

Democracy Challenged

Working Paper Series

Working Paper 2025/01

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Market Power, and Wealth Concentration in
Advanced Capitalist Democracies

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Funded by
the European Union



European Research Council

Winner-Takes-All: Corporate Tax Avoidance, Market Power, and Wealth Concentration in Advanced Capitalist Democracies*

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April 2025

Abstract

Corporate tax avoidance has been a key driver of rising corporate wealth concentration and market power, posing significant risks to capitalist democracies. This paper explores how tax avoidance exacerbates corporate inequality, suppresses competition, and fosters oligopolistic market structures. Using empirical data from Orbis-Historical on all US firms with revenues exceeding \$1 million (1993–2022), it analyses the disproportionate impact of tax avoidance in knowledge-intensive industries, particularly Big Tech and Big Pharma. The study positions taxation as an underutilised regulatory tool that, alongside antitrust law, can help curb excessive corporate dominance. Through a combination of quantitative market concentration metrics, comparative sectoral analysis, and case studies of Apple, Tesla, and Johnson & Johnson, this paper demonstrates how large multi-jurisdictional groups (MJGs) in the top 1% consolidate power through tax arbitrage, profit shifting, and regulatory loopholes. The findings support the argument that unchecked corporate concentration fosters oligarchic tendencies within advanced capitalist democracies.

Keywords: Wealth Concentration, Market Power, Taxation, Knowledge-based sector

JEL Codes: H26, L44, F23, D42

*This work is supported by an ERC consolidator grant (Project 101125672 Democracy Challenged)

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1 Introduction: The Problem of Corporate Wealth Concentration

A substantial body of literature in political economy and normative political theory highlights the inequalities of corporate tax avoidance, emphasising its role in deepening economic disparities, creating tax injustice, and undermining state capacity (Murphy & Nagel 2002, O'Neill 2009, Dietsch 2015, Saez & Zucman 2019). However, existing scholarship has yet to fully explore the direct contribution of corporate tax abuse to the concentration of corporate wealth. This paper addresses this gap by arguing that corporate tax avoidance poses a significant threat to democracy when it facilitates the concentration of economic power in the hands of a few. Such concentration of corporate power is problematic because it undermines the principles of market competition and weakens the foundations of liberal democracy - what political scientists refer to as 'capitalist democracy' or 'democratic capitalism.'

Corporate wealth concentration is particularly concerning as it creates conditions conducive to economic dominance by a small number of powerful corporations, fostering oligarchic tendencies within democratic societies. While oligarchy is typically associated with authoritarian regimes such as Russia or China, a long-standing tradition in political economy warns against extreme wealth concentration due to its potential to erode democratic governance (Winters & Page 2009, Page et al. 2013, Palan et al. 2023). Aristotle first cautioned against excessive wealth concentration, arguing that it allows a privileged minority to dominate political systems and prioritise their own interests over those of the broader population.

This conceptualisation of oligarchy within democracy remains central to debates on the economics of taxation, as it highlights how the corporate power of a small elite translates into political influence. For example, Hager & Baines (2023) show that the U.S. tax code has disproportionately benefited larger corporations. This dynamic enables corporate elites to shape policy in ways that maximise their wealth and entrench their dominance, often through legal mechanisms such as lobbying or, in extreme cases, direct control over state institutions, for more of this political science research, see Hacker & Pierson (2010), Gilens

& Page (2014), Bartels (2016), Scheve & Stasavage (2018), Hope & Limberg (2022), Elsässer & Schäfer (2023), Pontusson (2024).

The threat of oligarchy within democratic systems also aligns with Thomas Piketty’s $R > G$ framework (Piketty 2014), which argues that when returns on capital (profits, dividends, interest, rents, and capital gains) exceed economic growth (especially wage-income growth), wealth naturally concentrates at the top. This concern also underpins the work of Nobel laureates Daron Acemoglu and James Robinson in “Why Nations Fail,” where they examine how economic elites, by accumulating de facto political power, can weaken democratic institutions and entrench inequality. Their research suggests that nations fail when political and economic institutions become dominated by an elite class that prioritises the interests of the few, over the many (Acemoglu & Robinson 2013).

A central theoretical claim of this paper is that the economics of taxation are deeply intertwined with the politics of law and accountancy. As we argue in the next section, what we term “legal-accounting power” plays a crucial role in enabling multi-jurisdictional corporate groups (MJGs) to deploy tax avoidance strategies that concentrate profits and wealth among the top 1% of firms. While existing literature has extensively examined antitrust and competition law as mechanisms to curb monopoly power (see Zingales (2017), Khan (2017), Rodrik (2017), taxation remains an underexplored tool for addressing this problem. By empirically analyzing corporate concentration using Orbis-Historical data (1993–2021) and conducting in-depth case studies on MJG tax avoidance strategies, this paper seeks to fill that gap.

Empirically, we examine the evolution of economic inequality among U.S. firms from 1993 to 2021, focusing on firm size distribution, revenue concentration, and profit allocation. Our core findings demonstrate that between 1993 and 2009, the Gini coefficient -a measure of inequality- declined modestly, indicating a slight reduction in firm inequality. However, following the 2009 Great Recession, inequality surged, driven by the rapid expansion of large MJGs rich in intellectual property and intangible assets. Revenues and profits became increasingly concentrated within the top 1% of corporations, largely at the expense of small and mid-sized businesses.

Our findings indicate that this growing inequality is particularly pronounced in the knowledge economy, where Big Tech and Big Pharma corporate groups have seen significant profit concentration since 2010, reaching historically high levels by 2021. Furthermore, using a comparative case study analysis, we show that corporate tax policies have exacerbated these disparities, disproportionately benefiting the largest corporate groups, which now face significantly lower tax rates compared to smaller firms. To unpack the causal mechanism linking corporate tax avoidance to wealth and profit concentration, we employ forensic accounting methods and comparative case studies of Tesla, Johnson & Johnson and Apple. Our analysis reveals a structural shift in economic power towards Big Tech and Big Pharma MJGs, reinforcing a winner-takes-all dynamic in the knowledge-based economy.

The remainder of this paper is structured as follows. First, we connect the literature on corporate wealth concentration to debates on the economics of taxation, developing a conceptual model of legal-accounting power in shaping these dynamics. Second, we argue that this power is particularly instrumental in shaping tax avoidance strategies in the knowledge-based economy. Third, using Orbis-Historical data, we present quantitative descriptive measures of corporate concentration to assess trends in market power. Fourth, we examine the causal mechanisms linking corporate tax avoidance to wealth and market concentration through forensic accounting of Tesla, Johnson & Johnson and Apple. The final section concludes.

2 Conceptual Framework: Taxation as a Tool Against Market Power

This paper seeks to bridge the gap between legal discussions of monopoly power and economic analyses of taxation by introducing a conceptual framework centred on "legal-accounting power". While antitrust laws have historically focused on restricting market concentration (Posner 2001, Zingales 2017, Lancieri et al. 2022), the potential role of taxation policies in mitigating corporate market dominance remains comparatively under-explored. This oversight is particularly significant given the profound impact tax and accounting rules exert on

corporate behaviour, investment strategies, macroeconomic outcomes, and their capacity to counteract monopolistic tendencies (Zucman 2015, Hager & Baines 2020, 2023). It is also surprising given the European Commission’s successful use of competition law as a tool to challenge and win its historic case against Apple’s tax strategies in Ireland.

