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# Strong Intellectual Property and Weak Antitrust: How the End of Vertical Restraints Fissured the US Political Economy

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## Abstract

What explains rising inequality after 1980? Explanations describing immediate causes, like skill-biased technological change, financialization, or globalization, assign causality to homogenous market forces and largely focus on distributional struggles between capital and labor. They thus ignore how distributional struggles among firms drove changes to industrial organization that are upstream of those explanations. We show how public and private actors strove to change the interlocked legal regime governing domestic and global intellectual property (IP) rights and antitrust policy to prioritize the value of intangible assets like IP, shifting the distribution of profits among firms and contributing to the ‘fissuring’ of industrial organization. Focusing on the United States, evidence from government archives, private lobbying, and changes in IP and antitrust law show how business and government actors organized a coalition supporting this new IP regime. Ironically, this regime eventually sundered its own coalition, pitting different segments of capital against one another.

*Key words:* inequality; fissuring; intellectual property rights; antitrust; profits.

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Why has income inequality dramatically increased across developed economies since the 1970s? Often focusing on the drivers of wage distribution within the corporate sector, the political economy literature offers four overlapping explanations, centered on (a) changes in labor demand through ‘skill-biased technological change’ (SBTC), (b) financialization, (c) globalization in the form of trade-related wage arbitrage, and (d) monopoly and increased corporate pricing power. These ‘Big Four’ explanations accurately describe trends that have fed into income inequality, but they focus on the

distributional conflict between capital and labor as uniform blocs, and they primarily assume that impersonal economic and technological changes drive the change in income distribution. By focusing on such natural or exogenous causes, these views overlook a central dynamic arguably upstream of all of these: the political (re-)construction of new technology capital through a legal re-encoding as described by Pistor (2019), and a counterpart reconstruction of industrial organization along a ‘fissured’ model as described by Weil (2014). This re-encoding has primarily occurred through changes to the legal regimes around intellectual property rights (IPRs) and antitrust/competition law, both of which reflect and reconstructed distributional struggles among heterogeneous firms.

Weil (2014) labels the labor market side of this change, in which an increasing share of work is done by subcontracted, non-permanent, or indirect employees as ‘fissuring’. Fissuring has undermined labor protections, organized labor, and regulatory systems, most acutely in Weil’s US case, but also in other advanced economies. But fissuring also affects the distributional conflict among firms. The fissuring of industrial organization—breaking previously vertically integrated firms into a web of subcontracting arrangements and modular steps of production spread across many different firms—has concentrated profits into just a handful of companies. This concentration of profits then depresses labor income for many, because workers end up sorted into firms with vastly different degrees of profitability (Gereffi, Humphrey, and Sturgeon 2005) and wage inequality *across* differently profitable firms explains most income inequality today (Barth et al., 2016; Song et al., 2019).

We highlight legal changes that are upstream of technological change, financialization, or globalization because they induced, abetted, and validated changes in the industrial organization of most sectors, that then manifested as these phenomena. As Katerina Pistor (2019) has argued, law allocates value, profits, and rights to different categories and organizational forms of capital, invisibly and indirectly redistributing economic gains. The subtlety or relative invisibility of the law’s role in restructuring or reorienting political and economic interests means that the areas of law that are responsible for redistribution—in this case IPRs and antitrust—can end up broadly overlooked in comparison to the material, technological, and economic forces that they mediate. Recognizing the centrality of legal change opens the door to a more political understanding of changes after the 1970s that builds on and extends Schwartz’s (2016, 2022) analysis of contemporary industrial reorganization, whereby industry across the world has been split between highly profitable and IPR-intensive firms and low-wage, low-profit firms subordinate to them.

We argue that the ‘Big Four’ explanations are likewise complementary to and arguably downstream of changes to the interlocked legal regimes governing IPRs and antitrust. Changes to IPRs have prioritized the value of intangible assets like patent, copyright, trademark, and brand, as well as validating the status of other intangibles like goodwill for accounting purposes. At the same time, changes to antitrust have granted intellectual property (IPR)-intensive capital a new set of legal ‘coordination rights’ (Paul 2020) over other firms. These changes, in the form of ‘vertical restraints’ over business partners, favored firms that successfully outsourced production, employment, and physical investment while establishing a monopoly position anchored in intellectual property (IP), disfavoring physical capital-intensive firms. This redefinition and restructuring of legal rights undermines workers’ bargaining power by moving labor-intensive work outside of profitable firms, thereby increasing income inequality.

We argue that a coalition of US business and ideological actors, whose interests overlapped around strengthening IPRs, pushed changes in IP and antitrust that protected themselves from foreign competition in the 1970s and undermined the power of organized labor. We use archival and other evidence to show that a parallel but underappreciated distributional conflict among firms drove lobbying, legal, and legislative battles over the details of antitrust and IP (e.g. how patent rights are adjudicated, or how antitrust contemplates ‘vertical restraints’). This coalition initially encompassed

potentially IP-intensive firms and more traditional, integrated manufacturing firms, with support from and influence over the US state. These actors pursued change without fully understanding the consequences of their desired legal changes. As various industrial and state interests sought incremental legal changes to solve their economic problems, they rewrote some rules so extensively that they helped to fissure the model of industrial organization that had previously informed their own political and economic interests.

Other necessary, but not sufficient, factors obviously contributed to this—information technologies certainly eased surveillance of distant subcontractors, for example. Here, however, we focus on the legal changes affecting profitability that induced use of those technologies, and the motivations behind those legal changes.

This fissuring remapped inter-firm distributional conflict along new lines. While corporate interests originally sought to limit the power of labor and ensure profitability, the IP and antitrust solutions they advanced empowered some firms and greatly disempowered others, expanding distributional conflict *among* those firms. In the 1960s and 1970s, the distributional conflict over economic surplus was predominantly a ‘Marxist’ class-based conflict, with capital and labor fighting over the economic surplus, in the context of organized labor bargaining with, and often striking against, vertically integrated, large-scale industry. The legal encoding of capital at the time structured the coalitional lines of this conflict in that labor was empowered to demand a share of the output from relatively homogeneously organized industry. By 2020, however, fissured distributional conflict had become predominantly a Veblenian (Veblen, 1904/1975) conflict, with different segments of capital fighting over the share of profits via market competition (or its absence) or in commercial negotiations. While these trends are strongest in the United States, we highlight how they likely extend to and apply to other economies around the world.

