of overall greater support. Not only does EU law explicitly include exemptions for both collective bargaining between workers and employers, and inter-firm collective bargaining agreements across sectors (Monti, 2021), but courts and regulators have extended protections to some types of independent contractors. In 2014, the ECJ extended established protections to cover agreements with workers who are formally self-employed but in fact dependent on a shared employer (so-called “false [or “fake”] self-employed”) (Ankersmit, 2015; Šmejkal, 2015). Following on these decisions, the Commission adopted new Guidelines that further clarify that European competition rules regulating horizontal coordination do not apply to independent contractors who seek to organize as long as they are “in a situation comparable to workers” and are in a “weak negotiating position” (Commission, 2022).

When we turn to the second dimension of competition policy—hierarchical coordination beyond the bounds of the firm—a different picture emerges, one that points toward *divergence* and movement *away* from the (post-1980’s) US model. In the United States, contractual restraints imposed by dominant players on their suppliers, distributors, and franchisees have become increasingly important in the context of corporate strategies of fissurization, for as Callaci (2021a) and others have pointed out, contracting outside the firm is most attractive if you can impose constraints on other firms while simultaneously escaping responsibilities such as labor. The EU has partially resisted this trend. In addition to barring hard-core restrictions such as resale price maintenance and territorial restrictions in nearly all instances, EU competition law places significant limitations on certain franchising arrangements, parity requirements and non-compete

**Figure 3: European Commission Enforcement Before and After Competition Law Modernization**



*Source: Carree et al. 2010 and European Commission. Calculations by authors. Blue shaded areas represent enforcement limiting hierarchical coordination; red-shaded areas indicate enforcement limiting horizontal coordination.*

clauses involving dominant firms (Nagy, 2016). Recent revisions to the Vertical Block Exemption Regulation (VBER) suggest that the EU is moving toward more restrictive rules for exclusionary agreements in some areas, particularly when one party to the agreement possesses market power.<sup>22</sup>

In practice, the EU continues to vigorously enforce rules on vertical restraints when they involve dominant companies. Figure 3 reports the percentage of total infringement decisions between 2005-2022, after the modernization of competition law, compared to 1964-2004. We can see that vertical restraints enforcement, while slightly declining as a percentage of total enforcement actions, remains robust. In addition to Commission enforcement, national competition authorities also now actively enforce EU vertical restraint rules. From 2010-2019,

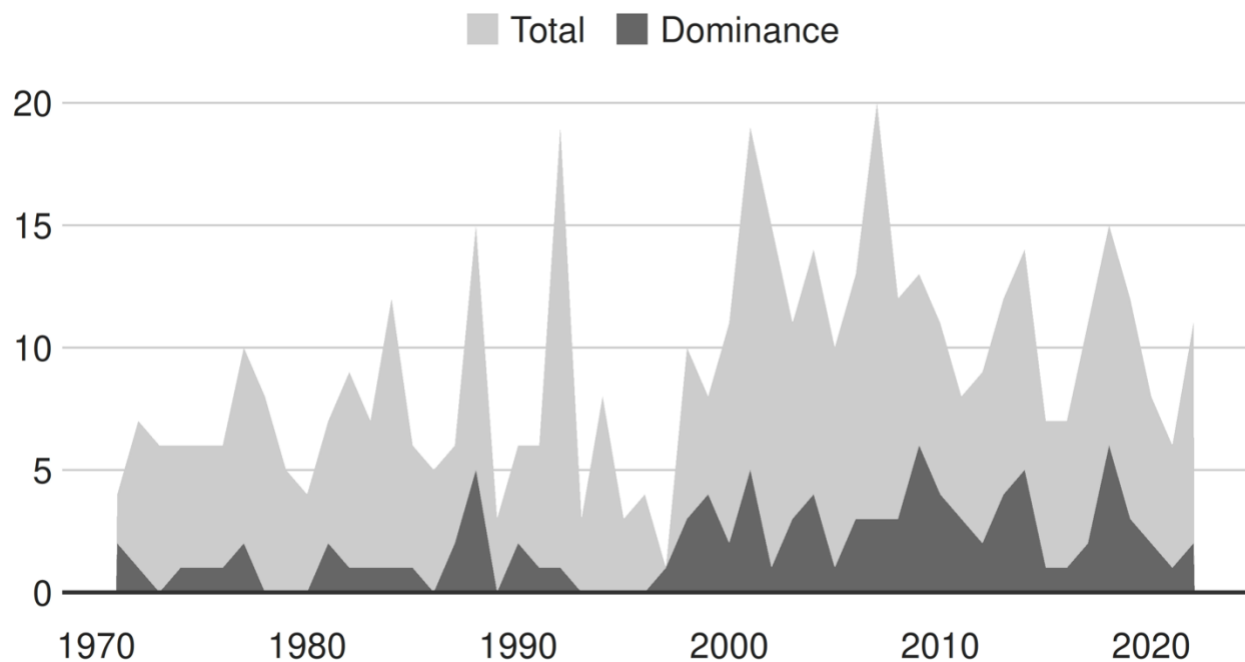
<sup>22</sup> The revised 2022 VBER broadens the definition of market power and imposes stricter rules on online intermediaries. See <https://www.whitecase.com/insight-alert/new-eu-competition-rules-distribution-agreements>.

national regulators completed 391 investigations involving vertical agreements, 257 of which resulted in a judgment (Commission, 2020, pp. 46-48). A majority of these cases related to resale price maintenance agreements, while a significant number of investigations also dealt with exclusive or selective distribution, parity clauses that restricted price setting, or franchising/ single branding agreements.

In addition to maintaining a stricter approach to vertical restraints, the EU has also strengthened abuse of dominance enforcement, which applies only to firms with substantial market shares. Even as the EU has hired economists and pursued a more “effects-based approach,” it has continued to employ an ordoliberal-inspired competition paradigm that places a ‘special responsibility’ on dominant companies not to abuse their power (Foster, 2022). This includes extensive rules, adopted into both hard and soft law, that prohibit dominant companies from engaging in a range of ‘abusive’ practices, including predatory pricing, margin squeezes, exclusive dealing, exclusive purchasing, exclusionary discounts, tying, refusals to deal, discrimination, and exploitative abuses. It also includes obligations for dominant companies to facilitate access to essential facilities, to provide interoperability information, and to license intellectual property.

Indeed, if anything, EU abuse of dominance rules have become stricter – and more intensely enforced – since the 1990’s. As can be seen in Figure 4, the European Commission’s emphasis on abuse of dominance enforcement has significantly increased during the 21<sup>st</sup> century. Since the year 2000, the European Commission has finalized more than 70 infringement and commitment decisions under this article across a wide range of industries. These decisions have generated more than EUR13B in fines and mandated sweeping behavioral changes to some of the world’s most powerful companies. As can be seen in Figure 3, the number of annual cases finalized since 2004 is nearly twice as high as the number finalized in the earlier period. In addition to cases pursued

**Figure 4: Abuse of dominance enforcement by the European Commission, 1970-2022**



*Source: European Commission reports.*

by the Commission, national regulators have also ramped up enforcement against abuse of dominance. Since receiving the power (in 2004) to independently enforce EU rules in this area, national competition authorities have finalized more than 500 abuse of dominance decisions—or one third of all decisions—touching on many of the same concerns.<sup>23</sup>

Most of these cases have sought to address power inequalities between larger and smaller firms. Of the 39 Commission abuse of dominance decisions finalized between 2009-2019, nearly half involved facilitating access for a competitor to an ‘essential facility,’ resource, or other infrastructure controlled by a dominant player; 21% involved stopping a dominant company from

<sup>23</sup> Between 2004-2021, national competition authorities finalized 505 decisions based exclusively or partially on Article 102 of the European Treaties (formerly Article 86). This represented 34% of the 1478 decisions finalized during this period. Calculations made using ECN (2023).

leveraging its power in one market over another one in a way that limited opportunities for competitors to compete; and 15% involved preventing predatory behavior that was seen as foreclosing the competitive process (Foster, 2022). Perhaps most notably, the European Commission has pursued major cases against dominant online platform companies such as Microsoft, Google, Amazon, Apple and Meta (Facebook), which required them not only to pay large fines in some cases but also to make major changes to their business models.

While these previous interventions were *post hoc*, stemming from investigations initiated long after violations have occurred and usually taking years to investigate and finalize, the new European Digital Markets Act (DMA) is more proactive and places even stricter rules on hierarchical coordination. This legislation designates a number of large online platforms as ‘gatekeeper’ firms and then subjects these firms to stringent requirements designed to ensure market fairness and contestability. Since it establishes hard, *ex ante* rules, many observers are hailing it as the world’s most sweeping platform economy regulation (Boyer, 2022; Cioffi, Kenney, & Zysman, 2022; Larouche & de Streel, 2021). For instance, the DMA will obligate large, platform companies to apply fair and non-discriminatory conditions to the ranking of services and products and allow business users to receive the data that they generate on the platform and to be able to conclude contracts outside of the platform.