Economic literature has extensively documented that global multinationals increasingly leverage profit-shifting and regulatory arbitrage strategies, diminishing taxation’s effectiveness as a mechanism for redistribution and regulation (Davies et al. 2018, Saez & Zucman 2019, Garcia-Bernardo et al. 2021). Such strategies notably benefit multinational enterprises structured as ”global wealth chains” (Seabrooke & Wigan 2022). These chains strategically optimise profitability and wealth accumulation while minimising tax liabilities. At the core of global wealth chains lies what we call the ”multi-jurisdictional corporate group” (MJG), defined by complex webs of legal agreements across numerous subsidiaries worldwide. These intricate legal-accounting structures facilitate sophisticated profit-shifting strategies and regulatory arbitrage (Palan et al 2023).

Recent scholarship in law and political economy has begun explicitly examining the intersection of taxation economics and profit-shifting in shaping corporate market power. For example, the Roosevelt Institute’s policy series, ”Tax and Monopoly Focus: Reframing Tax Policy to Reset the Rules of the Monopoly Game,” critically analyses how existing tax policies reinforce corporate monopolies and proposes reforms for promoting fair market competition. Notable contributions include Mitchell & Holmberg (2023) investigation of Amazon’s tax strategies disadvantaging smaller firms, Avi-Yonah (2023) call for progressive corporate income taxation to limit excessive corporate profits, and Lusiani & DiVito (2024) proposal for wealth taxation targeting billionaire-driven market concentration.

Empirically, Hager & Baines (2020, 2023) further explore the linkage between taxation and market concentration, illustrating that the U.S. tax code has significantly favoured large corporations since the mid-1980s. Their findings indicate that tax policies between 2019 and 2022 substantially increased profit concentration among leading corporations, which typically redirected these tax benefits towards shareholder payouts rather than productive reinvestment. To address this imbalance, Hager and Baines propose reinstating graduated

corporate tax rates, and introducing a graduated excise tax on share buybacks, alongside enhanced antitrust enforcement.

Similarly, Pistor (2019, 2013) legal theory of finance underscores how financial markets are fundamentally structured by legal rules, institutions, and contractual agreements. What scholars call “financialisation” is, ultimately, a legal process of constituting market power. According to Pistor, finance operates within - and is constituted by - legal frameworks that shape economic relationships and the distribution of wealth. Her analysis demonstrates how legal structures transform assets into legally protected capital, thus reinforcing existing wealth inequalities by shielding profits from an important fiscal claimant - democratic states.

However, an overlooked dimension in this literature is the political and economic role of accounting practices within MJGs. A crucial driver of corporate market power is the specialised expertise of legal-accounting professionals who exploit arbitrage opportunities between tax and accounting regulations. For instance, legal-accounting experts have been instrumental in transforming intangible assets into highly profitable and concentrated forms of capital. As Robé (2011), Robé et al. (2019), Robé (2022) argues, corporations are not merely economic actors but complex legal and accounting constructs that provide a framework for documenting and disclosing financial, operational, and tax-related activities. Through this structure, firms strategically organise their subsidiaries and assets, assign economic value to their activities, and leverage multi-jurisdictional differences to maximise profit and reduce costs. This perspective highlights how corporate entities use legal-accounting frameworks to shape market power and wealth concentration, see also: Borkowski (1997), Braithwaite (2005), Froud et al. (2006), Sikka & Willmott (2010), Gracia & Oats (2012), Mulligan & Oats (2016), Hearson et al. (2023), Ylönen (2022), Ylönen & Teivainen (2018), Christensen & Seabrooke (2022).

Our study enhances existing literature by empirically measuring market concentration among the top 1% of MJGs in the U.S. and examining the role of corporate tax avoidance in this process through comparative case studies. We define legal-accounting power as the strategic use of legal and accounting expertise to structure corporate operations, manage regulatory risks, reduce tax obligations, and protect wealth. Or put more simply, legal

accounting power is the weaponization of expert knowledge to maximise profits, minimise tax, and protect wealth. It is financial plumbing. This form of power is particularly evident within Big Tech and Big Pharma, where intangible assets, IP rights, and sophisticated financial instruments increasingly drive profit-shifting strategies. Understanding this role for legal-accounting power, we argue, is crucial for explaining the "winner-takes-all" dynamics that characterise knowledge-based economies in advanced capitalism.

3 The Knowledge Economy and the Winner-Takes-All Dynamic

The knowledge economy has driven a structural shift toward extreme corporate concentration, fueled by intangible assets such as intellectual property (IP), data, and digital platforms (Haskel & Westlake 2017). As we illustrate in the next section, in 2021, the top 1% of U.S. firms in the knowledge sector accounted for approximately 85% of total profits. Market concentration is particularly pronounced in the tech sector, where the top 10 firms control over 60% of the market, and in the pharma sector, where this figure rises to nearly 80%. Knowledge-intensive industries like tech and pharma exhibit strong winner-takes-all dynamics, driven by network effects, and first-mover advantages, all of which reinforce market dominance (Brynjolfsson & McAfee 2014, Schwartz 2019). Our argument is that taxation matters too.

We argue that while the effect of taxation on market dominance is more difficult to directly measure and quantify - due to the lack of publicly available data on where MJGs pay tax across subsidiaries in low-tax jurisdictions - it nonetheless plays a pivotal role in shaping the ability of large corporations to concentrate their market power. The Apple tax case, for example, clearly demonstrates how tax policies profoundly influenced Apple's structuring of intellectual property location and licensing, primarily to facilitate profit-shifting and minimize tax liabilities. At the core of these "tax-avoiding wealth chains" was the strategic use of transfer pricing within Apple's Irish-subsidiaries and the influence of accounting power in

valuing non-observable assets, such as licenses for the use of intangible property rights.

The closure of the Double Irish tax avoidance strategy in 2020 - widely considered the largest Base Erosion and Profit Shifting (BEPS) structure in the history of capitalist democracies - exposed the staggering extent to which U.S. multinationals exploited gaps between U.S. and Irish tax law to shift profits offshore tax-free. By leveraging a complex web of legal-accounting structures, firms routed intellectual property (IP) rights through cost-sharing arrangements, allowing them to minimise tax liabilities while accumulating vast untaxed wealth. Research by Samarakoon (2023) conservatively estimates that \$1.4 trillion in profits were funneled through the Double Irish between 1998 and 2018, highlighting the dominance of IP-based tax strategies in Big Tech and Big Pharma (MJGs). Compounded over time, this ability to accumulate billions in tax-free profit, provides significant market advantage to large MJG corporations vis-a-vis small businesses.