Below, Section 1 outlines the theoretical framework, linking the constitutive properties of law to the restructuring of industrial organization. Section 2 outlines how the mid-twentieth century legal regime around IPRs and antitrust indirectly stabilized a comparatively egalitarian industrial organizational model of vertically integrated, mass-employment, and Fordist manufacturing. Section 3 charts the broader coalition of protectionists, IP interests, anti-union business and political parties, and academic-intellectual actors around antitrust that sought to revise this legal and political order. Section 4 shows how these interests deployed lobbying and legislative tactics to revise the previous order. Section 5 discusses how these changes have restructured the previously complex web of overlapping interests into a political economy with a highly salient distributive conflict between different sections of capital, relative to the previous, class-based political conflict between capital and labor characterizing the vertical Fordist model. We conclude by discussing the implications for the study of different areas of political economy.

## 1. Inequality and fissuring

The Big Four arguments for the rise of inequality point to an overlapping group of de-politicized economic forces: technological change, globalization, agglomeration and network effects, and the growing influence of finance. First, skill-biased technological change (SBTC) theories contend that the rise in information technologies (IT) increased the demand for a relatively limited supply of high-skill, educated workers, and correspondingly diminished demand for low- or semi-skilled labor (Autor et al., 1998). This put many workers in a losing arms race between education and technological change which hollowed out the middle of the wage spectrum (Goldin and Katz 2008; Acemoglu and Autor

2012). In this explanation, advances in technology ratcheted up the skill demands on labor, inducing income inequality.

Second, others argue in parallel that globalization and IT has concentrated sales and profits within a narrow set of ‘superstar firms’ (Autor et al., 2020). Trade openness and growing trade flows concentrate incomes and profits into the most productive firms and correspondingly imply losses for less productive and profitable firms and their workers. Empirical tests and trade theory (Melitz 2003, Baccici et al. 2017) suggest that there are returns to scale in a technologically advanced global economy, such that exogenous increases in trade create inequalities.

Third, financialization arguments suggest direct and indirect causes for rising income inequality, although financialization arguments are heterogenous and address diverse dependent variables. In the most direct ‘shareholder value’ form, financial market actors like buyout firms and institutional investors pushed businesses to focus more narrowly on their ‘core competencies’ and increase financial returns by cutting labor costs, outsourcing production, and limiting investment (Stockhammer 2006; Davis 2009; Krippner 2011). Shifting corporate priorities away from physical production or service provision and towards maximizing financial profits led many firms to decrease wages, increase payouts to investors, and increase compensation to mid-level and senior managers, redistributing income upward.

Fourth, monopoly power has increased everywhere in recent years, but particularly in the United States. Markups rose by around 60 per cent between 1950 and 2020 (De Loecker, Eeckhout, and Unger 2020). Levels of corporate concentration increased in 75 per cent of American markets since the 1990s (Grullon, Larkin, and Michaely 2019), with some estimates indicating prices for an average US family rose by \$5,000 per year (Philippon 2019). While this explanation has political roots, it still focuses on relatively homogenous corporate pricing power against equally homogenous labor and consumers, which does not fit well with the positive correlation between a firm’s profits and the wages it pays (Barth et al., 2016; Song et al., 2019). Nor does a broad increase in pricing power in product markets necessarily generate income inequalities.

The Big Four explanations correctly identify contributions to rising inequality, but through apparently apolitical, exogenous, or uniform trends. Yet each indirectly points at a prior sweeping and endogenous transformation of industrial organization across the world in the past fifty years. Put simply, the dominant mid-twentieth century form of corporate organization favored a comparatively egalitarian distribution of income, while today it exacerbates existing inequalities and generates new ones. This can be shown by contrasting ideal-typical forms of mid-twentieth century and contemporary value chains.

A vertically integrated, ‘Fordist’ model of production and wealth creation predominated during the mid-twentieth century (Chandler 1977; Piore and Sabel 1984). The most profitable and central companies were large industrial firms that kept all important aspects of production inside the firm. Vertically integrated firms internalized everything from research and development for new technology or products, capital intensive manufacturing, and labor-intensive assembly or customization in order to maximize economies of scale and speed (Chandler 1977). The high levels of investment needed to meet these high physical capital costs created entry barriers that deterred competitive entry and maintained profits (Steindl 1976[1952]). Because companies were producing most components and IP in-house, workers were legally employees of that firm, and thus entitled in varying degrees to benefits, bargaining rights, wages, etc., in parallel with the strong and expanding public welfare states of the time.

Contemporary industrial organization, both outside and even more so inside the US, is more typically a ‘fissured’, vertically disintegrated model with considerable subcontracting (Weil 2014). Most companies now specialize in just a few aspects of production, contracting out the remainder of production, research, labor, or distribution (or acting as subcontractors for lead firms). This contracting

is typically not an arm's-length transaction between equal negotiating parties, but rather one where a single dominant firm dictates terms and compensation to its network of subcontractors and suppliers. Lead firms earn an outsized share of profits, as they usually maintain ownership over designs protected by IPRs, the advanced technology needed for production, the supply chain networks connecting producers to buyers, or the global brands attracting customers (Linden et al., 2009; Durand and Milberg 2020). For example, Apple Computer pre-books roughly a quarter of Taiwan Semiconductor Manufacturing Co.'s chip output, accounting for roughly half of TSMC's most advanced chip production; is now Corning Glass's largest source of capital (for screens); and accounts for a two-fifths, but declining, share of assembler Foxconn's (Hon Hai) revenue. Consequently, this model increasingly distributes profits away from labor- and capital-intensive industries, and even within industries, away from labor- and capital-intensive firms. Rather, profits go to the dominant firms within these fissured production and supply networks (Schwartz 2016; 2022). The fracturing of previously integrated firms, separating the most and least profitable parts of the supply chain, is a core driver of inequality, because it sequesters most workers into low-profit, and thus lower-wage, firms.

This fissuring of industrial organization is upstream of the Big Four explanations for inequality. The income divergence SBTC documents between high- and low-skill workers stems from wage inequality *among* firms rather than *within* them, with workers receiving different wages primarily based on where they work, not what they do (Barth et al., 2016; Song et al., 2019), and profits being highest in IPR-intensive firms. The rise of immensely profitable global superstar firms, likewise, simply represents IPR-based or merged-up monopoly control over critical points in value chains and the expulsion of contestable, low entry-barrier, and riskier activities to sub-contractors. Financialization reinforces these trends in the fissured model by directing investment towards firms with low costs and high margins, namely firms with highly profitable intangibles enjoying the monopoly that IPRs create and that antitrust policy no longer limits.

Likewise, this highlights two core weaknesses in financialization arguments. First, in many financialization arguments, financialization operates as a homogeneous ideological pressure on firms to shed costly assets and prioritize higher margins, and thus cannot explain differences in firms' uneven implementation of the model. Second, only firms with assets to shed and public securities to manipulate can implement shareholder value, and it is precisely the most profitable publicly listed firms that throw off the greatest volume of share buybacks and dividends. For example, among the 2,450 firms with annual sales over \$100 million in any year from 2010 to 2018, the top thirty US account for 41 per cent of all dividend payouts. This is an unsurprising finding, given that they also account for almost 34 per cent of profits (Bureau van Dijk 2025), yet despite these above average payouts they also pay the highest wages (Barth et al., 2016; Song et al., 2019). In the other 99 per cent of firms, more profit is retained than paid out, suggesting that the problem is getting rather than retaining profits, and thus that inter-firm distributional conflict over profit shares is upstream of shareholder value effects. Profit concentrated into a handful of firms stems from the shift in industrial organization, which in turn points us towards changes in anti-trust and IPR law as a and perhaps the primary cause for downstream inequality.