The more proactive approach to economic dominance can also be seen in the merger arena. Empirical studies have shown that the vast majority of mergers are approved, and that this approach has contributed not only to increased economic consolidation but also to more liberalized and financialized corporate structures (Billows et al., 2021; Koltay et al., 2023). But if the EU has often facilitated hierarchical coordination by approving transnational mergers (Thatcher, 2014), these rights have been more conditional and limited than in the United States. Legal scholars have

long noted that the EU takes a tougher line on vertical and conglomerate mergers, as evidenced in several high profile transatlantic disputes (Gifford & Kudrle, 2015, pp. 57-62). Recent empirical studies demonstrate that this tougher line is systematic: the EU has at least a 30% higher merger challenge rate in proposed mergers involving dominant firms when firm characteristics are equalized (Bergman, Coate, Mai, & Ulrick, 2019). In recent years, EU merger decisions have prevented the creation of European champions (Nourry & Rabinowitz, 2020) and limited the consolidation of tech companies whose business models depend on the acquisition of current and potential competitors.<sup>24</sup>

The combination of stricter enforcement against hierarchical coordination by dominant firms with a comparatively permissive approach to horizontal coordination by smaller firms has pushed EU policy toward the border between the cooperative and arm's length competition models found in Figure 1. On the one hand, European competition law has clearly contributed to the decartelization of industry and the instantiation of price competition in product markets and formerly regulated sectors. It has also facilitated transnational corporate consolidation through its merger policy. On the other hand, these changes have been partially moderated by the maintenance of exemptions for significant nonmarket coordination by smaller players and the intensification of hierarchical coordination rules beyond the boundaries of the firm. The EU's comparatively permissive approach to horizontal coordination has directly contributed to the durability of employer associations and labor unions that have long been central to nonmarket coordination. At the same time, restrictive hierarchical rules have provided some protection for nonmarket coordination by firms in the face of significant liberalization pressures.

---

<sup>24</sup> In 2021, the European Commission published a new guidance on merger referrals that significantly expanded its capacity to scrutinize Big Tech acquisitions. Recent EU merger investigations or decisions have blocked Booking.com's proposed acquisition of a travel company, Adobe's proposed merger with Figma, and Apple's purchase of iRobot. See Killick (2021).

## V. Conclusion

Competition law is a ‘constitutive’ institution in capitalism, helping determine where coordination is allowed and where competition is required. In this article, we have built on Paul’s framework to highlight some of the important ways that competition regimes in Europe and the United States enable and protect different forms of economic coordination, with important implications for capitalist market structures. In the US, a competition regime that now combines its traditionally strict rules on horizontal cooperation with a permissive approach to hierarchical coordination has produced a distinct drift away from the arm’s length contracting associated with LMEs, and fostered the development of oligopolistic markets in many sectors. In the EU, by contrast, a competition regime that continues to feature relatively more permissive horizontal rules for SMEs but combines this now with increasingly strict rules regarding abuse of dominance and vertical restraints has continued to support some of the coordinated market structures traditionally associated with CMEs.

Our study helps identify and explain important changes in the political economy of advanced capitalist countries that have so far flown under the radar of CPE scholars. Among other contributions, we have complicated the narrative that the EU mostly acts as a ‘neoliberal’ force that undermines coordinated market economies. Although European competition law has certainly bolstered economic liberalization in certain respects, in other ways it has helped to preserve longstanding forms of nonmarket coordination. Examining the extensive exemptions established in EU hard and soft law, we have shown that the law permits and encourages forms of interfirm horizontal coordination in areas such as research and development, licensing, specialization and labor relations that have long been at the heart of CME comparative advantage. Moreover, we have shown that EU hierarchical rules – which have increasingly emphasized abuse of dominance

enforcement since the 1980's – provide protection for nonmarket coordination, particularly when smaller firms are involved. By directing horizontal coordination away from the predatory and rent-seeking practices associated with cartels, and toward competition-enhancing activities such as innovation, standard-setting, technology transfer, research collaboration, and more cooperative labor relations, EU competition rules may have even played an important role in sustaining coordinated market economies in the face of many challenges and convergence pressures.

Our study also has implications for the emerging field of American political economy (Hacker, Hertel-Fernandez, Pierson, & Thelen, 2022). The CPE literature has traditionally focused heavily on Europe and on CMEs, and sometimes operated with a static and somewhat stylized model of the American political economy. Within the “varieties of capitalism” literature, the US served as the paradigmatic case of a liberal market economy based on arm's-length contracting and highly flexible markets (Hall & Soskice, 2001). Yet as we have shown, the US has been moving away from this ideal type for some time. For VOC's critics, by contrast, the US has been seen as the end point of a universal trajectory of capitalist development toward which Europe is catastrophically careening (Streeck, 2009). Our analysis challenges such deterministic models as well, by delving more deeply into the specific historical cycles and political forces – including, centrally, competition law and antitrust – that have shaped and reshaped both American and European capitalism over time.

More broadly, our study points to the value of bringing competition law into comparative capitalism scholarship. Although many scholars recognize that competition rules must matter, few studies have sought to flesh out the concrete relationship between competition rules, coordination rights, and capitalist organization. This has led competition law to be addressed only fleetingly, if at all, in the varieties of capitalism literature. As we have sought to demonstrate, bringing



competition law into the analysis of comparative capitalisms can shed new light on both the origins of distinct systems and on the contemporary changes many of them are undergoing. By providing a tractable way to distinguish between changes in the coordination rights of competing firms and workers from changes in the rules regulating the hierarchical exploitation of economic power from above, a comparative coordination rights framework clarifies both differences in the rules across systems as well as the trajectory of institutional evolution over time. Our dynamic, multi-dimensional framework provides a way to maintain the analytically useful premise that capitalism comes in distinct varieties while also recognizing that these varieties continuously evolve in response to historically contingent economic and political pressures (Deeg & Jackson, 2007; Hay, 2020).

As we have sought to show in this article, competition regimes fundamentally structure the relationships between producer groups in capitalist systems, with important implications for market structures and for the bargaining power between competing firms, suppliers and distributors, employers and employees, and workers across different firms. Consequently, competition law should be studied by political scientists as a site of political contestation that shapes the organization of capitalist systems. We hope this combination of theoretical innovation and empirical demonstration will stimulate further research into competition law and varieties of capitalism that more fully elaborates this complex relationship.

## Works Cited

- Ankersmit, L. (2015). Albany revisited: the Court directs NCA to carry a more social tune. Retrieved from <https://europeanlawblog.eu/2015/03/03/albany-revisited-the-court-directs-nca-to-carry-a-more-social-tune/>
- Ansell, B., & Cansunar, A. (2021). The political consequences of housing (un) affordability. *Journal of European Social Policy*, 31(5), 597-613.
- Arslan, M. (2022). Legal diffusion as protectionism: the case of the US promotion of antitrust laws. *Review of International Political Economy*, 1-24.
- Autor, D., Dorn, D., Katz, L. F., Patterson, C., & Van Reenen, J. (2020). The fall of the labor share and the rise of superstar firms. *The Quarterly Journal of Economics*, 135(2), 645-709.
- Azar, J., Marinescu, I., & Steinbaum, M. (2022). Labor market concentration. *Journal of Human Resources*, 57(S), S167-S199.
- Bajgar, M., Berlingieri, G., Calligaris, S., Criscuolo, C., & Timmis, J. (2023). Industry concentration in Europe and North America. *Industrial and Corporate Change*. doi:<https://doi.org/10.1093/icc/dtac059>
- Barkai, S. (2020). Declining labor and capital shares. *The journal of finance*, 75(5), 2421-2463.
- Bartalevich, D. (2016). The influence of the Chicago School on the Commission's guidelines, notices and block exemption regulations in EU competition policy. *JCMS: Journal of Common Market Studies*, 54(2), 267-283.
- Beckert, J. (2009). The social order of markets. *Theory and society*, 38(3), 245-269.
- Bergman, M. A., Coate, M. B., Mai, A. T., & Ulrick, S. W. (2019). Does merger policy converge after the 2004 European Union reform? *Journal of Competition Law & Economics*, 15(1), 664-689.
- Berk, G. (1996). Communities of competitors: Open price associations and the american state, 1911–1929. *Social Science History*, 20(3), 375-400.
- Berk, G. (2009). *Louis D. Brandeis and the Making of Regulated Competition, 1900-1932*: Cambridge University Press.
- Berman, E. P. (2022). *Thinking like an Economist*: Princeton University Press.
- Billows, S., Kohl, S., & Tarissan, F. (2021). Bureaucrats or ideologues? EU merger control as market-centred Integration. *JCMS: Journal of Common Market Studies*, 59(4), 762-781.
- Boyer, R. (2022). Platform capitalism: a socio-economic analysis. *Socio-economic review*, 20(4), 1857-1879.
- Brandl, B., & Lehr, A. (2019). The strange non-death of employer and business associations: An analysis of their representativeness and activities in Western European countries. *Economic and Industrial Democracy*, 40(4), 932-953.
- Brinkley, A. (1996). *The end of reform: New Deal liberalism in recession and war*: Vintage.
- Buch-Hansen, H., & Wigger, A. (2010). Revisiting 50 years of market-making: The neoliberal transformation of European competition policy. *Review of International Political Economy*, 17(1), 20-44.
- Buch-Hansen, H., & Wigger, A. (2011). *The Politics of European Competition Regulation: A Critical Political Economy Perspective* (Vol. 32). New York: Routledge.
- Büthe, T. (2007). The Politics of Competition and Institutional Change in European Union: The First Fifty Years. In S. Meunier & K. R. McNamara (Eds.), *Making history: European*