Following the loophole’s closure, many of these MJGs on-shored IP rights and licenses to Ireland, employing a three-step strategy: (a) issuing debt to themselves to purchase IP from an offshore subsidiary, (b) significantly overvaluing the acquired asset, and (c) amortising the inflated cost against future taxable income to maximise profits and shield wealth from taxation. The outcome is what Paul Krugman has colloquially called “Leprechaun economics”, where the divergence between Irish GDP and modified GNI* in 2024 was almost \$160 billion. This process underscores the adaptability of IP-driven tax strategies in the “knowledge economy” and the continued role of legal-financial engineering in corporate wealth accumulation¹.

Put simply, the rise of the “intangible economy” has provided MJGs in the knowledge economy with new opportunities to engage in complex global tax games designed to protect and accumulate wealth. To explain the financial plumbing of these tax games, requires in-depth qualitative forensic accounting of the complex hierarchical network structure of MJGs. Our case analysis reveals that MJGs within the knowledge-economy consistently utilise ag-

¹We do not go into detail in this paper on tax haven jurisdictions. Conceptually, we consider tax haven jurisdictions as key nodes within the tax-avoiding global wealth chains of MJGs. We differ from a lot of the legal literature on tax haven jurisdictions that posit MJGs and their legal-accountants simply respond to government-created rules. We consider MJGs - and the legal accounting power they possess - as active agents that create and constitute the global rules of the game in taxation

gressive tax avoidance strategies that range from IP-based cost-sharing arrangements, debt-based restructuring, amortisation techniques, assetization of research and development, to stock-based compensation. Underpinning all of these MJG profit-shifting structures is the politics of accounting, and, more precisely, the politics of “valuing” intangible assets.

We now present a descriptive analysis of corporate concentration trends to assess and illustrate the growing market power of the top 1% of MJGs in the US. We begin by explaining our dataset and sample construction, followed by a discussion of our methodology. Next, we outline the key quantitative descriptive findings before turning to our case study section, which examines the role of taxation in this process.

4 Data, Empirical Overview of Market Concentration

4.1 Data and Sample Construction

Our quantitative empirical analysis is based on the Orbis-Historical dataset by Moody’s (Orbis 2025), which provides firm-level financial reports and ownership structures across all jurisdictions from the 1980s to the present. To mitigate biases introduced by subsidiaries, we consolidate parent and subsidiary entities.

We undertook a comprehensive process of exporting, cleaning, classifying, and constructing a new dataset for our analysis. While Orbis offers data as early as 1980, the number of observations stabilizes only after 1990. As a result, we selected 1990–2021 as our study period. We excluded 2022 due to a sharp increase in the number of firms registered in Orbis that year, which complicates year-to-year comparisons.

Our final dataset includes 1.42 million U.S. firms, focusing on companies reporting at least 1 million USD in sales (nominal terms). Financial institutions, banks, and insurance companies are excluded from the dataset. For a more detailed description of our data, see tables 1 and 2 . This threshold enables us to capture both top-income firms and small and medium-sized enterprises (SMEs), ensuring a broader representation of the corporate landscape. By constructing this dataset, we establish a replicable framework that provides

a robust empirical foundation for analyzing long-term corporate concentration and its links to wealth inequality.

[Insert tables 1 and 2 here]

Sectoral classification follows the NACE Rev. 2 industry classification codes. We categorize industries into three groups, distinguishing between knowledge-intensive and traditional sectors (3).

[Insert table 3 here]

For our taxation analysis, we rely on the income tax provision reported in each company’s profit and loss statements. To measure the tax burden, we compute taxes as a share of profit before taxes (PBT), ensuring a consistent metric for comparison across firms and over time. A limitation arises here given that our data stems from consolidated (group-level) accounts. In practice, it could happen that a given (foreign or local) subsidiary of an MJG reports profits and pays taxes accordingly, even though at the consolidated group level the MJG reports overall losses. This scenario appears in the consolidated financial statements as the MJG paying taxes despite recording no profits at the group level, since taxes paid at the subsidiary level remain visible, while the profits triggering those taxes are offset by the losses from other subsidiaries in the consolidated financial statement.

However, since we are performing a microeconomic analysis at the firm level based on the principle that a company’s tax liability arises only when taxable profits exist, we assume that at the consolidated level no tax liability arises in the years when the MJG reports losses. To ensure robust estimates, we clean the data by removing anomalies, outliers, and cases where reported taxes significantly exceed profits, preventing measurement errors from distorting our findings.

4.2 Methodology

First, we calculate the Gini coefficient of turnover for US firms to measure inequality in market distribution. The coefficient is computed using the following formula, where s_i rep-

resents the cumulative share of firms' turnover, t_i is the cumulative share of turnover and the fraction represents the weight of each firm.

$$GINI = 2 \sum_{i=1}^n (s_i - t_i) \frac{1}{W} \quad (1)$$

As for the top shares estimates - concentration of sales and profits in the top 1%, 90 to 99%, middle 40% and bottom 50% we follow the approach used by the World Inequality Lab in Blanchet et al. (2024). We first sort firms by either turnover or net profits and compute unweighted averages to determine the top thresholds. The top shares are then calculated as a function of the interpolated top averages turnover or profit relative to the total average. This method provides a precise and systematic measure of concentration across firms.

Due to data limitations, the sectoral analysis on market concentration is restricted to the years 2012 - 2021. We include the 5,000 largest companies by revenue for each group. To assess market dominance by top firms, we calculate the revenue share of the four (C4) and ten (C10) largest firms in each sector, following the approach of Ferschli et al. (2021), Calligaris et al. (2024), Bajgar et al. (2025).

$$C_k = \frac{\sum_{i=1}^k R_i}{\sum_{i=1}^n R_i} \quad (2)$$

To increase robustness, we also calculate the Herfindahl-Hirschman index (HHI) for each sector, defined as the sum of squared market shares s_i of all firms within an industry:

$$HHI_i = \sum_{i=1}^n \left(\frac{s_i}{N} \right)^2 \quad (3)$$

4.3 Quantitative Descriptive Analysis of Corporate Concentration

[Insert Figure 1 here]

Figure 1 presents the Gini coefficient of turnover for US firms, showing an initial decline followed by a sharp increase after 2008. The data, covering consolidated turnover of US firms from 1993 to 2021 with revenue above \$1 million, reveals growing inequality in firm

revenues in the aftermath of the great recession. Financial institutions, banks, and insurance companies are excluded from the dataset.

[Insert Figure 2 here]

Figure 2 illustrates the distribution of total sales among different firm groups in the US economy, including the top 1%, middle 90-99%, middle 40%, and bottom 50%. Since 2008, market concentration has surged, with the top 1% of firms controlling 98% of total sales by 2021. The data reflects consolidated turnover of US firms from 1993 to 2021, excluding banks, financial institutions, and insurance companies.

[Insert Figure 3 here]

Figure 3 highlights the distribution of total profits across the same firm groups. Unlike turnover concentration, profit concentration has remained relatively stable, with the top 1% of firms consistently accounting for approximately 86% of total profits in 2021. The dataset spans 1990 to 2021 and focuses on firms with turnover above \$1 million, excluding financial institutions.