## 2. Encoding a fissured economy

The above analysis draws heavily on Schwartz (2016, 2022), but the political origins of these changes stem from actors seeking changes at the intersection of antitrust and IP laws. A coalition of large domestic and later transnational firms seeking trade protection, allied with US state actors motivated by geopolitical and electoral concerns, mobilized to alter IP and antitrust law for their own discrete

interests. This alteration expanded new forms of intangible property rights that enabled lead firms to coordinate the business and commercial behavior of other firms without loss of control or fear of antitrust litigation, thus birthing the new form of industrial organization. While a US-centered coalition of protectionist business, high-technology emerging industries, anti-labor conservatives, and neoliberal antitrust revisionists initially pushed these legal changes, firms and states elsewhere across the world have adopted these changes in varying albeit usually lesser degrees. Firms and the state rewrote the legal foundations for how technology could be profitably exploited in the market, producing the effects captured by the Big Four explanations.

As Pistor (2019) argues, capital primarily exists as a legal encoding that creates ownership by attaching layers of rights and guarantees to something. Briefly, any form of capital—land, machinery, a building, a security, a patent, etc.—is capital precisely because the law encodes owners' exclusive right to derive income from it. For Pistor, the four components encode (1) a capital holder's relative *priority* over a stream of income (as with senior, junior, and residual creditors), (2) the temporal dimension of that priority, (3) the universal validity and enforceability of those rights, and (4) the degree to which those rights can be converted into money through market exchange or claims on the state.

For example, patents and copyright create capital by giving their holder exclusive rights to use a technology or content relative to other actors. The stream of income from that exclusivity endures for a limited time, usually twenty years for patents and as much as 105 years for copyright. Holders can enforce exclusion by having courts with jurisdiction enforce the owner's priority rights. And IP holders can exchange, sell, or lease the right to use a technology or content for monetary or other consideration. These features make intangibles like technology into capital, into a legal right to a stream of income.

The legal encoding behind Pistor's four criteria is rarely absolute, as conflict over rights can extend, layer, or restrict legal rights through litigation or legislation. In the context of a single capital asset, for example, the law might prohibit otherwise profitable uses of an asset or enforce universal licensing. Patents and copyright, similarly, have no natural temporal duration, with legislation and litigation redefining their timespans over the past two centuries.

Moreover, encoding interacts with other legal spheres that affect the monetization of property rights. In particular, antitrust law matters for IPRs as a critical 'allocator of coordination rights' (Paul 2020) by stipulating what forms of interfirm, commercial coordination are permissible. For example, antitrust generally—but not always—removes rights to coordinate and cooperate by barring direct competitors from fixing prices, and sometimes bars lead firms from stipulating prices for downstream retailers. However, antitrust implicitly permits other forms of cooperation, such as coordination between different parts of the same firm. Linked changes in how antitrust law treated the use of IPRs in allocating coordination rights engendered the income inequality creating form of industrial organization characterizing modern capitalism.

## 2.1 How antitrust and IP rewrote capital

The re-encoding of capital enabling the fissured model occurred along three critical dimensions in the antitrust and IP domains: altered rules around antitrust 'vertical restraints', expanded and new IPRs, and, at their intersection, the rules around IPR licensing (i.e. the use of IPRs to enforce vertical restraints). First, in the antitrust context, vertical restraints refer to restrictive contracts or agreements between a firm and its suppliers or customers. For example, a manufacturer with bargaining power might stipulate that a retailer can only sell in a certain region, or sell at a minimum price, or not sell competitors' products. These are all vertical restraints. Permissive antitrust law around vertical restraints legally encodes capital in ways that enable a core firm to control other commercial actors.

Second, while all property rights are artificial, IPRs represent a less conventionally naturalistic form of capital by not being claims on income from some physical object or land. Rather, they establish the right to prohibit others from using certain ideas, processes, or symbols that otherwise might exist in the public domain. This *apparent* artificiality—relative to land or equipment, in that categories of IPRs can be legally fabricated out of thin air or arbitrarily strengthened or weakened—makes IPRs particularly susceptible to the kind of political revision of their legal encoding that occurred in the 1970s and 1980s.

Third, the laws around IPR licensing—agreements to allow someone else to use one's IPRs while retaining ownership of it for oneself—fall at the intersection of both policy areas. For example, a vertical restraint could be embedded within a patent license by limiting the licensee to sell the patented products only in specific countries, by requiring that the licensee also buy other services from the patent owner, or by specifying that the licensee perform work in a particular manner. Unlike vertical restraints more generally, IPRs potentially provide a more durable and powerful form of restraint than simple bargaining power and often lie behind powerful monopoly or monopsony bargaining positions. Vertical restraints in patent licensing allow the owner of a politically constructed form of capital to control the behavior and income of other firms.

Putting this all together, the legal encoding of IPRs in the mid-twentieth century allowed only limited enforcement, and generally prohibited embedded vertical restraints, incentivizing a vertically integrated production model if firms wished to exploit their technological knowledge. To explain: given less certain enforcement of IPRs, a large industrial firm secured control over designs and technology by having trusted staff primarily use them in in-house production. Antitrust and IP legal rules required that firms wishing to license their IP do so with minimal restrictions on licensee behavior, confronting lead firms with a choice between (1) profiting maximally from their technologies by directly hiring labor and making capital investments, or (2) licensing the technology and earning the lesser returns that would come from allowing licensees to do as they pleased with the technology. Under this encoding of technological capital, firms maintained a large base of direct employees and large direct capital expenditures, flattening the income distribution. Critically, US Department of Justice consent agreements with firms with visible and durable monopolies built on essential patents, like ATT or IBM, obliged them to license those patents on fair, reasonable, and non-discriminatory (FRAND) terms. This blocked the emergence of the legally disintegrated but effectively integrated value chains we see today. Thus, in the Fordist era, uncertain intellectual property rights and limits on vertical restraints combined to favor using control over physical capital rather than intangibles to maintain entry barriers. Absent strong legal protections for various forms of intellectual property or intangible assets, large physical capital expenditures were the most cost-effective way to maintain entry barriers against potential competitors at that time.