- integration and institutional change at fifty* (pp. 175-193). New York: Oxford University Press.
- Callaci, B. (2021a). Control without responsibility: The legal creation of franchising, 1960–1980. *Enterprise & Society*, 22(1), 156-182.
- Callaci, B. (2021b). What Do Franchisees Do? Vertical Restraints as Workplace Fissuring and Labor Discipline Devices. *Journal of Law and Political Economy*, 1(3), 397-444.
- Carree, M., Günster, A., & Schinkel, M. P. (2010). European antitrust policy 1957–2004: an analysis of commission decisions. *Review of Industrial Organization*, 36(2), 97-131.
- Casper, S. (2001). The legal framework for corporate governance: the influence of contract law on company strategies in Germany and the United States. *Varieties of capitalism: The institutional foundations of comparative advantage*, 387-416.
- Cavalleri, M. C., Eliet, A., McAdam, P., Petroulakis, F., Soares, A., & Vansteenkiste, I. (2019). *Concentration, market power and dynamism in the euro area*. European Central Bank.
- Chandler, A. D., & Hikino, T. (2009). *Scale and Scope: The Dynamics of Industrial Capitalism*: Harvard University Press.
- Christophers, B. (2016). *The Great Leveler*. Cambridge, MA: Harvard University Press.
- Cioffi, J. W., Kenney, M. F., & Zysman, J. (2022). Platform power and regulatory politics: Polanyi for the twenty-first century. *New Political Economy*, 1-17.
- CMA. (2024). *Competition and market power in UK labour markets* (1). Retrieved from [https://assets.publishing.service.gov.uk/media/65b2312af2718c000dfb1d13/Competition\\_and\\_market\\_power\\_in\\_UK\\_labour\\_markets.pdf](https://assets.publishing.service.gov.uk/media/65b2312af2718c000dfb1d13/Competition_and_market_power_in_UK_labour_markets.pdf)
- Coate, P., & Mangum, K. (2021). Working Papers-WP 19-49-Fast Locations and Slowing Mobility.
- Commission, E. (2020). *COMMISSION STAFF WORKING DOCUMENT EVALUATION of the Vertical Block Exemption Regulation*. Brussels Retrieved from [https://ec.europa.eu/competition/consultations/2018\\_vber/staff\\_working\\_document.pdf](https://ec.europa.eu/competition/consultations/2018_vber/staff_working_document.pdf)
- Commission, E. (2021). *Evaluation support study on the EU competition rules applicable to horizontal cooperation agreements in the HBERs and the Guidelines*. Retrieved from [https://competition-policy.ec.europa.eu/evaluation-support-study-eu-competition-rules-applicable-horizontal-cooperation-agreements-hbers-and\\_en](https://competition-policy.ec.europa.eu/evaluation-support-study-eu-competition-rules-applicable-horizontal-cooperation-agreements-hbers-and_en)
- Commission, E. (2022). *Communication from the commission Guidelines on the application of Union competition law to collective agreements regarding the working conditions of solo self-employed persons 2022/C 374/02*. Brussels Retrieved from <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022XC0930%2802%29>
- Commission, E. (2023a). *Commission Regulation (EU) 2023/1066 of 1 June 2023 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to certain categories of research and development agreements*. Retrieved from <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32023R1066>
- Commission, E. (2023b). *Commission Regulation (EU) 2023/1067 of 1 June 2023 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to certain categories of specialisation agreements*. Retrieved from <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32023R1067>
- Commission, E. (2023c). *Communication from the Commission – Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-*

- operation agreements. Retrieved from <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.C .2023.259.01.0001.01.ENG&toc=OJ%3AC%3A2023%3A259%3ATOC>
- Crouch, C. (1993). *Industrial Relations and European State Traditions*. New York: Oxford University Press.
- Darvas, Z., Gotti, G., & Sekut, K. (2023). Trade unions, collective bargaining, and income inequality: a transatlantic comparative analysis. In *The future of work: a transatlantic perspective on challenges and opportunities* (pp. 159-187). Retrieved from [https://www.bruegel.org/sites/default/files/2023-03/TEG\\_ebook\\_final.pdf](https://www.bruegel.org/sites/default/files/2023-03/TEG_ebook_final.pdf)
- De Loecker, J., & Eeckhout, J. (2018). *Global Market Power*. National Bureau of Economic Research. Cambridge, MA. Retrieved from [https://www.nber.org/system/files/working\\_papers/w24768/w24768.pdf](https://www.nber.org/system/files/working_papers/w24768/w24768.pdf)
- Deakin, S., Gindis, D., Hodgson, G. M., Huang, K., & Pistor, K. (2017). Legal institutionalism: Capitalism and the constitutive role of law. *Journal of Comparative Economics*, 45(1), 188-200.
- Deeg, R., & Jackson, G. (2007). Towards a more dynamic theory of capitalist variety. *Socio-economic review*, 5(1), 149-179.
- Del Sorbo, M., Vértessy, D., & Damioli, G. (2018). *An EU-US statistical overview: business demography and scaling up comparisons*. European Commission
- Djelic, M.-L. (2001). *Exporting the American Model: The Postwar Transformation of European Business*. New York: Oxford University Press.
- Döttling, R., Gutiérrez, G., & Philippon, T. (2017, June 26-28). *Is there an investment gap in advanced economies? If so, why?* Paper presented at the Investment and growth in advanced economies, Sintra, Portugal.
- ECN. (2023). "Statistics". European Competition Network Retrieved from <https://ec.europa.eu/competition/ecn/statistics.html>.
- Ergen, T., & Kohl, S. (2019). Varieties of economization in competition policy: institutional change in German and American antitrust, 1960–2000. *Review of International Political Economy*, 26(2), 256-286.
- Fiebig, A. (1999). Crisis cartels and the triumph of industrial policy over competition law in Europe. *Brooklyn Journal of International Law*, 25, 607-638.
- Fligstein, N. (1993). *The Transformation of Corporate Control*. Cambridge, MA: Harvard University Press.
- Foster, C. (2022). Varieties of neoliberalism: courts, competition paradigms and the Atlantic divide in anti-trust. *Socio-economic review*, 20(4), 1653-1678.
- Foster, C., & Thelen, K. (2023). Brandeis in Brussels?: Bureaucratic Discretion, Social Learning, and the Development of Regulated Competition in the European Union. *Regulation & Governance*, Advanced online publication. doi:10.1111/rego.12570
- Galbraith, J. K. (1952). *American Capitalism: The Concept of Countervailing Power*. Boston: Houghton Mifflin.
- Gallo, J. C., Dau-Schmidt, K., Craycraft, J. L., & Parker, C. J. (2000). Department of Justice Antitrust Enforcement, 1955-1997: An Empirical Study. *Review of Industrial Organization*, 17, 75-133.