[Insert Figure 4 here]

Figure 4 compares sales concentration in the knowledge and traditional sectors among the top 1% of US firms. Both sectors exhibit a similar upward trend in concentration post-2008. By 2021, the top 1% of firms in the knowledge sector (technology, pharmaceuticals, and knowledge-intensive industries) controlled 93% of total sales, while in the traditional sector (commodities, retail, other services, and industry), this figure reached 95%. The dataset includes firms with sales above \$1 million, excluding financial institutions.

[Insert Figure 5 here]

Figure 5 compares profit concentration between the knowledge and traditional sectors. While both sectors saw rising concentration, the knowledge sector overtook the traditional sector after 2014. By 2021, the top 1% of firms in the knowledge sector accounted for 85%

of total profits, compared to 67% in the traditional sector. Data is based on consolidated profits of US firms with revenue above \$1 million, excluding financial institutions.

[Insert Figures 6, 7 and 8 here]

Figures 6, 7 and 8 illustrate market concentration in the technology and pharmaceutical sectors: In technology, the top 10 firms control over 60% of the market (C10-Share: 0.604), and the top 4 firms hold 35.5% (C4-Share: 0.355), highlighting the dominance of a few key players. In pharmaceuticals, concentration is even higher, with the top 10 firms capturing nearly 80% of the market (C10-Share: 0.793) and the top 4 firms holding 56.2% (C4-Share: 0.562), indicating a strong grip on pricing, innovation and competition.

Taxation is meant to be a powerful tool for generating public revenue, but it can also play a crucial role in either reducing or exacerbating wealth concentration. In theory, corporate taxation should help curb excessive profit at the top by ensuring a fair contribution from the most profitable firms. However, recent research by Hager & Baines (2023) highlights a systematic tax advantage for large MJGs in the U.S., showing that the post-tax profit share of the top 10% of publicly listed companies has consistently exceeded their pre-tax profit share since 1980. This goes in the direction of our argument that the overall tax structure - both domestic and foreign - has contributed to reinforcing profit concentration at the top of the corporate hierarchy.

Building on Hager & Baines (2023) analysis, we explore how this dynamic unfolds across different sectors. We show that those industries where market concentration is higher - such as the IP-rich pharma and tech sectors - systematically pay lower corporate tax rates compared to traditional sectors, including commodities, retail and industrial manufacturing. This evidence supports the concern that, rather than mitigating market inequality, corporate taxation has played a regressive role, reinforcing disparities in corporate market power and profit distribution.

[Insert Figure 9 here]

The graph illustrates the declining trend in corporate tax provisions as a percentage of net profits among U.S. firms over time. In the early 1990s, companies paid approximately

25% of their net profits in taxes, but this figure dropped to around 13% by 2021. This trend reflects the impact of political and policy decisions that have progressively reduced the corporate tax burden, leading to substantial shifts in taxation over the years.

The tax rate variable represents the income tax provision recorded in firms' profit and loss statements, capturing the portion of profits allocated to tax payments rather than the statutory tax rate. The data is based on consolidated profits of U.S. firms with revenue exceeding 1 million USD. Estimates are derived from ORBIS historical data and exclude banks, financial institutions, and insurance companies.

[Insert Figures 10 and 11 here]

Figure 10 depicts the evolution of corporate tax rates across traditional and knowledge-based sectors in the U.S. economy. While both sectors show a declining trend in tax rates, notable differences persist in their levels. In the early 1990s, firms in the traditional sector paid an average of approximately 23% of their profits in taxes, whereas knowledge-sector firms faced a significantly lower average tax rate of around 12%. By 2021, the average tax rate in the knowledge sector had stabilized at approximately 18%, while firms in the traditional sector continued to pay a higher rate of around 22.5%.

The knowledge sector includes industries with high intangible asset values, such as tech and pharma, while the traditional sector encompasses commodities, retail, industrial manufacturing, and other service-based firms. The tax rate variable represents the income tax provision recorded in firms' profit and loss statements, reflecting the portion of profits allocated to tax payments rather than the statutory tax rate. The data is based on consolidated profits of U.S. firms with revenue exceeding 1 million USD.

Figure 11 provides a more detailed breakdown of corporate tax rates by industry sector in the U.S. from 1990 to 2021. The data reveals a consistent pattern in which knowledge-based sectors systematically pay lower taxes on average compared to traditional sectors. Notably, the pharmaceutical sector experienced a significant decline in its tax burden, with the average tax rate on net profits falling from approximately 12% in the early 1990s to around 7% by 2021.

This divergence underscores sector-specific dynamics in corporate taxation, with knowledge-intensive industries benefiting the most from structural tax advantages over time. The tax rate variable represents the income tax provision recorded in firms' profit and loss statements, reflecting the portion of profits allocated to tax payments rather than the statutory tax rate. The data is based on consolidated profits of U.S. firms with revenue exceeding 1 million USD.

5 Case Studies: Tesla, Johnson & Johnson and Apple

The quantitative analysis of corporate concentration in the US reveals a clear trend of increasing market dominance by the top 1% of MJGs, particularly after the 2008 great recession. Turnover and profit concentration have remained persistently high, with the largest MJGs capturing nearly all sales and profits, especially in knowledge-intensive sectors such as tech and pharma. These MJGs wield substantial market power, with a handful of corporate groups controlling the majority of industry revenues, limiting competition and reinforcing market power.

The rise of intellectual property-driven monopolies, combined with financial strategies that prioritise profit retention over reinvestment, exacerbates wealth concentration and weakens economic dynamism (Schwartz 2019, 2022). This pattern is critical to understanding the Winner-Takes-All dynamics in advanced capitalist democracies, where corporate tax avoidance, market power, and wealth concentration are interconnected. MJGs with dominant market positions leverage legal-accounting power to minimise tax and maximise profit, further entrenching wealth inequality. We will now unpack how this occurs in our case studies.

5.1 The Case of Musk and Tesla

A recurring theme in MJG tax avoidance is how non-cash accounting manoeuvres generate substantial tax benefits. Tesla's approach, centred on stock-based compensation, is a clear case study of this intangible-driven strategy. While headlines often present Musk's \$1 salary as an act of self-restraint, the reality is far more calculated. This symbolic pay cheque is

the foundation of a tax-avoidance plan that not only minimises Tesla’s liabilities but also maximises Musk’s personal wealth with minimal tax exposure. To understand how this works, we first examine the so-called ”One-Dollar Salary” and its role in Tesla’s broader tax strategy.

5.1.1 The “One-Dollar Salary” Myth

Musk’s decision to forgo a conventional salary is often portrayed as a personal sacrifice and a commitment to Tesla’s long-term goals. Official statements refer to a ”\$33,280 base salary” that Musk technically earns but only ”accepts \$1 per year,” creating the impression that he is prioritising Tesla’s mission over personal wealth (Tesla 2013). However, this one-dollar figure is far from altruistic. By relying heavily on stock-based compensation instead of cash, Musk enables Tesla to claim substantial tax deductions while deferring much of his own tax obligations.