Political contestation in US courts and Congress rewrote IP law and antitrust to expand IPRs and allow IP licenses to enforce vertical restraints. Those vertical restraints allow the fissuring of labor in the franchise sector understood narrowly (e.g. fast food, hotels, cleaning services; Paul 2019; Callaci 2021), often via control over the trademark IP (Hafiz 2022). IPRs, particularly patent rights, have been expanded to include new forms of pharmaceutical patents, semiconductor designs, and biotechnology, while the judicial and global trade system within which they are embedded has solidified the dependability of those rights (Sell 2003).

Thus, today, intellectual property capital is encoded in ways that facilitate legally disintegrated but effectively integrated value chains via the outsourcing of labor and capital investment. Stronger, expanded, and universalized IPRs reduce the risk of property or profit loss when lead firms allow other firms to use their technology or other IP. As stronger IP protection emerged in the 1980s, legal rights,

whose costs consisted of outside legal counsel, litigation, and surveillance of subcontractors, became a much cheaper way to enforce the entry barriers sustaining profits versus enormously costly physical capital expenditures. Likewise, the current encoding of antitrust and IP allows firms with essential IP to impose indirect control over other companies through vertical restraints specifying price floors or caps, specific production schedules, restrictive technical specifications, or unalterable production processes. These restraints allow contemporary companies to maintain the same control and profits they had earlier while sequestering the costs and risks of physical capital or large employee bases in other firms.

These two ideal-typical arrangements do not represent distinct, materially determined outcomes, where the efficient use of resources or labor dictated new organization, à la [Aoki \(2001\)](#). Rather, these different legal codings of property rights favor different forms of capital embodied in firms. The older version favors tangible capital by limiting exclusivity around intangible assets. The recent version relatively favors intangibles, by enhancing or creating exclusivity and thus monopoly power. This gives IP owners holdup power versus physical capital owners, allowing IPR owners to impose a range of specific conditions on how physical capital is deployed. As patents became a more powerful weapon in the Veblenian struggle, firms responded by patenting more. The number of US patents granted annually doubled from 1963 to 1989, doubled again to 2009, and doubled again to 2020 ([United States Patent and Trademark Office 2025](#)).

Consequently, these changes to legal encoding explain why Veblen's capital-versus-capital distributional struggle over shares of surplus or profit became relatively more salient than Marx's capital-versus-labor struggle over surplus generation. Fordist era capitalists' use of large-scale investment to block entry meant that labor demands were the main threat to industrial stability and thus profits. Today, however, with vertical restraints and control of intangibles allowing firms to disaggregate production and concentrate profits, other firms in the supply chain, or other IPR-holders, are the main threat to profits. In short, competition over economic surplus today happens less at the union bargaining table, and more in the commercial negotiations between, for example Apple and its suppliers. As [Durand and Milberg \(2020: 416\)](#) note, 'natural monopoly forces in [global value chains] are not about horizontal competition between producers but vertical competition between firms contributing to the production of the same family of goods'.

This view of changes to IP and antitrust contrasts significantly with other accounts, where antitrust is seen as a policy to increase competition, and IP as a policy area that limits it by granting temporary monopolies, as in [Christophers \(2016\)](#). In contrast to Christophers' somewhat functionalist account, in which rising monopoly automatically calls antitrust into being in a form of Polanyian countermovement, indeterminate political struggles over the details of how these two policy areas interact generates their distributive consequences. The licensing rules around IP are orthogonal to the strength of the IP (as very strong patent protections can still limit licensing practices), and the rules around vertical restraints are orthogonal to the amount of competition (as their effect on competition depends on context). While courts and Congress have enhanced IPRs' priority, duration, universality, and convertibility, it is the interaction of antitrust vertical restraint rules with IP licensing that restructured markets and political economy.

While the focus here is on IPRs, these arguments also apply to other mechanisms technology-intensive firms use to capture value, such as secrecy, lead time, or control of complementary products ([Munari 2013; Comino, Manenti, and Thumm 2019](#)). While IPRs are distinct from other intangibles ([Durand and Milberg 2020](#)), permissiveness towards vertical restraints, combined with reliable control over the intangible technology in whatever form, will still allow a lead firm to delegate capital and labor costs needed to deploy that intangible to a subcontractor. For example, despite its large portfolio

of IP rights—0.7 per cent of all US patents granted to over 27,000 firms from 2004 to 2017 (Darden Global Corporate Patent Dataset 2025)—Apple also extensively uses non-disclosure agreements, secrecy, and vertical restraints to maintain control over subcontractors in its fissured supply chains (Akino et al., 2021).

## 2.2 The politics of fissuring

How and why did this new legal regime emerge? The transition between the two general models occurred at the intersection of changing economic and legal ideas, unintended consequences, international competitive pressures, and lobbying by diverse interest groups. First, new economic and legal ideas about antitrust, derived from the Chicago school of law and economics, drove many of the legal changes to IPRs and antitrust. The Chicago school priors about price theory, transaction cost economics, and allocative efficiency informed their arguments that antitrust had overreached in its opposition to large firms, hindering substantive economies of scale and consumer benefits. Crucially, this bundle of legal ideas targeted antitrust bans on private vertical restraints.

Second, many vertically integrated, Fordist era industries facing foreign competition in the 1960s and 1970s, including both technology-intensive and low-tech firms, lobbied governments to strengthen IPRs, limit technology transfers to late developers, and to expand the pool of inventions or technologies that could be covered and thus protected with IPRs. Much as with the textile and garment industry, where fear of Japanese competition united producers with otherwise conflicting interests (Friman 1988), a broad but diverse coalition of firms coalesced to lobby for stronger and broader IPRs as a form of protection from international competitors who were copying or ‘stealing’ American products.

Yet third, the very success of these lobbying efforts in expanding IP rights and limiting antitrust enforcement split the new technology-intensive sectors—semiconductors, biotech, pharmaceuticals—from the lower-tech industrial firms in the original coalition. Whereas the vertical model and its associated legal encoding stabilized a certain constellation of political interests among industrial firms, the process of strengthening IPRs and altering antitrust rules eventually fragmented that coalition. The new encoding of capital transformed business models, favoring a new, smaller coalition of IP-intensive firms who took advantage of stronger IPRs and vertical restraint to move labor and physical production outside their firms and often abroad, while retaining most profits. By contrast, the remainder of industry fell into a variety of other, poorly compensated positions: workers and industrial firms left with low profits and little policy support. The vertical integration era’s conflicts around the distributional conflict between capital and labor and between protectionists and free traders (Milner 1988) shifted towards today’s distributional conflict among firms along the value chain.

## 3. The setting

How did change play out? In the 1960s and 1970s, comparatively weak or uncertain patent rights, as well as limits on vertical restraints and IP licensing, incentivized large firms around the world to adopt a vertical organizational format. American law strongly encoded this arrangement and exported it via extraterritorial application on foreign firms and the behavior of American firms abroad (Fugate 1958; Townsend 1980). Other jurisdictions emulated the American model of mass production (Piore and Sabel 1984; Djelic 1998), adopting similar encodings of capital in terms of vertical restraints, but with even weaker patent rights.