- Gerber, D. J. (1994). Constitutionalizing the Economy: German Neo-liberalism, Competition Law and the “New” Europe. *The American Journal of Comparative Law*, 42(1), 25-84.
- Gerber, D. J. (1998). *Law and Competition in Twentieth Century Europe: Protecting Prometheus*. New York: Oxford University Press.
- Gifford, D. J., & Kudrle, R. T. (2015). *The Atlantic Divide in Antitrust: An Examination of US and EU Competition Policy*: University of Chicago Press.
- Gillingham, J. (2004). *Coal, Steel, and the Rebirth of Europe, 1945-1955: The Germans and French from Ruhr Conflict to Economic Community*: Cambridge University Press.
- Gooberman, L., & Hauptmeier, M. (2022). The Adaptation and Resilience of Employers’ Organizations. In L. Gooberman & M. Hauptmeier (Eds.), *Contemporary Employers’ Organizations: Adaptation and Resilience*.
- Grullon, G., Larkin, Y., & Michaely, R. (2019). Are US industries becoming more concentrated? *Review of Finance*, 23(4), 697-743.
- Guardiancich, I., & Guidi, M. (2016). Formal independence of regulatory agencies and Varieties of Capitalism: A case of institutional complementarity? *Regulation & Governance*, 10(3), 211-229.
- Gutiérrez, G., & Philippon, T. (2017). Declining Competition and Investment in the US. (NBER Working Paper No. 23583).
- Gutiérrez, G., & Philippon, T. (2018). *How EU Markets Became More Competitive Than US Markets: A Study of Institutional Drift*. National Bureau of Economic Research.
- Hacker, J. S., Hertel-Fernandez, A., Pierson, P., & Thelen, K. (2022). The American political economy: markets, power, and the meta politics of US economic governance. *Annual Review of Political Science*, 25, 197-217.
- Hafiz, H. (2022). The Brand Defense. *Berkeley Journal of Employment and Labor Law*, 43(1), 1-78.
- Hall, P. A., & Soskice, D. (2001). An Introduction to Varieties of Capitalism. In P. A. Hall & D. Soskice (Eds.), *Varieties of capitalism: The institutional foundations of comparative advantage*. New York: Oxford University Press.
- Harding, C., & Joshua, J. (2010). Regulating Cartels in Europe: A Study of Legal Control of Corporate Delinquency. In. New York: Oxford University Press.
- Hawk, B. E. (1972). Antitrust in the EEC--The First Decade. *Fordham Law Review*, 41(2), 229-292.
- Hawley, E. W. (1976). Antitrust on the Defensive: The American Movement for a Cartelized Economy, 1918-33. *Reviews in American History*, 4(4), 582-587.
- Hay, C. (2020). Does capitalism (still) come in varieties? *Review of International Political Economy*, 27(2), 302-319.
- Höpner, M., & Schäfer, A. (2012). Embeddedness and Regional Integration: Waiting for Polanyi in a Hayekian Setting. *International Organization*, 66(3), 429-455.
- Kalemli-Ozcan, S., Sørensen, B. E., Villegas-Sanchez, C., Volosovych, V., & Yesiltas, S. (2024). How to construct nationally representative firm level data from the Orbis Global database: New facts on SMEs and aggregate implications for industry concentration. *American Economic Journal: Macroeconomics*, 16(2), 353-374.  
doi:10.1257/mac.20220036

- Keller, M. (1981). The Pluralist State: American Economic Regulation in Comparative Perspective, 1900-1930. In T. K. McCraw (Ed.), *Regulation in Perspective: Historical Essays* (pp. 65).
- Khan, L. (2016). Amazon's Antitrust Paradox. *Yale Law Journal*, 126(3), 710-805.
- Killick, J. (2021). *Europe takes a tougher approach to technology mergers*. Retrieved from <https://www.whitecase.com/insight-our-thinking/europe-takes-tougher-approach-technology-mergers>
- Koltay, G., Lorincz, S., & Valletti, T. M. (2023). Concentration and Competition: Evidence from Europe and Implications for Policy. *Journal of Competition Law & Economics*, 19(3), 466-501. doi:<https://doi.org/10.1093/joclec/nhad012>
- Kovacic, W. E. (2003). The Modern Evolution of US Competition Policy Enforcement Norms. *Antitrust Law Journal*, 71(2), 377-478.
- Kovacic, W. E., & Shapiro, C. (2000). Antitrust Policy: A Century of Economic and Legal Thinking. *Journal of Economic perspectives*, 14(1), 43-60.
- Kovaleff, T. P. (1980). *Business and Government during the Eisenhower Administration*.
- Krueger, A. B., & Ashenfelter, O. (2022). Theory and evidence on employer collusion in the franchise sector. *Journal of Human Resources*, 57(S), S324-S348.
- Lamoreaux, N. R. (1988). *The Great Merger Movement in American Business, 1895-1904*: Cambridge University Press.
- Lancieri, F., Posner, E. A., & Zingales, L. (2022). *The Political Economy of the Decline of Antitrust Enforcement in the United States*. Retrieved from
- Larouche, P., & de Streel, A. (2021). The European digital markets act: A revolution grounded on traditions. *Journal of European Competition Law & Practice*, 12(7), 542-560.
- Madrian, B. C. (1994). Employment-based health insurance and job mobility: Is there evidence of job-lock? *The Quarterly Journal of Economics*, 109(1), 27-54.
- McFarland, V., & Colgan, J. D. (2023). Oil and power: the effectiveness of state threats on markets. *Review of International Political Economy*, 30(2), 487-510.
- Milward, A. S. (1984). *The Reconstruction of Western Europe, 1945-51*. New York: Routledge.
- Monti, G. (2021). Collective labour agreements and EU competition law: five reconfigurations. *European Competition Journal*, 1-31.
- Mueller, W. F. (1967). *The Celler-Kefauver Act: Sixteen Years of Enforcement*: US Government Printing Office.
- Nagy, C. I. (2016). *EU and US Competition Law: divided in unity?: The Rule on Restrictive Agreements and Vertical Intra-brand Restraints*. New York: Routledge.
- Naidu, S., Posner, E. A., & Weyl, G. (2018). Antitrust remedies for labor market power. *Harvard Law Review*, 132(2), 536-601.
- Nourry, A., & Rabinowitz, D. (2020). European champions: what now for EU merger control after Siemens/Alstom? *European Competition Law Review*, 41(3), 116-124.
- Orbach, B. Y. (2011). The Antitrust Consumer Welfare Paradox. *Journal of Competition Law and Economics*, 7(1), 133-164.
- Ordóñez-De-Haro, J. M., Borrell, J. R., & Jiménez, J. L. (2018). The European commission's fight against cartels (1962–2014): A retrospective and forensic analysis. *JCMS: Journal of Common Market Studies*, 56(5), 1087-1107.
- Paul, S. (2020). Antitrust as Allocator of Coordination Rights. *UCLA Law Review*, 67, 378-431.

- Peinert, E. (2023). Monopoly Politics: Price Competition, Learning, and the Evolution of Policy Regimes. *World politics*, 75(3), 566-607.
- Philippon, T. (2019). *The Great Reversal: How America Gave Up on Free Markets*. Cambridge, MA: Harvard University Press.
- Phillips Sawyer, L. (2018). *American Fair Trade: Proprietary Capitalism, Corporatism, and the 'New Competition', 1890–1940*: Cambridge University Press.
- Piketty, T. (2014). *Capital in the twenty-first century*: Harvard University Press.
- Pistor, K. (2019). *The code of capital: How the law creates wealth and inequality*: Princeton University Press.
- Porta, R. L., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and Finance. *Journal of Political Economy*, 106(6), 1113-1155.
- Posner, E. A. (2020). The antitrust challenge to covenants not to compete in employment contracts. *Antitrust Law Journal*, 83(1), 165-200.
- Posner, E. A. (2021). *How antitrust failed workers*: Oxford University Press.
- Posner, R. A. (1970). A Statistical Study of Antitrust Enforcement. *The Journal of Law and Economics*, 13(2), 365-419.
- Posner, R. A. (1979). The Chicago School of Antitrust Analysis. *University of Pennsylvania Law Review*, 127(4), 925-948.
- Pryor, F. L. (2001). New trends in US industrial concentration. *Review of Industrial Organization*, 18, 301-326.
- Quack, S., & Djelic, M.-L. (2005). Reinforcement: The Story of Antitrust and Competition Law in Germany and Europe. *Beyond continuity: Institutional change in advanced political economies*, 255-281.
- Roy, W. G. (1999). *Socializing Capital: The Rise of the Large Industrial Corporation in America*. Princeton, NJ: Princeton University Press.
- Sanders, E. (1986). Industrial concentration, sectional competition, and antitrust politics in America, 1880–1980. *Studies in American Political Development*, 1, 142-214.
- Schröter, H. (1996). Cartelization and decartelization in Europe, 1870-1995: Rise and decline of an economic institution. *Journal of European Economic History*, 25(1), 129-153.
- Schröter, H. (2013). Cartels revisited: an overview on fresh questions, new methods, and surprising results. *Revue économique*, 64(6), 989-1010.
- Schweitzer, H. (2008). The History, Interpretation and Underlying Principles of Sec. 2 Sherman Act and Art. 82 EC. In C.-D. Ehlermann & M. Marquis (Eds.), *European Competition Law Annual: 2007 A Reformed Approach to Article 82 EC* (pp. 119-164). Oxford, UK: Hart Publishing.
- Shanahan, M., & Fellman, S. (2022). *A History of Business Cartels: International Politics, National Policies and Anti-competitive Behaviour*: Taylor & Francis.
- Sklar, M. J. (1988). *The Corporate Reconstruction of American Capitalism, 1890-1916: The Market, the Law, and Politics*. New York: Cambridge University Press.
- Šmejkal, V. (2015). Competition law and the social market economy goal of the EU. *International Comparative Jurisprudence*, 1(1), 33-43.
- Spillman, L. (2012). *Solidarity in strategy: Making business meaningful in American trade associations*: University of Chicago Press.