In 2012, Tesla’s board approved a high-risk compensation package that replaced Musk’s salary with stock options tied to ambitious performance milestones. The plan granted him 5.27 million shares, divided into 10 tranches, each conditional on achieving specific operational targets such as production quotas or model launches, as well as significant increases in Tesla’s market capitalisation. If any target remained unmet within 10 years, the corresponding tranche would expire worthless (Tesla 2013).

By 2021, Tesla’s share price had surged from approximately \$31 (the grant price) to nearly \$1,000. Under US tax law, the difference between the exercise price and the market price is classified as ”employee compensation”, allowing Tesla to claim a massive tax deduction despite having no actual cash outflow. When Musk exercised the final tranches in 2021, Tesla recorded a \$23.45 billion tax deduction, one of the largest ever recorded by a US company in a single year (Tesla 2022).

5.1.2 2021: A Multi-Billion-Dollar Corporate Tax Vanishing Act

At the start of 2021, Tesla appeared set to pay a substantial federal tax bill. A straightforward calculation, multiplying pre-tax income by the statutory 21% corporate tax rate,

suggested a liability of \$1.332 billion (Tesla 2022). However, Tesla ultimately paid no federal income tax. Two key entries in Tesla’s tax reconciliation explain why:

- ”Excess tax benefits” from Musk’s stock-option exercises amounted to - \$7.123 billion, instantly eliminating Tesla’s expected tax charge.
- A \$6.165 billion ”change in valuation allowance” offset much of this windfall on Tesla’s financial statements.

Previously, Tesla had maintained a large valuation allowance against its deferred tax assets due to uncertain profitability. By 2021, after achieving sustained profits, Tesla released portions of this allowance, which appeared on paper as an increased tax provision but did not involve an actual cash payment.

These accounting manoeuvres resulted in a GAAP tax provision of \$699 million, yet Tesla’s federal current tax liability remained at zero (Tesla, 2022). The majority of Tesla’s taxes in 2021 were paid to foreign governments, highlighting how ”paper” deductions from stock compensation and the strategic use of deferred tax assets effectively eliminated its US tax obligations. The outcome was clear: Musk accumulated immense wealth, while Tesla paid no federal tax.

Tesla has since acknowledged that such a massive tax windfall will not be repeated under the same framework. Amendments to Section 162(m) of the Internal Revenue Code now cap the deductibility of executive compensation at \$1 million, preventing future mega-grants from yielding similar multi-billion-dollar tax deductions. However, Tesla and Musk had already secured the benefits (Tesla 2022).

By treating stock-option exercises as deductible compensation, Tesla erased its federal tax liability at the peak of its 2021 financial performance. Meanwhile, Musk leveraged his newly acquired shares, borrowing against them to avoid realising capital gains, and redirected vast economic resources into personal projects (such as buying Twitter) and public campaigns against what he calls ”government overreach.”

Through a combination of stock-based compensation, deferred tax assets, and complex accounting techniques, Tesla has demonstrated how a multinational giant can virtually elim-

inate its US federal tax obligations while enabling its top executive to accumulate extraordinary corporate wealth and, in turn, political power.

5.2 The Case of Johnson & Johnson

Johnson & Johnson (J&J) has consistently paid an effective tax rate lower than the official US corporate tax rate. Since 2009, J&J's average effective tax rate has been 21.28%, compared to its average nominal statutory rate of 28.87% (Johnson & Johnson 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024). However, this average is skewed by the unusual year of 2017, when J&J's tax rate briefly surged to 92.5% due to the Tax Cuts and Jobs Act (TCJA). This law required US multinationals, including J&J, to recognise taxes on foreign earnings that had previously been deferred for cash-flow reasons.

If we exclude this one-off event, J&J's average effective tax rate since 2009 drops to 16%, well below the average nominal rate of 28.46% (Johnson & Johnson, 2018). This significant gap reflects J&J's ability to use its global wealth chain to lower its tax burden. The years 2013 and 2021 stand out as particularly significant, as these were the periods when J&J most aggressively took advantage of tax-saving opportunities.

5.2.1 2013: Leveraging Asset Write-Offs and Retroactive Tax Breaks

Between 2008 and 2011, J&J reported an average global tax rate of about 22%. In 2012, this figure increased slightly to 23.7%, partly because tax deductions related to the write-off of intangible R&D assets were lower than expected. Since these impairments occurred mainly in low-tax jurisdictions, they did not provide the same tax-saving benefits as they would have in higher-tax countries².

Then, in 2013, J&J's effective tax rate dropped dramatically to 10.6% (Johnson & Johnson 2024). This sharp decline was the result of two key accounting strategies:

- Retroactive tax credits: The US government reinstated R&D tax credits and CFC

²An impairment occurs when a company realises that these intangible assets are no longer worth as much as they originally estimated. When an impairment happens, accounting rules require the company to formally write down the value of those intangible assets on their balance sheet. This reduction in asset value also creates an expense in the company's income statement, directly reducing taxable profits.

look-through provisions that had expired in 2012. The renewal applied retroactively to 2012, allowing J&J to claim two years' worth of tax benefits in a single financial year, significantly lowering its tax burden.

- Strategic asset write-offs: J&J took advantage of the impairment and write-off of intangible assets acquired through its earlier purchase of Scios Inc., a pharmaceutical research firm. These assets were initially valued based on projected future profits. However, due to regulatory changes, research failures, or market shifts, they were later deemed economically unviable. J&J wrote off these impairments as losses, which created a substantial one-time tax-deductible expense, reducing taxable income and further lowering its tax rate for 2013.

This approach highlights a broader pattern among multinational giants: they profit massively when acquisitions succeed, but when they fail, they write off losses to reduce their tax bills. This effectively allows them to privatise profits while socialising losses, shifting part of their financial risk onto taxpayers, while concentrating wealth.

5.2.2 The Bigger Picture: How J&J Creates Global Tax Loopholes

In 2021, J&J used another powerful tax-minimisation strategy: it shifted ownership of key assets from subsidiaries in high-tax countries to those in lower-tax jurisdictions, such as Ireland and Switzerland (Johnson & Johnson 2022). By doing this, J&J could legally reset the tax value of these assets to their "fair market value" under local tax laws. As a result, the assets became significantly more valuable on paper, which provided an opportunity for future tax deductions.

This move allowed J&J to record approximately \$2.3 billion in deferred tax assets, enabling its subsidiaries to claim larger depreciation and amortisation deductions in the future (Johnson & Johnson 2022). In simple terms, this is like buying an asset at a higher price and deducting that cost from taxable earnings - except in this case, J&J achieved this by simply transferring assets between its own subsidiaries.

However, there was a catch. Because J&J is a US-based multinational, this manoeuvre

triggered anti-avoidance measures under the Global Intangible Low-Taxed Income (GILTI) scheme (Johnson & Johnson 2022). The US government effectively said: "You cannot lower your taxes abroad without paying something at home."