In the United States but especially elsewhere, mid-twentieth century patent rights were substantially weaker than today with respect to universality and reliable enforcement. Before the World Trade Organization’s Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement in

1994, many developing and middle-income countries did not even have patent systems, and those that did enforced rights unevenly or unreliably (Sell 2003; Moser 2005; Lerner 2009). The lack of technical expertise and uniformity across US federal appellate courts meant unpredictable enforcement and frequent revocation of patents (Sward and Page 1983), provoking continuous complaints by business and within government (Dann 1974). Likewise, EU patent law allowed forum-shopping to challenge IPRs because, even to this day, it prioritizes the single market over IPRs. Prior to the adoption of unitary European patents in 2023, if a patent was struck down or expired in one member state, there generally was no recourse to the EU, and the firm must either exit that national market or lose patent protection across the EU (Waller and Byrne 1993). In short, the general weakness of IP protections made physical capital relatively more important and valuable.

The encoding of antitrust before the 1980s also prohibited vertical restraints. In the United States, law had long prohibited resale price maintenance (*Dr. Miles Medical Co. v. John D. Park & Sons Co.* 1911), along with tying, that is, conditioning a sale on the purchase of a different product or service (*Standard Oil Co. of California et al. v. United States* 1949; *Northern Pacific Railway Co. et al. v. United States* 1958; *United States Steel Corp. et al. v. Fortner Enterprises* 1969). While the United States had the most developed law in this area at the time, Europe's early competition laws took an even harsher stance against vertical restraints (Billows 2016; Foster and Thelen 2025). The EU's first competition decision in 1966 prohibited precisely this sort of vertical restraint between a manufacturer and distributor (*Consten SaRL and Grundig GmbH v Commission* 1966).

At the antitrust/IPR intersection, law generally prohibited using patent licensing to impose vertical restraints. An American antitrust campaign during World War II targeting international cartels found that the international cartels of the era were primarily organized through patent licensing. Major firms shared their IPRs exclusively with each other in return for regional monopolies for member companies (Wells 2002; Freyer 2006). In the years following World War II, a chain of US legal decisions re-encoded antitrust law to:

- Eliminate any IPR exceptions for antitrust violations (*United States v. Masonite Corp.* 1942);
- Solidify prohibitions on IPR holders imposing post-sale prices to licensees (*Ethyl Gasoline Corp. v. United States* 1940; *United States v. Line Material Co.* 1948);
- Prohibit tying the sale of an unpatented product to a patent license (*Morton Salt Co. v. G. S. Suppiger Co.*, 1942; *United States v. Univis Lens Co.* 1942);
- Prohibit extending a patent to gain control over an unpatented process or product (*Mercoind Corp. v. Mid-Continent Investment Co.* 1944);
- Prohibit allocating parts of a supply chain to different firms through IP licensing (*Hartford-Empire Co. v. United States* 1945); and
- Prohibit allocating territorial markets between firms through a patent license (*United States v. Aluminum Co. of America* 1945; *United States v. National Lead Co.* 1947), among other changes.

These rules, and extensions of them, continued for most of the post-war period. In 1970, a US Antitrust Division official listed the comprehensive 'nine no-no's' of patent licensing. These went even beyond the jurisprudence of the time but nonetheless reinforced the view that patent-holders should be barred from putting any restrictions in their IP licenses. The nine prohibited practices were (1) tying the purchase of an unpatented product as a condition for a patent license; (2) requiring the licensee to grant back licenses for any improvements they make; (3) restricting the licensee's resale of patented products; (4) restricting licensee's business outside of scope of the patent; (5) barring licensor promises to not

grant further licenses; (6) requiring bundling of multiple patents as condition of license; (7) royalty provisions unrelated to the licensee's sales; (8) restricting use of unpatented products made by patented process; and (9) requiring a minimum sale price for patented products (Wilson 1970).

Unreliable IPRs and these legal interpretations devalued IPRs as capital, deeply limited how industry could or could not be organized around IPRs. With restrictive licensing and technology-sharing arrangements with other firms prohibited, IPR owners had to choose between (a) maximizing profits by manufacturing and commercializing their technologies themselves, with the physical investment and broad employment costs that entailed, or (b) accepting lower profits through non-restrictive licenses.

This legal encoding also affected the geopolitics around U.S. technology transfer. While US firms developed the most advanced technologies in the world through the 1970s, they licensed out these technologies, relatively free of restrictions, to foreign firms. The old antitrust law thus aggravated America's trade balance even in industries dominated by American technologies. This attracted policy and political attention as early as the Nixon administration, whose [National Commission on Productivity \(1971: 3\)](#); [Commission on International Trade and Investment Policy 1970: 4](#)) wrote, for example, that 'foreign competitors aided by the export of our technology and capital have greatly enhanced their role in both domestic and world markets formerly dominated by the United States'. The [Economic Policy Group \(1978: 6\)](#) in the Carter White House similarly wrote:

The relationship between R&D and trade is complicated by the fact that the location of the R&D and the location of production may be different. For example, the Video Tape Recorder (VTR) was originally developed in the U.S., but is now produced exclusively in Japan and is being imported in large quantities. If U.S. consumer electronics firms are further motivated to increase R&D, this may well increase imports instead of stimulating exports.

The [Commerce and Labor Departments \(1980: 2–3\)](#) echoed these sentiments in 1980.

The encoding of the vertical model in the mid-twentieth century meant that even ownership of technology would not protect American firms from competition in product markets using those technologies, putting the burden of maintaining entry barriers and high profits on continued investment in costly physical capital while facing competitors, particularly Japanese firms, with subsidized capital.

#### 4. The actors

A disparate group of interests with overlapping but competing priorities pushed the legal changes to antitrust and IPRs that unwound the vertically integrated model. Trade protectionists, technology intensive industries, anti-union business and conservative interests, and Chicago school intellectuals converged around stronger IPRs and weaker antitrust as one important set of solutions, and they met an American state with similar anxieties and receptive to their arguments.

First, conservative politicians and business interests opposed the organizing power of labor. Many aspects of the vertically integrated model and the New Deal regulatory framework—broad-based employment within the same firm—made unionization particularly easy and organized labor particularly powerful. Particularly in retail and the franchise sector, some employers recognized that they could avoid all the New Deal's unionization, benefits, and pay obligations by subcontracting rather than directly employing workers. They began testing the legal limits by using restrictive vertical restraints to bypass New Deal law while enjoying a level of control only slightly lower than the vertically integrated model. Independent of a broader lobby regarding vertical restraints, antitrust, or IP licensing, the franchise lobby began pushing for regulatory leniency as early as the 1960s ([Callaci 2021](#)), in part to also avoid additional employer obligations created in the 1960s and 1970s, especially the 1974

Employee Retirement Income Security Act's (ERISA) employee retirement plan obligations and the Occupational Safety and Health Administration's (OSHA) workplace safety obligations.