- Staszak, S. (2020). Privatizing employment law: the expansion of mandatory arbitration in the workplace. *Studies in American Political Development*, 34(2), 239-268.
- Streeck, W. (2009). *Re-forming capitalism: Institutional change in the German political economy*: Oxford University Press.
- Teubner, G. (2001). Legal Irritants: How Unifying Law Ends up in New Divergences. In P. A. Hall & D. Soskice (Eds.), *Varieties of capitalism: The institutional foundations of comparative advantage* (pp. 417-442). New York: Oxford University Press.
- Thatcher, M. (2014). European Commission merger control: Combining competition and the creation of larger European firms. *European journal of political research*, 53(3), 443-464.
- Thelen, K. (2020). Employer Organization and the Law: American Exceptionalism in Comparative Perspective. *Law & Contemporary Problems*, 83, 23-48.
- Thelen, K. (Forthcoming). *Attention Shoppers: American Retail Capitalism and the Origins of the Amazon Economy*: Princeton University Press.
- Tilly, R. (1982). Mergers, external growth, and finance in the development of large-scale enterprise in Germany, 1880–1913. *The Journal of Economic History*, 42(3), 629-658.
- Traxler, F. (2004). Employer associations, institutions and economic change: A crossnational comparison. *Industrielle Beziehungen/The German Journal of Industrial Relations*, 42-60.
- Waller, S. W. (2004). The antitrust legacy of Thurman Arnold. *St. John's Law Review*, 78(3), 569-614.
- Watkins, M. W. (1961). Electrical equipment antitrust cases: Their implications for government and for business. *The University of Chicago Law Review*, 29(1), 97-110.
- Webb, S. B. (1980). Tariffs, cartels, technology, and growth in the German steel industry, 1879 to 1914. *The Journal of Economic History*, 40(2), 309-330.
- Wells, W. (2001). *Antitrust and the Formation of the Postwar World*: Columbia University Press.
- Wigger, A., & Nölke, A. (2007). Enhanced roles of private actors in EU business regulation and the erosion of Rhenish capitalism: The case of antitrust enforcement. *JCMS: Journal of Common Market Studies*, 45(2), 487-513.
- Williamson, O. E. (1985). *The Economic Institutions of Capitalism*. New York: Free Press.
- Wu, T. (2018). The Supreme Court devastates antitrust law. *The New York Times*. Retrieved from <https://www.nytimes.com/2018/06/26/opinion/supreme-court-american-express.html#:~:text=With%20its%20five%20more%20conservative,are%20blatantly%20anticompetitive%20and%20raise>
- Yeh, C., Macaluso, C., & Hershbein, B. (2022). Monopsony in the US labor market. *American Economic Review*, 112(7), 2099-2138.



## Online Appendix

This appendix provides some additional information about the data used to generate the four figures in the paper. For Figure 1, we provide an overview of enforcement trends that have informed both our characterization of horizontal and vertical coordination rights in the EU and how these have changed over time. For Figures 2, 3, and 4 we include a brief description of data sources and coding choices used for measurements. Finally, to support our broader argument about the relationship between competition law and capitalism, we provide evidence in Part II of the appendix that competition laws have historically differed across LMEs and CMEs, and that these differences are correlated with objective measures of producer group coordination. The data sources used to make the figure are provided in text.

### **Part I. Supplemental Information on Figures 1-4**

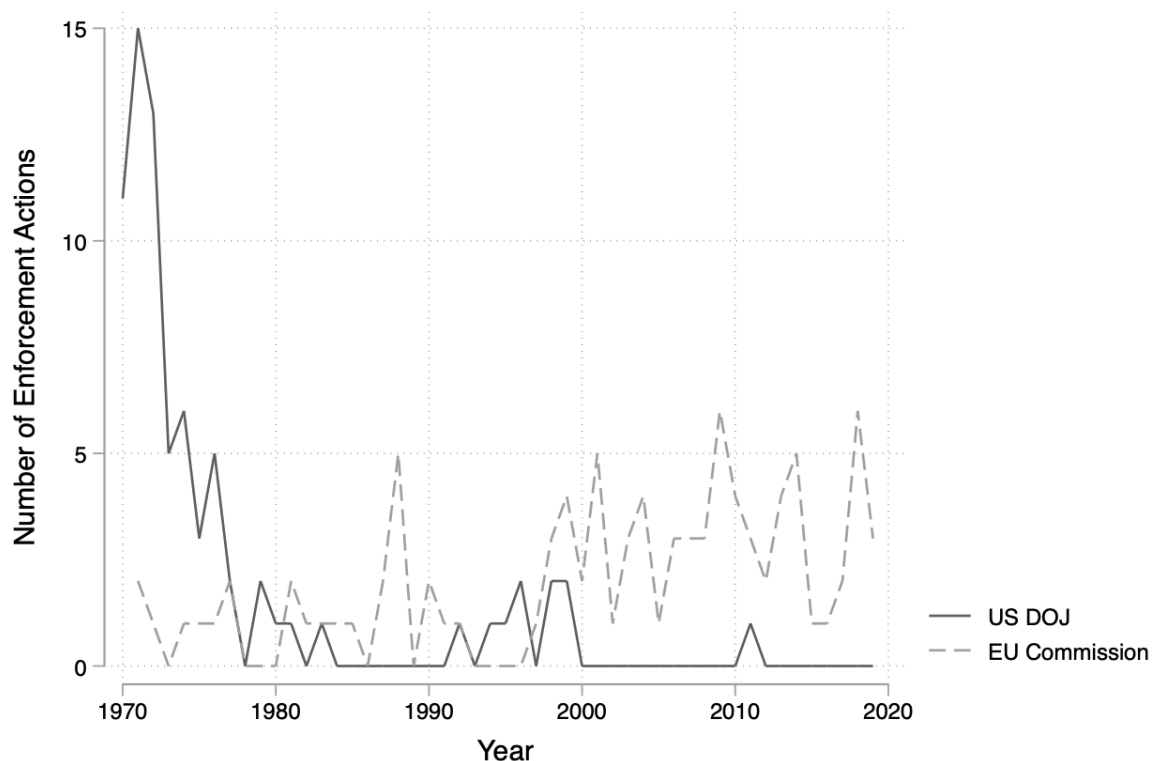
#### **Figure 1: Typologies of Competition Regime Change in the EU and US**

Figure 1 in the paper provides both a two-dimensional typology of competition models as well as a stylized characterization of the competition models employed in the US and EU and how these have changed over time. In both cases, the arrow starts in the 1960's and ends in the present. The characterization is based on a combination of a qualitative assessment of rules and a quantitative assessment of enforcement, which have been carefully traced and documented in the paper. We have chosen to use a stylized approach that synthesizes a range of information, including a comparative analysis of legal frameworks, an assessment of enforcement policy and an examination of enforcement actions. An approach that relied entirely on legal analysis would miss some of the important differences in both the construction of the law by courts as well as how it is applied in practice. An analysis that only incorporated enforcement output would miss the significance of key cases while largely ignoring the importance of other factors not reflected in enforcement statistics, such as the role of exemptions or differences in the structure of each economy.

To show that our holistic stylization is supported by observable indicators, we provide a longitudinal comparative analysis of enforcement trends across the two most important areas of horizontal and hierarchical enforcement. Horizontal cartel cases involve hard-core restrictive practices between competitors in the same markets, the most common practices being price fixing, market sharing, output limitations and bid rigging. Abuse of dominance/ monopoly cases refer to those involving the unilateral practices of dominant companies, which could affect horizontal competitors, vertical suppliers or distributors, or both. In the paper, we characterize abuse of dominance as a type of hierarchical coordination since it involves the assertion of authority of a large company over a less powerful one. While enforcement actions alone are not sufficient to provide a meaningful assessment of coordination rights, combined with the qualitative historical assessment provided in the paper, they offer important insights.

Figure A below provides the number of successful anti-monopoly/dominance enforcement actions by the United States Department of Justice (DOJ) and the European Commission from 1970-2019. The US DOJ figures are the number of criminal or civil monopoly cases won at the district court level under Section 2 of the Sherman Act. The EU figure is the number of

Figure A: Number of Monopoly/Dominance Prosecutions or Prohibitions



*Sources:* US Department of Justice, European Commission.

prohibition or commitment decisions made under Article 102 (formerly Article 86 or Article 82). For both the United States and the European Union, vertical restraints cases that were not pursued under Section 2 of the Sherman Act or Article 102 of the European Treaties are not included since the number of these cases is not consistently reported by regulators over the entire period. Although the DOJ is not the only federal regulator, it pursues the largest number of cases as well as the most important ones. Analyses commonly use DOJ statistics as an indicator for broader enforcement trends (Gutiérrez & Philippon, 2018). In the European Union, the European Commission similarly pursues the most important cases EU-wide cases and is commonly used as an indicator for broader policy and enforcement in the European Union as a whole.