As a result, J&J had to pay an additional \$1.7 billion in US deferred tax expenses. Despite this, the company still came out ahead, securing a net tax benefit of approximately \$600 million, which reduced its effective tax rate by around 2.7% (Johnson & Johnson 2022).

J&J's aggressive tax strategies in 2013 and 2021 illustrate how large MJGs actively exploit opportunities within the international accounting system. These tax-minimisation tactics involved a global network of subsidiaries spanning the US, Ireland, Switzerland, and Singapore. Whenever a favourable tax opportunity arises - whether through regulatory changes, asset impairments, or internal reorganisations- MJGs like J&J are quick to act. By leveraging complex tax-avoiding wealth chains, they significantly minimise their tax obligations while maximising long-term profits, which in turn, fuels the concentration of market power in the Big-Pharma sector.

5.3 The Case of Apple:

The Apple tax case illustrates how the tech giant structured its global tax affairs in Ireland to effectively eliminate its tax bill. One notable benefit of this legal case is that it disclosed a wealth of important information that is usually inaccessible to researchers. At the core of Apple's strategy were two Irish-incorporated subsidiaries, Apple Sales International (ASI) and Apple Operations Europe (AOE) (European Commission, 2016, para. 52). Although registered in Ireland, these companies were not legally tax-resident there. By assigning their management to head offices that existed solely on paper and had no tax residency anywhere in the world, Apple managed to avoid paying Irish corporation tax on the majority of its global profits.

This setup allowed Apple to channel nearly €111 billion in non-US profits into these subsidiaries between 2004 and 2014, while ensuring that only a small portion of those profits were actually taxed in Ireland (Quintero Godínez & Regan 2024).

5.4 How Apple Used Irish Tax Law to Its Advantage

At the time, Irish tax law required companies to pay tax on their worldwide income if they were either incorporated in Ireland or managed and controlled from Ireland. However, a loophole in Section 23A of the Taxes Consolidation Act 1997 (TCA 97) meant that ASI and AOE were considered non-resident for tax purposes, even though they were registered in Ireland.

Although non-resident companies were still supposed to pay Irish tax on profits linked to activities in Ireland, Apple argued that most of its valuable intellectual property (IP)-related activities happened outside the country. As a result, only a small fraction of the subsidiaries' profits were considered taxable in Ireland.

A key part of Apple's strategy relied on advanced tax rulings - written agreements between companies and tax authorities that clarify how specific tax laws will be applied in certain situations (Commission v Ireland and Others, 2024, para. 12; Ireland and Others v European Commission, 2020, para. 11; European Commission, 2016, paras 59–62). Through these rulings, Apple and the Irish Revenue Commissioners agreed on a method to allocate profits. Under this agreement:

- Apple's Irish branches were treated as "tested parties", meaning they were assigned only a small routine profit based on their operating costs.
- The bulk of Apple's profits, particularly those linked to its valuable IP, were allocated to its stateless head offices, which were not taxed anywhere.

This arrangement dramatically reduced Apple's tax bill in Ireland and provided certainty that Irish authorities would not later challenge its tax structure.

5.4.1 The EU Investigation and Legal Battle

This system remained in place for years, but in 2016, the European Commission launched an antitrust investigation, arguing that Apple's tax arrangements in Ireland gave the company an unfair market advantage (European Commission 2024b) The Commission concluded that

Apple’s Irish tax rulings deviated from Ireland’s normal tax rules, creating a special deal that was not available to other companies.

As a result, the Commission ruled that Apple had underpaid approximately €13 billion in taxes between 2003 and 2014 (European Commission 2024*b,a*). Apple fought this decision in court, leading to a lengthy legal battle that ultimately reached the Court of Justice of the European Union (CJEU). The CJEU sided with the Commission, confirming that Apple’s tax structure did not reflect an arm’s-length arrangement under standard Irish tax rules (Commission v Ireland and Others, 2024, para. 397). The key issue in the case was profit shifting linked to Apple’s intellectual property - a strategy that allowed the MJG to concentrate its earnings in low-tax jurisdictions while limiting tax exposure in higher-tax countries. But most importantly for the argument of this paper, it was the first time that the EC successfully used competition law to tackle corporate tax abuse, leading to the largest ever antitrust fine in the history of capitalist democracy. Implicit in the entire EU’s legal argument is linking the political economics of taxation to corporate market concentration.

5.4.2 The Green Jersey: Capital Allowances for Intangible Assets

Once Ireland came under fire for “stateless” entities, the government introduced new strategies to preserve the country’s status as a low-tax hub for intellectual property (IP) and other intangible assets. The Capital Allowances for Intangible Assets (CAIA) scheme, enacted in 2015, allows companies to write down the cost of buying IP over time - just like they would with a physical asset such as machinery. If a company buys machinery for €1 million that depreciates over ten years, it can deduct 10 percent each year. Extending this principle to IP, however, creates accounting opportunities for much larger and more subjective “valuations”.

So, while one might assume that the European Commission’s case against Apple signalled the end of its aggressive tax planning, think again. In response to the ruling, Apple devised a new Base Erosion and Profit Shifting (BEPS) strategy, which was soon replicated by several other Big Tech multinational giants, including Microsoft and Adobe, to exploit the CAIA scheme. This approach has since become known as the “Green Jersey” scheme. At the heart of this strategy - outlined in detail on page 8 - is a three-pronged approach:

Apple created a new subsidiary in Jersey, a well-known tax haven, to issue debt to itself. The subsidiary then used this debt to purchase Apple’s own offshore-held intellectual property (IP). Apple massively inflated the valuation of this IP and transferred it to its key Irish subsidiaries. By relocating its IP to Ireland, Apple took advantage of the country’s highly favourable CAIA, which allowed it to shift global profits to Ireland while significantly reducing its taxable income through amortisation techniques. This new scheme allowed Apple to maintain its extremely high post-tax profits, and further concentrate its market power.

6 Discussion and conclusion

The core claim of this paper is that corporate tax avoidance poses a significant threat to capitalist democracy when it reinforces the concentration of market power. We have demonstrated that the economics of taxation is deeply intertwined with the politics of law and accountancy. To explain how multi-jurisdictional corporate groups (MJGs) use tax and accounting strategies to maximise profit, minimise tax liabilities, and consolidate wealth, we introduced the concept of ”legal-accounting power.” While much of the existing literature has focused on antitrust and competition law as mechanisms for curbing monopoly power, we argue that taxation remains an underexplored tool for addressing this problem.

Empirically, we have sought to examine the intersection of economics and profit-shifting in shaping and reinforcing corporate market power, using a combination of quantitative and forensic-accounting qualitative methods.

Our quantitative analysis is based on a newly constructed dataset of 1.42 million U.S. firms, derived from Orbis-Historical data spanning 1990 to 2021. This dataset allows us to assess the extent of corporate concentration and market power. We find that:

- The top 1% of U.S. firms control 98% of all sales and revenue, and more than 85% of total profits.
- Corporate market concentration is particularly extreme in knowledge-intensive sectors,

especially Big Tech and Big Pharma.