Second, protectionist interests in industry and government reacted to trade competition as both Japan and Europe recovered from World War II. These countries married lower wages and subsidized capital to different flavors of the vertical model, driving job losses or bankruptcies across the technological spectrum in US industry and eroding the US trade balance. Facing foreign competitors who could copy, reverse engineer, or otherwise commercialize American technologies, the employment-rich or capital-intensive steel, automotive, chemical, semiconductor, and consumer electronics industries, among others, were hardest hit.

Technology-intensive industries inside the emerging protectionist coalition had an obvious direct interest in strong IPRs. They presented an alternative interpretive frame and set of proposals for addressing America's declining trade balance, job losses from trade, and declining economic superiority. As early as 1970, this group lobbied the US government about the technology transfer problem, arguing that having US technologies come back in the form of import competition hurt U.S. trade balances ([Commission on International Trade and Investment Policy 1970: 4](#)). Their solution, however, was to enhance IPRs to protect them from theft or other violations, and to facilitate the development of new technology, the United States' last core comparative advantage.

At that time, however, IPR-intensive firms like IBM, GE, or Monsanto were merely a subset of vertically integrated industry, developing new technology side-by-side with labor- and capital-intensive manufacturing, and any necessary ancillary services. Firms like Texas Instruments in semiconductors or Monsanto in chemicals understood enhancements to IP within the framework of the vertically integrated model, as a means to protect their manufacturing advantages. The notion that the two could simply be separated, as they tend to be today, was uncommon.

Third, legal and economic thinkers from the Chicago school developed a critique of the post-World War 2 legal encoding of antitrust. Though broadly critical of antitrust as practiced in the mid-twentieth century, they focused intently on the question of vertical restraints. They argued that vertical restraints like tying, resale price maintenance, or exclusionary contracting had efficiencies that benefited consumers despite their possible costs, and thus should be generally allowed ([Bork 1978](#); [Posner 1979](#)). [Christophers \(2016\)](#) highlights how Chicago thinking reconceptualized IPRs, and it also rethought licensing, but the prominent works that motivated these shifts focused on vertical restraints in the context of manufacturer-distributor or manufacturer-retailer disputes ([Bork 1978](#); [Posner 1979](#)), neither focusing much on IPRs and technology nor contemplating the likelihood that industry would, or should, vertically disintegrate until far later in time (e.g. [Posner 2005](#)).

Finally, the US state itself had concerns about the geopolitical and employment consequences of an emerging trade deficit and was already trying to put IPRs on the table during the 1973–1979 Tokyo GATT round trade negotiations. As a result, state actors were receptive to solutions purporting to address these problems.

## 5. The actions

These actors pushed many legislative, judicial, executive, and international re-encodings of IPRs and antitrust that undermined the legal foundations for the vertically integrated model. By re-encoding IPRs to more reliably enforce and protect IPRs domestically, by expanding IPRs to cover more technological categories, and by universalizing IPRs across the world, the balance of power shifted to favor intellectual, intangible capital over physical industry and labor. Re-encoding the coordination rights in antitrust law to permit vertical restraints enabled capital to legally segment the profitable and

unprofitable parts of production into different firms respectively using stronger or minimal IPRs. The lobbying battle to strengthen the US domestic patent code developed gradually from the late 1960s to the 1980s.

In January 1970, the Nixon Department of Justice (DOJ) opened a 'Patent Unit' in the Antitrust Division to specialize in enforcement against restrictive IPR licensing (White and Staubitz 1970). Responding to pressure from business concerns and allies in the Commerce Department, Senators Robert McLellan and Hugh Scott pushed for a contrary revision of US patent law allowing vertical restraints of almost every variety: resale price maintenance, territorial restrictions, exclusive licensing, etc. (Cowen 1970). Westinghouse Electric Corporation, which had lobbied through proxies for years that 'what is at issue is the ability of a patent holder to maximize his profits through licensing agreements which would ordinarily run afoul of our antitrust laws', wrote this proposal (Shepard 1973).

After both the Nixon and Ford administrations supported patent reform bills that did not address the licensing issue, while also adding new requirements for patent approval, the business lobby, led by PPG Industries (a chemical and materials manufacturer) and Monsanto (agrichemicals), pushed for changes to the administration bill, highlighting America's declining technological lead (Neubauer 1975; Rourke 1975; Woolley 1975). During this dispute, the president of the American Patent Law Association accused a small group within the antitrust division of being the 'locus of the infection' of views opposing strong patents, contending that the administration bills were written by the antitrust division (Whale 1974).

With international competition increasing over the 1970s, the Carter administration's newly created Office of Technology Assessment emerged as a locus for industrial policy centered around 'industrial innovation' (Department of Commerce 1979). Texas Instruments continued lobbying with concern that developing countries 'want to rectify the alleged wrongs of the past' by adopting policies 'enhancing and facilitating the flow of technology to their countries' (Bucy 1977). These business concerns were distributed throughout the White House, DOD, OMB, Treasury, and Department of State, reiterating the 'concern about intellectual property rights and transfer of technology policies' (Press 1977).

Coincident with lobbying battles over patents, technology transfer, and trade competitiveness, the Chicago school began waging and winning legal battles. In 1977, the Supreme Court's *Sylvania* decision, which cited Chicago scholars multiple times, permitted vertical restraints where they arguably produced efficiencies, in a case where a manufacturer prohibited retailers from selling its products outside a licensed territory (*Continental T.V., Inc. v. GTE Sylvania, Inc.* 1977). Afterward, decisions affirming vertical restraints accelerated. The 1984 *Monsanto v. Spray-Rite* permitted IPR-intensive agrichemical giant Monsanto to fix the final prices at which distributors could sell its herbicides (*Monsanto Co. v. Spray-Rite Svc. Corp.* 1984). Simultaneously, the Reagan administration staffed the antitrust division with Chicago school antitrust enforcers, and simply ceased enforcement against vertical restraints, focusing instead on horizontal price-fixing (Eisner 1991).

In addition to re-encoding vertical restraints, business lobbying and the ideological shift changed the enforcement of technology licensing specifically. The Supreme Court's *Dawson Chemical* decision allowed tying—conditioning the sale of a patented product on a different purchase—in a patent license (*Dawson Chem. Co. v. Rohm & Haas Co.* 1980), and Congress amended the Patent Act in 1988 to allow for patent tying (Waller and Byrne 1993).