Figure A shows that in the US, there has been a marked decline in the number of monopoly cases filed in district court, moving from an average of five each year during the 1970's to an average of just 0.3 every year since then. This is a decline of 93% in successful anti-monopoly prosecutions. In the European Union, by contrast, there has been a steady increase in the number of abuse of dominance decisions over the same period. Commission enforcement has increased 300% in this area, moving from an average of one infringement or commitment decision each year in the 1970's and 1980's to an average of three each year in the 2000's. The pattern reflects opposing trend in both systems: fewer anti-monopoly prosecutions in the United States and more abuse of dominance decisions in the European Union.

Since 2020, there are some signs that the pattern in the U.S. may be changing. The appointment of individuals associated with the ‘New Brandeisian’ movement, which is committed to the dispersion of economic power (Khan, 2018), to key positions at the FTC and DOJ has led US regulators to initiate a number of high profile lawsuits challenging the monopolistic practices and merger proposals of some large firms. However, it is too soon to tell whether this new approach will last beyond the current administration or ultimately be accepted by a federal judiciary that has historically restrained anti-dominance enforcement. Consequently, we exclude these developments from our longitudinal analysis.

Figure B compares the number of horizontal cartel prosecutions by the US DOJ and infringement decisions by the European Commission, respectively. To track cartel enforcement in the US, we include only the number of DOJ horizontal criminal cartel prosecutions over time compared to the number of monopoly prosecutions. The vast majority of cartel cases are pursued under criminal statutes, which apply only to *per se* horizontal violations that constitute “hard-core cartel activity: price fixing, bid rigging, and market or customer allocations” (OECD 2020, United States Brief).<sup>1</sup> This figure therefore provides an undercount of horizontal cartel enforcement, since the US DOJ can also prosecute cartels under civil provisions of the Sherman Act. For the European Commission, we report the restraint of trade cases that relate to horizontal cartels. These figures are based on European Commission reports, which have been cross checked with the independent coding of Carree, Günster, and Schinkel (2010).

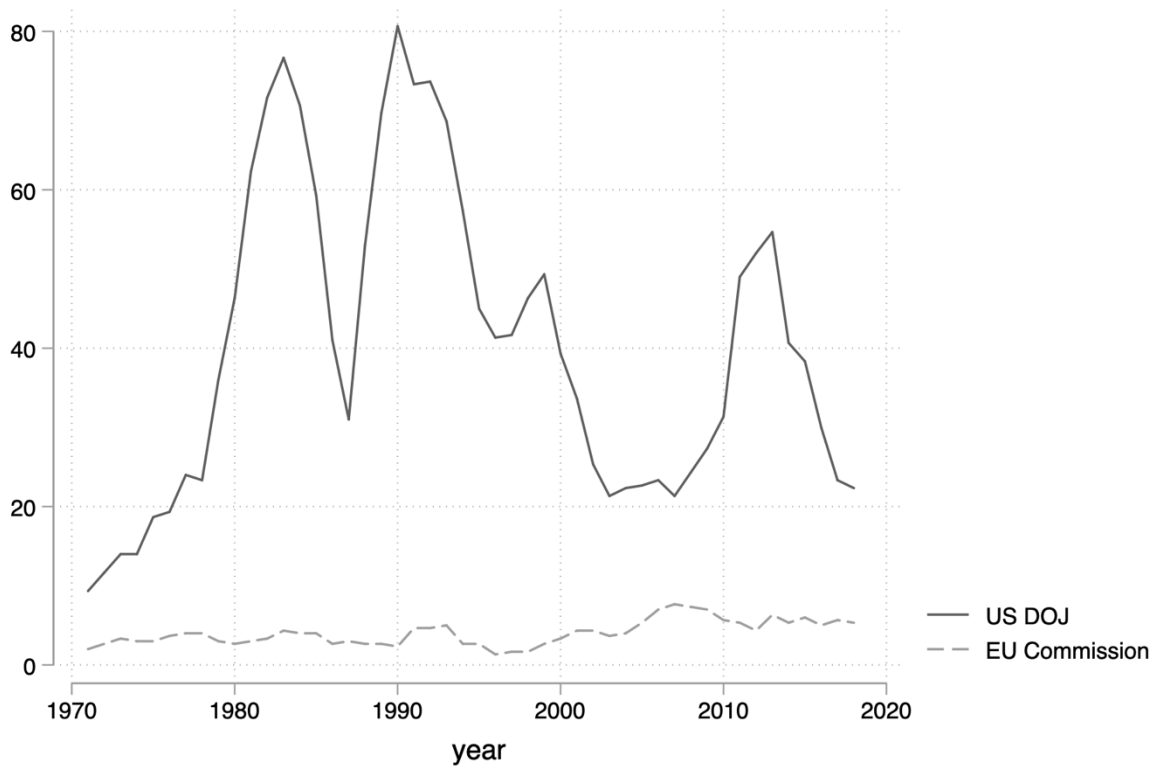
As can be seen in Figure B of the appendix, the number of *criminal* horizontal prosecutions has significantly increased, moving from an average of 17 successful cases each year in the 1970’s to an average of 61 each year in the 1980’s. This reflected a decision by the Reagan administration to increase investigations in limited product and geographic markets (Gallo et al. 2000: 80). It also reflected a turn toward the prosecution of smaller rather than larger firms for cartel violations. Horizontal prosecutions have declined somewhat from their peak in the 1980’s and early 1990’s; however, they still remain higher than both the pattern of US DOJ enforcement in the 1970’s as well as the European Commission today. From 2010-2019, the US DOJ won an average of 37 horizontal criminal cases in district court each year, more than double the trend in the 1970’s.

In the EU, horizontal cartel prosecutions have also significantly increased, moving from an average of three decisions per year from 1970-2004, to an average of six from 2005-2019. Many of the more recent cases have been economically significant, involving tens of billions of euros of sanctions on hundreds of companies. They represent a definite shift toward stricter enforcement of horizontal coordination rules, particularly regarding ‘hard-core’ cartel activity. However, even this increase still reflects less overall horizontal cartel enforcement than in the US. This is true even when we compare the total number of firms sanctioned for cartel activity. Between 2010-2019, the US DOJ charged 642 corporations and individuals for criminal cartel activity. Over the same period, the European Commission issued decisions involving 287 undertakings.

---

<sup>1</sup> [https://www.ftc.gov/system/files/attachments/us-submissions-oecd-2010-present-other-international-competition-fora/oecd-criminalization\\_of\\_cartels\\_us\\_submission.pdf](https://www.ftc.gov/system/files/attachments/us-submissions-oecd-2010-present-other-international-competition-fora/oecd-criminalization_of_cartels_us_submission.pdf)

Figure B: Number of Horizontal Cartel Prosecutions or Decisions, 3-Year Moving Average



Sources: US Department of Justice, European Commission.

Figures for the United States Department of Justice are based on the Division of Antitrust's "Workload Statistics," and "Historic Workload Statistics," accessible at < <https://www.justice.gov/atr/division-operations>>. Figure 1 provides the number of criminal restraint of trade cases won in federal district court by the US DOJ. Figure 2 provides the number of civil or criminal monopoly cases won in district court. Numbers are not adjusted for judicial review by appellate courts. Figures for the European Commission were generated from a combination of annual reports and independent analysis using the European Commission's competition law database, accessible at < <https://ec.europa.eu/competition/elojade/iseef/>>. All cases listed as an infringement, in whole or in part, of Article 102 (formerly Article 86 or Article 82) were counted. In practice, this includes all of the abuse of dominance decisions listed in Figure 2, as well as some vertical restraints decisions.

## Figure 2: DOJ Enforcement Before and After the Chicago Paradigm

Figure 2 in the paper provides a breakdown of the proportion of cases related to hierarchical and horizontal coordination before and after the institutionalization of a Chicago paradigm in U.S. antitrust law and policy (Posner, 1979). The pie chart identifies the proportion of DOJ cases across six types of antitrust enforcement actions in the United States: criminal horizontal, horizontal mergers, civil horizontal, vertical restraints, monopoly, and non-horizontal mergers. Horizontal cases (both criminal and civil) refer to cases sanctioning restrictive practices or agreements between competitors in the same markets, the most common practices being price fixing, market sharing, output limitations and bid rigging. Horizontal mergers occur when companies in the same industry merge. Non-horizontal mergers involve mergers or acquisitions between companies that do not operate in the same market. Vertical restraints cases usually relate to restrictive practices involving firms at different levels in the production and distribution chain. Monopoly cases are those involving the unilateral practices of dominant companies, which could affect horizontal competitors, vertical suppliers or distributors, or both.

We choose to use 1979 as the cutoff year because this is the year the US Supreme Court declared the Sherman Act to be a “consumer welfare prescription,”<sup>2</sup> shifting the multi-part tests that had evolved over decades to a single criterion of short-term consumer welfare that was clearly linked to the Chicago School (Orbach, 2011; Vaheesan, 2019). This is also one year before the Reagan administration appointed James Miller and William Baxter, two leading figures of the Chicago school, to head the FTC and US DOJ’s Division of Antitrust, respectively. The figures and classifications are based on case classifications by Gallo (Gallo, Dau-Schmidt, Craycraft, & Parker, 2000). See “*Table V*. CCH cases by type of alleged violations.” We opt to include data only up to 1997 since their analysis ends in that year and since alternative sources are not readily available. However, the pattern of enforcement from 1998 until the present does not significantly differ from the 1980-1997 period.