- In Big Tech, the 10 largest MJGs control over 60% of the market. In Big Pharma, the 10 largest MJGs dominate an even greater share, controlling 80% of the market.

In terms of taxation, we find that knowledge-intensive industries systematically pay lower taxes than firms in traditional industries. Our findings indicate that large MJGs operating in highly concentrated markets benefit from a structural tax advantage over other firms and sectors, further reinforcing their dominance.

At this stage, it is important to reflect on causality. We have not attempted to demonstrate a direct and isolated causal effect of taxation on corporate wealth or profit concentration. Instead, our focus has been on the mechanisms that link corporate tax avoidance strategies to profit and wealth concentration, using the concept of legal-accounting power. We argue that this type of analysis cannot be reduced to purely quantitative methods but must be examined qualitatively, through forensic accounting techniques. By reconstructing what we call tax-avoiding wealth chains within multi-jurisdictional corporate groups (MJGs), we reveal significant variation in the legal-accounting methods used by MJGs to minimise taxation.

We illustrate this through comparative case studies:

- Tesla has used stock-based compensation methods to avoid paying US federal taxes while concentrating more wealth in the hands of its chief executive, Elon Musk.
- Johnson & Johnson (J&J) has leveraged deferred tax assets and strategic asset write-offs to reduce its tax obligations and maximise profit.
- Apple has relied on IP-based profit shifting, debt restructuring, and amortisation techniques to aggressively minimise tax obligations.

To conclude, at the heart of these tax strategies lies the politics of accounting. The largest MJGs use legal-accounting techniques not only to reduce their tax obligations but also to reinforce their market dominance, fueling a winner takes all dynamic. Over time, this structural advantage compounds corporate wealth concentration, further entrenching

their economic power. This is a problem because it amplifies the oligarchic tendencies that undermine the core principles of capitalist democracy.