Internationally, US policy also shifted towards permitting vertical restraints. The Carter DOJ published antitrust guidelines for firms' 'international operations', specifying under what conditions American antitrust would be enforced for business practices in other countries. These guidelines included significant notes indicating which IP licensing practices the agencies viewed as illegal. The 1977 version expressed the federal government's common skepticism of restrictive patent licenses

(US Department of Justice 1977), but subsequent administrations came to support vertical restraints in technology licensing. The Reagan Administration's 1988 guidelines added safe harbors for IP licensing and took a favorable view of most vertical restraints and territorial restrictions in licensing (Baker and Rushkoff 1990: 405). The Clinton Administration's 1995 guidelines went further, stating that 'the Agencies regard intellectual property as being essentially comparable to any other form of property; (b) the Agencies do not presume that intellectual property creates market power in the anti-trust context; and (c) the Agencies recognize that intellectual property licensing allows firms to combine complementary factors of production and is generally procompetitive' (U.S. Department of Justice and Federal Trade Commission 1995).

The parallel lobbying campaign to strengthen and reinterpret IPRs similarly succeeded in restructuring the federal courts governing IPRs. The 1982 Federal Courts Improvement Act consolidated all patent cases into the United States Court of Appeals for the Federal Circuit, marking a huge win for lobbyists. The 1984 Federal District Court Organization Act further consolidated patent cases into the U.S. Court of Appeals for the Federal Circuit, substantially increasing the probability that patent rights would be upheld in the United States (Henry and Turner 2006).

As a corollary point, many changes to IP law in this era expanded the category of ideas that were eligible for IP protection. Congress granted software copyright protection in 1980, and the 1984 Hatch-Waxman Act strengthened protection of pharmaceutical IPRs. The 1983 Orphan Drug Act added protections for rare-disease medicines, bolstering biotechnology firms' IP-related profits. The Semiconductor Chip Protection Act of 1984 added copyright protection for semiconductor chip designs, after years of Japanese firms reverse engineering or copying chip designs and selling them at low cost. Finally, the 1980 Bayh-Dole Act transferred the patents from any federally funded research to the private contractor who carried out the research, granting the patent monopoly to the contractor. Previously, federal research was freely licensed from the government at no cost, which prevented monopolization of new technologies. These extensions of IPRs to new categories of ideas are important, because the legal re-encoding enabled fissuring in new industries or technologies. For example, absent the *Diamond v. Chakrabarty* (1980) decision permitting patenting of novel biological entities, fissuring and subcontracting in biotechnology would be less practicable than it is today, tough or impossible. The US government then internationalized this domestic re-encoding of IPRs through the 1994 WTO TRIPS Agreement. TRIPS expanded IPRs globally, setting minimum global standards for patent, copyright, and trademark protections as a condition of membership in the WTO, and by extension, access to global markets for developing countries. TRIPS itself was the culmination of a multi-year lobbying and government advocacy effort (Sell 2003; Richards 2004).

After this re-encoding of the legal regime, old and new firms reorganized or adjusted strategy to produce the fissuring we see today. For example, Qualcomm is today one of the world's largest semiconductor design firms and the leading company for CDMA-based wireless technology, but its business is mainly owning and licensing IP. Internal company debates in 1988 focused exactly on the question of whether it should become an integrated manufacturer—like most chip firms then—or simply an IP licensor. With the changed legal protections for IP and changed antitrust scrutiny by the late 1980s, 'simply developing and patenting technology and licensing it to corporations was appealing to many, because the financial model was very attractive—the R&D overhead would be relatively low and easily manageable. There would be no inventory concerns to worry about and no heated competition on razor-thin margins' (Mock 2005: 151–153). In short, Qualcomm could get all the profits yet sequester the costs and risks of holding physical capital away from itself. Qualcomm's internal debate most explicitly recognized the implications of changes to the legal regime, but across industries a similar pattern emerged. Industries as diverse as electronics, aerospace, hospitality, apparel, and

pharmaceuticals increasingly fissured their organizational form to keep the IPR-intensive portions of the business (brand, technology rights, creative rights), while moving the labor- and capital-intensive portions outside their firm's legal boundary.

Yet the international re-encoding of antitrust and IPRs occurred just as the domestic coalition behind IPRs began to fracture. Traditional capital-intensive manufacturers wanting to fend off foreign competition were at the core of the original coalition. However, with IPRs strengthened and Chicago school thinking ascendent in the courts, these industrial firms found their interests left out. The 1985 *Matsushita* decision, in which Chicago school judges ruled that they could not enforce antitrust rules against a Japanese export cartel that dumped electronics products in the U.S. below cost, galvanized import-competing industrialists (*Matsushita Electrical Industrial Co., Ltd. v. Zenith Radio Corp.* 1986; Arslan 2023). Crucially, many of the harmed American companies in this case had licensed their technology to Japanese industry, while lobbying for decades to change patent licensing rules (*Zenith Radio Corp. v. Matsushita Elec. Indus. Co.* 1981). This group of industrial firms was likewise much more vulnerable to the dollar's overvaluation in the 1980s, along with the rising trend of hostile leveraged buyouts. Nonetheless, rather than seek trade remedies or legislative change after the *Matsushita* decision, these industries lobbied Congress to diffuse antitrust policy abroad, such that foreign industrial policies would then be illegal in their own countries. This saw initial success with the Structural Impediments Initiative (SII) with Japan in 1990 (Arslan 2023), followed by a rapid diffusion of new antitrust policies globally in the 1990s (Büthe 2015).

Many of these globally diffused antitrust policies followed the European model of competition policy more than the American one (Bradford et al., 2019), yet the model of allowing restrictive IP licensing still predominates. While European law generally regulates vertical restraints more strictly (Foster and Thelen 2025), it has adopted a similar approach as the U.S. with respect to IP licensing [e.g. OECD (Organization for Economic Cooperation and Development) 2019]. Moreover, the global nature of most technology-intensive industries often means that the practices of dominant jurisdictions set the terms for the industry worldwide, even if rules vary across countries. Consequently, where the United States previously had enforced limited IP rights and licensing rules extraterritorially (Fugate 1958; Townsend 1980), now its lenient, fissured model of IP and antitrust predominates globally.

## 6. The outcomes

The vertical integration era's encoding of capital reinforced distributional conflicts between capital and labor. By prohibiting vertical restraints, limiting the power of intangible property, and upholding union bargaining rights, that encoding induced most large manufacturing firms to maintain a vertically integrated organizational model, with R&D, heavy manufacturing, and labor-intensive aspects of production all held within one firm. These common constraints on industrial firms motivated a common interest in labor peace to ensure uninterrupted production and controlled wage growth. By contrast, the encoding of capital in the fissured era primarily pits different segments of capital against one another: vertical restraints create distributive conflict between different segments of capital, while stronger IPRs allow certain firms to take outsized share of the profits relative to other firms doing physical manufacturing or services. And ironically, firms' common interest in changing the encoding of IPRs and the practice of antitrust undermined the very unity that enabled their successful re-encoding.