## Figure 3: European Commission enforcement before and after competition law modernization

Figure 3 in the paper provides a breakdown of the proportion of cases in three areas of competition law before and after competition law modernization in 2004. The pie chart identifies the proportion of total prohibition or commitment decisions across four categories of competition law: horizontal, vertical restraints, abuse of dominance, and other. Horizontal cases included those involving restrictive practices or agreements between competitors in the same markets, the most common practices being price fixing, market sharing, output limitations and bid rigging. Vertical restraints cases refer to those involving firms at different levels in the production and distribution chain. Abuse of dominance/ monopoly cases refer to those involving the unilateral practices of dominant companies, which could affect horizontal competitors, vertical suppliers or distributors, or both. In the paper, we characterize abuse of dominance as a ‘hierarchical type of coordination since it usually involves the assertion of authority of a large company over a less powerful one. However, for the purposes of clarity, we separate the two kinds of cases here. We analyze the proportion of cases in each area before and after 2005 since this was the year when

---

<sup>2</sup> See *Reiter v. Sonotone Corp.*, 442 U.S. 330, 343 (1979)

competition law modernization (and ‘effects-based analysis’) went fully into effect in the European Union. The statistics have not been adjusted for the outcomes of judicial review. They also do not include re-adoption decisions following negative judicial review outcomes.

Figures from 1964-2004 are based on the comprehensive analysis conducted by Carree et al. (2010). Figures for 2005-2022 are based on our own categorization of cases using information generated from the European Commission’s Competition case database accessible at < [https://ec.europa.eu/competition/elojade/isef/index.cfm?clear=1&policy\\_area\\_id=2](https://ec.europa.eu/competition/elojade/isef/index.cfm?clear=1&policy_area_id=2)>. Initially, the data was generated using a case search in 2020, for cases finalized between 2005-2019. We then expanded upon this data by conducting a new search covering the period 2018-2022, which was used to add new cases and update developments in older ones. We do not consider whether the infringement decisions are upheld, quashed or partially quashed by the European Courts. Cases where multiple investigations lead to a single decision are treated as one case, while a single case that generates multiple decisions may be counted as multiple decisions if they were adopted on different dates. A single case may involve multiple undertakings and sanctions, especially in cases involving horizontal cartels. To the extent possible, we followed the methodology adopted by Carree et al. (2010) when categorizing cases from 2005-2022. This included assigning cases proportional points to each category where multiple dimensions were involved in a single case.

#### **Figure 4: Abuse of dominance enforcement by the European Commission, 1970-2021**

Figure 4 in the paper tracks the total number of prohibition or commitment decisions by the European Commission from 1970-2021 and the proportion of these cases related to Article 102 (formerly Article 86), the provision of the European Treaties that prohibits abuse of dominance. Here we rely on the European Commission’s classification of cases. All cases listed as an infringement, in whole or in part, of Article 102 (formerly Article 86 or Article 82) were counted. Because there were some changes in case classification after 1980, we only include cases that prosecuted completely under Article 102. In practice, this is an underestimation of dominance-related decisions since we exclude many vertical restraints cases involving both articles (101 and 102), which *are* included in Figure A. As before, the classifications are based on European Commission annual reports and the European Commission competition law database.

## Part II. Additional Empirical Evidence in support of Theory

To assess the generalizability of our framework, it is also helpful to consider the long-run co-evolution of competition law and producer group organization. Our case studies on the United States and European Union provides evidence that competition law changes shaped the development of capitalism on each continent. In the analysis below, we show that several features of the relationship identified in these two cases also appear in cross-country empirical analysis. Specifically, we can show that LMEs and CMEs historically adopted different kinds of competition laws, and that the evolution of these laws followed distinct trajectories. We also show that differences in hierarchical and horizontal rules are systematically associated with differences in producer group organization. The presence of empirical regularities over the long-term bolsters our theoretical and empirical claim that competition law helps constitute the organization of capitalism.

A good place to begin our empirical analysis is by comparing the trajectories of competition law development within the groups of countries that are commonly viewed as LMEs and CMEs, respectively. Following prior classifications, we categorize Australia, Canada, Ireland, New Zealand, the United Kingdom, and the United States as LMEs. We categorize Austria, Belgium, Denmark, Finland, Iceland, Germany, Japan, Netherlands, Norway, Sweden, Switzerland as CMEs. We then track historical developments using the Comparative Competition Law Index (CCL), a new index developed by scholars at Columbia University that assesses the stringency of competition laws across different areas of competition law from the 19<sup>th</sup> century until the present. To measure the stringency of horizontal coordination rules we rely on the CCL anti-competitive agreement index, which covers rules limiting anti-competitive agreements between firms. To measure the stringency of hierarchical coordination rules we rely on the CCL dominance index, which indicates the strength of abuse of dominance rules in a jurisdiction. The plots for CMEs are based on the average score on each dimension for LMEs and CMEs, respectively.

Figures C and D plot the average hierarchical and horizontal rule in LMEs and CMEs, respectively from 1890 to 2010. At the end of the 19<sup>th</sup> century, LMEs began to enact more stringent rules across both dimensions, maintaining comparatively more stringent rules across both dimensions until the end of the 1970's. For the first half of the 20<sup>th</sup> century, most CMEs had either no competition laws in place or competition laws that took a permissive stance to both horizontal and hierarchical coordination. Over the course of the 20<sup>th</sup> century, there is partial convergence on the horizontal dimension, as CMEs enact more stringent horizontal rules. At the same time, we can see a new divergence on the hierarchical dimension, as CMEs increasingly strengthen their hierarchical rules starting from the 1980's.

Figure C: Horizontal Coordination Rules by Capitalist Type, 1890-2010

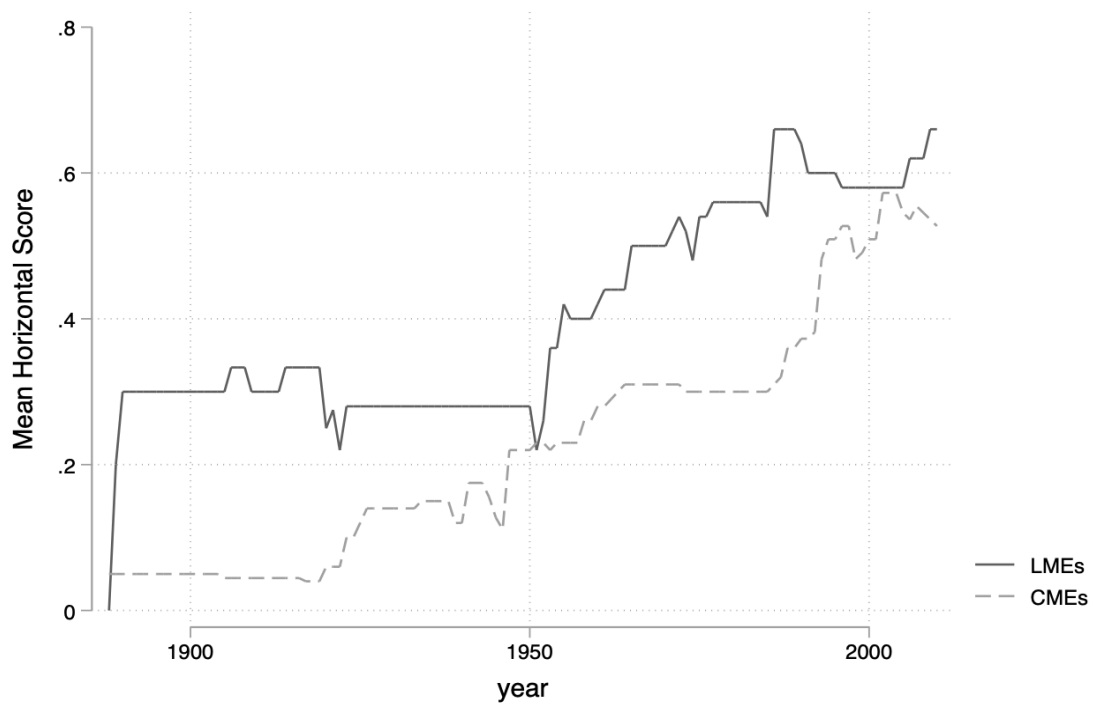
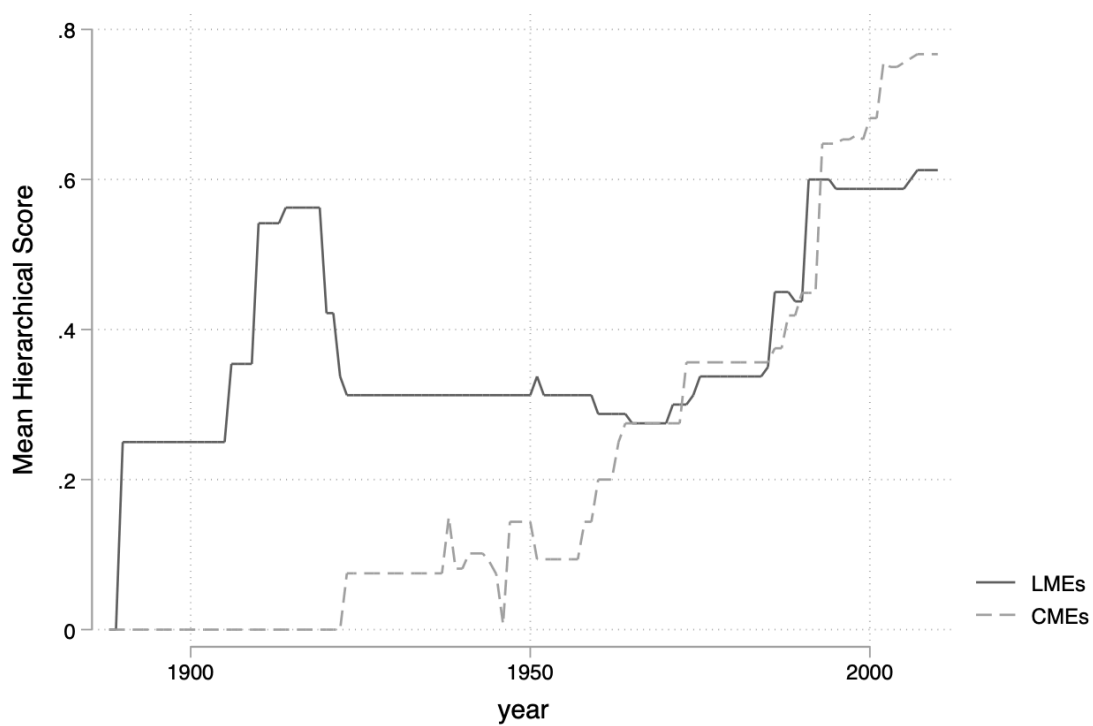