Focusing on legal re-encoding in the shift from the vertical to the fissured model enables an alternative explanation for many existing puzzles in political economy today. An elite business and corporate class with a coherent, collective self-interest (Mills 1956) characterized the mid-twentieth century US economy, whereas now the American corporate elite lacks a coherent collective political interest

(Mizruchi 2013). The benefits of economic growth now accrue to the IP-intensive firms that make up the ‘knowledge economy’ (Iversen and Soskice 2015).

The data on profitability of various sectors shows this in a crude way. The rise in generic income inequality is well known, with the Gini index for US household income declining from 37.6 in 1963 to a low of 34.7 in 1980 and then rising to 41.3 in 2022 as recoding and fissuring flowed through the economy (St. Louis Federal Reserve SIPOVGINIUSA 2025). But income inequality among US and global firms is less well known. Table 1 compares sectoral Gini indices for the cumulative profit captured from 1995 to 2022 by the top 9,900 firms globally with adequate financial data, and for US firms in those sectors. These 2,034 firms account for 21 per cent of firms, but 36 per cent of profits for all 9,900 firms. While the data are imperfect—they exclude Saudi Aramco, for example—they reveal an extremely high concentration of profits. The rough correspondence of Ginis for an entire sector and Ginis for just US firms shows that US trends exert a powerful effect on global profit inequality. And because wages are now linked to the profitability of specific firms rather than sectors or the national, profit inequality among firms is a powerful force for broader income inequality.

Advocates for this political, legal, and economic transformation did not uniformly intend this outcome. The protectionist industrial interests who supported stronger IP protections found that the state still allowed foreign competition to put them out of business despite expanded technology protections. Once the legal encoding of IP changed, the technology-intensive subset of those interests shifted their preferred business strategy to a fissured and IP-intensive, but capital and labor light approach. Chicago school lawyers, though aligned with certain business interests, saw technology policy as a peripheral interest relative to revising antitrust law at its core. And the anti-labor business and conservative political interests, while successfully breaking organized labor under a fissured model of political economy, did not necessarily aim at the offshoring of capital-intensive industry.

Today’s large physical capital expenditures for AI data centers may appear to be changing the capital light model. Technology firms are the most prominent IPR-intensive firms, and some are rapidly becoming the most physical-capital-intensive firms in today’s world. But their motives in doing so fit with our conclusions. First, these firms are still primarily making investments at the intangible level, often contracting for outsourced cloud compute and server farms rather than building their own data centers. Whereas a Fordist manufacturing firm makes large capital investments to reach economies of scale and establish entry barriers, today’s tech firms are hoping that their large AI investments will pay off in the form of the legal rights over the most advanced large language models (LLMs), at which point they would not face meaningful competition, and possibly be able to outsource or fissure the remaining parts of the AI supply chain.

## 7. Conclusion

The usual explanations for rising inequality since 1980 generally focus on some variation or combination of the Big Four explanations: skill-biased technological change, financialization, globalization, and monopoly. These explanations tend to homogenize major social forces like capital and labor and then focus on the distributional conflict between the two. They thus lack insight into how the reencoding of capital in the 1960s and 1970s shifted the relative weight of distributional struggles over surplus away from the ‘Marxist’ conflict between capital and labor and towards an increasingly significant ‘Veblenian’ intra-capital conflict. Efforts by a coalition of old and new firms, Chicago school intellectuals, and state actors changed the interlocked legal regime governing domestic and global IPRs and antitrust policy in ways that enhanced the value of IP and its utility for controlling other firms. This changed the distribution of power and thus profit among firms by allowing some firms

**Table 1.** Gini index, share of cumulative global profits 1995–2022 (%), and top 15 firm share of sector profits for 8 select sectors, plus sector Gini for US firms only and US share of sector profits (%).

	No. of firms in sector	Share of all global profits (%)	Global Gini index for sector	Share of sector profits (%)		US firms only		Gini index for US firms
				Top 5 firms	Next 10 firms	Share of global profits for sector (%)		
<b>Beverages (11)</b>	64	1.44	0.848	76.7	17.4	50.5	0.705	
<b>Oil and refining (6 &amp; 19)</b>	150	9.08	0.861	59.9	24.4	43.6	0.844	
<b>Chemicals (20)</b>	361	3.48	0.753	32.4	18.2	28.9	0.754	
<b>Pharmaceuticals (21)</b>	209	4.84	0.840	42.2	35.1	53.1	0.725	
<b>Computers (26)</b>	465	6.51	0.838	44.1	17.0	50.4	0.847	
<b>Machinery (28)</b>	269	2.29	0.716	25.5	23.5	38.8	0.709	
<b>Autos and parts (29)</b>	211	4.30	0.847	46.8	29.7	17.1	0.828	
<b>Software (58 and 62)</b>	305	4.09	0.878	59.8	20.9	60.4	0.900	

*Source:* Author calculation from Bureau van Dijk Orbis database.

Based on 9900 firms with annual operating revenue over \$700 million in any given year, 1995–2022.

(#) = NACE sector.

with substantial IP portfolios to shift the risks involved with large labor forces and large physical capital investments onto other firms. Firms with substantial IP portfolios could now use IP-based vertical restraints to retain significant control over other firms in the production process. This vertical disintegration then generated the varied and narrower causes found in the usual explanations, with, for example, disintegration occurring through offshoring or flight to domestic but rural labor markets.

The Veblenian distributional conflict among firms is ignored in many analyses, even though competition (or its absence) is a major feature of capitalist economies. In contrast to the equilibrium and cooperative understanding of inter-firm coordination that features centrally in analytic approaches like *Varieties of Capitalism* (Hall and Soskice 2001), we highlight the dynamic, conflictual, and emergent aspects. In those conflicts, changes in the legal coding of property rights interacted with changes in antitrust to affect how coordination occurs, and in ways not entirely foreseen by the actors promoting change.

We focus on the inter-firm Veblenian distributional conflict not to minimize the equally salient Marxist distributional conflict between capital and labor, but rather to generate a more accurate causal explanation that captures the interaction of these two distributional conflicts. Sharp conflicts between capital and labor motivated a coalition of business interests to pursue a broad range of changes, including what, compared to direct assaults on unions, looked like relatively minor changes in IP and antitrust law. But those changes drove a wedge between elements of the original US business coalition, as some firms used the re-encoding of IPRs and weaker antitrust law to prey not only on their workers but also on other firms. The export of US legal changes through the WTO drove similar changes in other developed economies, though we lack the space to fully flesh this out here. In sum, the centrality of profit in the dynamics of capitalist economies implies that analysts should attend not just to the profit share arising from conflicts between capital and labor, but also to how inter-firm distributional conflict allocates those profits across firms.

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