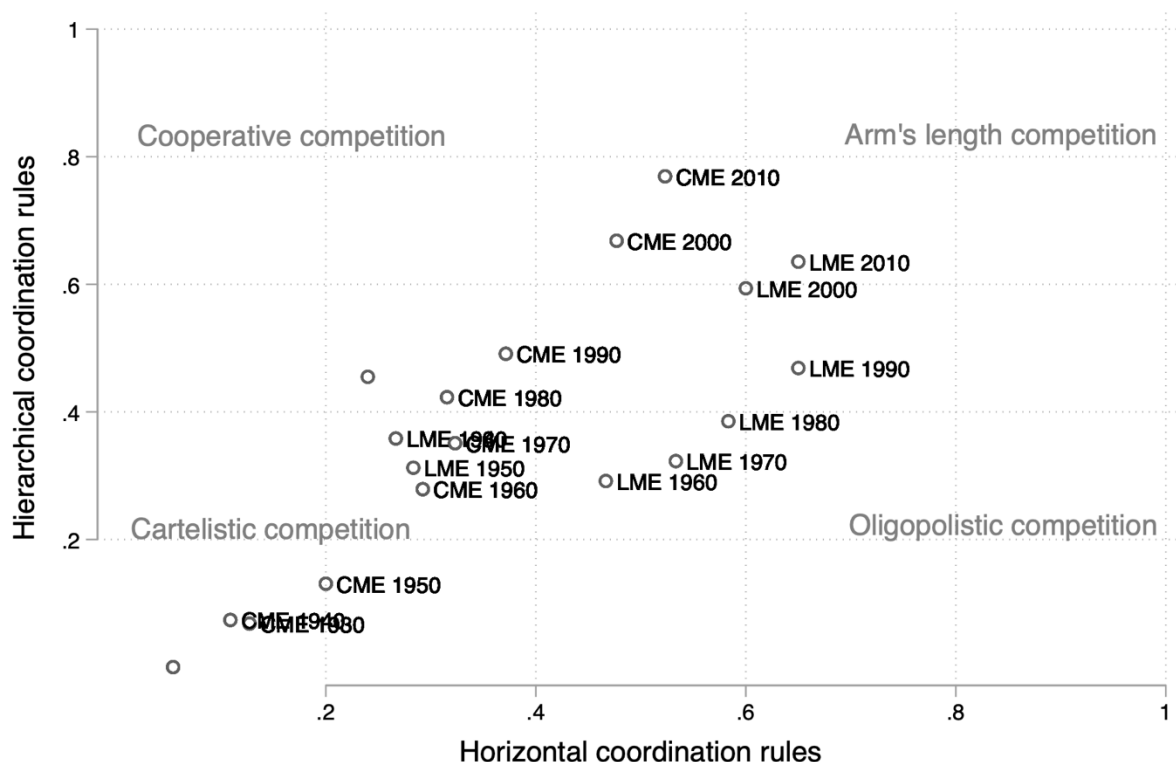
Figure D: Hierarchical Coordination Rules by Capitalist Type, 1890-2010



Source: Calculations by the authors using Comparative Competition Law Index (CLI). See Bradford, Chilton, Megaw, and Sokol (2019).



Figure E: Trajectories of Substantive Rule Change in LMEs and CMEs



Source: Calculations by the authors using Comparative Competition Law Index (CLI). See Bradford et al. (2019).

Figure E plots these developments onto our four-part typology from 1950 until 2010. During the early postwar period, nearly all systems fall into the cartelistic competition model. This reflects the permissive approach taken to coordination in most countries outside of the United States – whether LME or CME. However, during the second half of the 20<sup>th</sup> century, LMEs and CMEs follow divergent trajectories. However, as the 20<sup>th</sup> century progresses, LMEs begin to develop stricter horizontal rules. By 1970, they can clearly be distinguished from CMEs where horizontal coordination rules remain comparatively permissive. Since the 1980's, CMEs have increased the stringency of national competition rules on both dimensions, and particularly for hierarchical rules. While LMEs also develop more stringent anti-monopoly rules, the jump is more pronounced in CMEs. This roughly corresponds with our expectation for LMEs to develop competition systems that fit with the arms-length competition model, and CMEs to develop rules that lean closer to the coordinated competition model. This leaves LMEs close to the arms-length competition ideal-type and CMEs closer to the cooperative competition ideal-type (albeit with clear rightward movement toward the arms-length model).

Using the same data, Foster and Kohl (2023) have analyzed the statistical correlations between competition law indicators and objective measures of nonmarket coordination. Running regression analysis on measures of nonmarket coordination, they find evidence that competition

rules are associated with objective, time-varying measures of market and nonmarket producer group coordination. Countries with more stringent hierarchical coordination rules have more extensive corporatist coordination and higher membership levels in unions and trade associations. Conversely, countries with less stringent hierarchical coordination rules are associated with lower degrees of corporatism. While there does not appear to be a consistent relationship between horizontal rules and nonmarket coordination, countries with more legalistic and adversarial systems that make it more difficult to offer forbearance to ‘beneficial coordination’ have lower union coverage, lower union density, and lower degrees of corporatism. Their analysis – which controls for confounding factors such as differences in legal systems – suggests that there is a consistent relationship between competition law and the organization of capitalism that deserves further empirical exploration.

## Appendix References

- Bradford, A., Chilton, A. S., Megaw, C., & Sokol, N. (2019). Competition law gone global: introducing the comparative competition law and enforcement datasets. *Journal of Empirical Legal Studies*, 16(2), 411-443.
- Carree, M., Günster, A., & Schinkel, M. P. (2010). European antitrust policy 1957–2004: an analysis of commission decisions. *Review of Industrial Organization*, 36(2), 97-131.
- Foster, C., & Kohl, S. (2023). *Competition law and varieties of capitalism: a long-run empirical analysis*.
- Gallo, J. C., Dau-Schmidt, K., Craycraft, J. L., & Parker, C. J. (2000). Department of Justice Antitrust Enforcement, 1955-1997: An Empirical Study. *Review of Industrial Organization*, 17, 75-133.
- Gutiérrez, G., & Philippon, T. (2018). *How EU Markets Became More Competitive Than US Markets: A Study of Institutional Drift*. National Bureau of Economic Research.
- Khan, L. (2018). The New Brandeis Movement: America’s Antimonopoly Debate. *Journal of European Competition Law & Practice*, 9(3), 131–132.
- Orbach, B. Y. (2011). The Antitrust Consumer Welfare Paradox. *Journal of Competition Law and Economics*, 7(1), 133-164.
- Posner, R. A. (1979). The Chicago School of Antitrust Analysis. *University of Pennsylvania Law Review*, 127(4), 925-948.
- Vaheesan, S. (2019). The Profound Nonsense of Consumer Welfare Antitrust. *The Antitrust Bulletin*, 64(4), 479-494.