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7 Appendix

Figure 1: Gini Coefficient Over Time - U.S. Firms

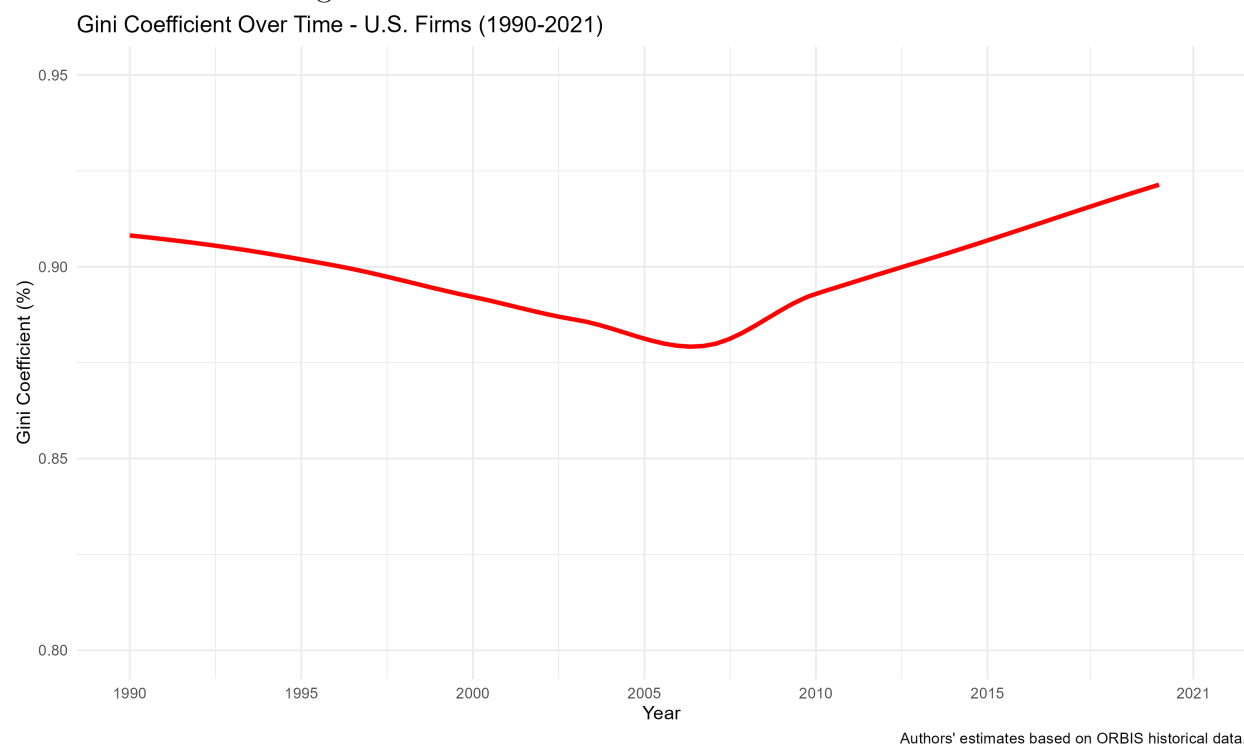


Figure 2: Turnover Shares Over Time - U.S. Firms

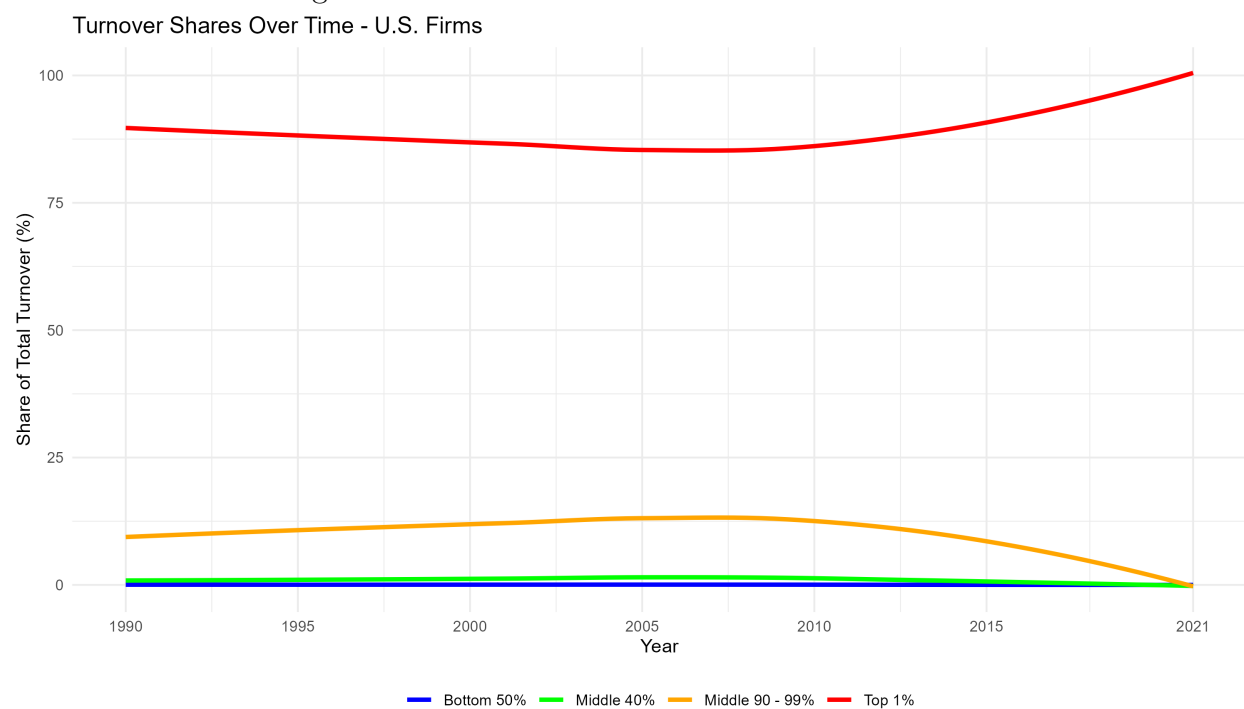


Figure 3: Profit Shares Over Time - U.S. Firms

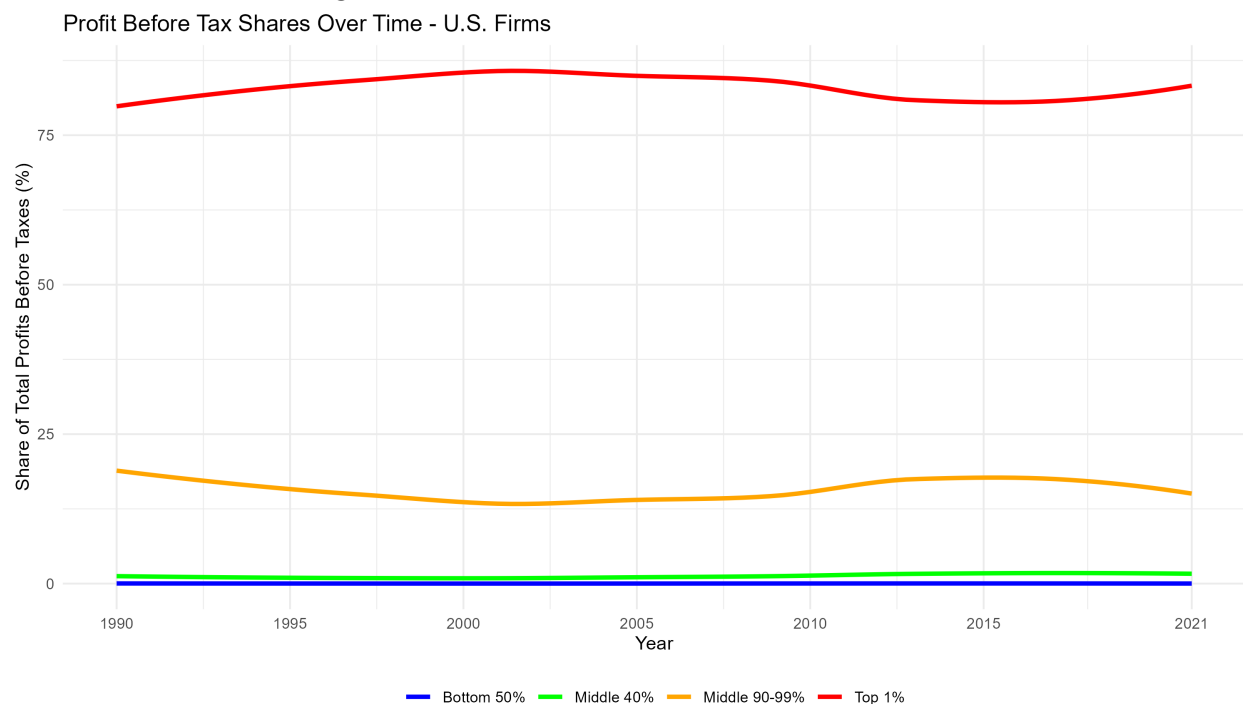


Figure 4: Top 1% Turnover Shares - Knowledge vs. Traditional Sector (U.S. Firms)

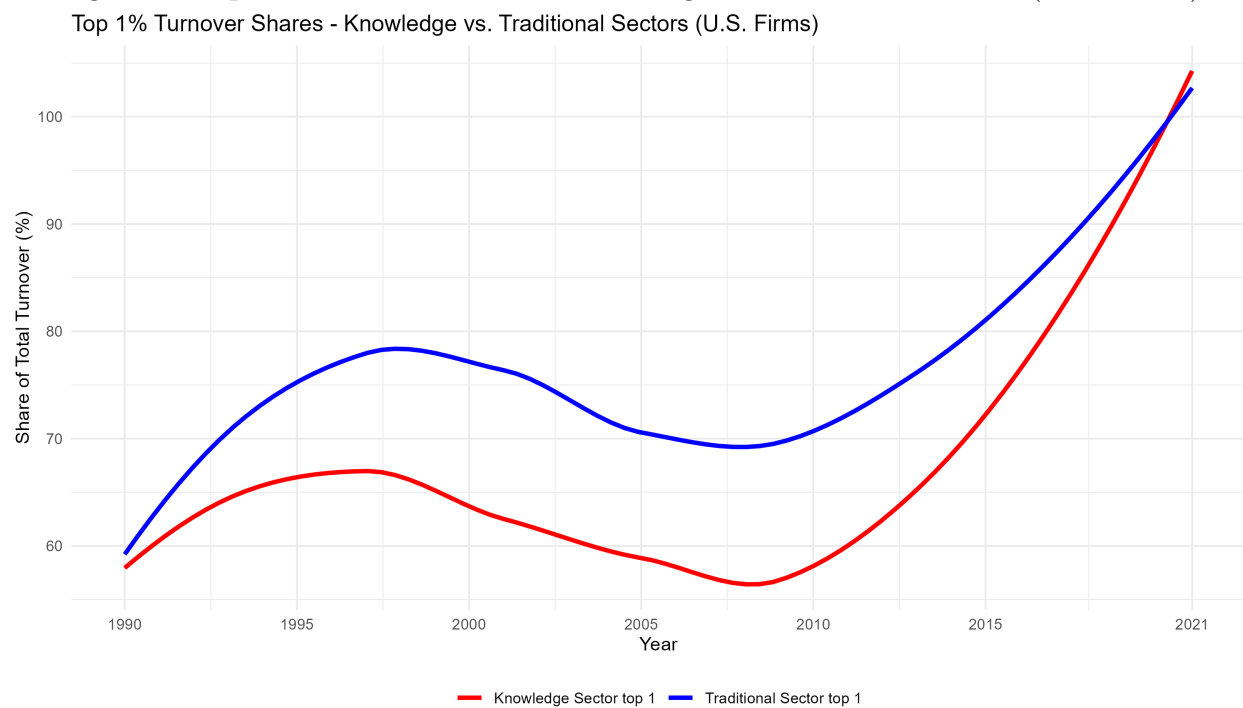


Figure 5: Top 1% Profit Shares- Knowledge vs. Traditional Sector (U.S. Firms)
Top 1% Profit Share - Knowledge vs. Traditional Sectors in the U.S.

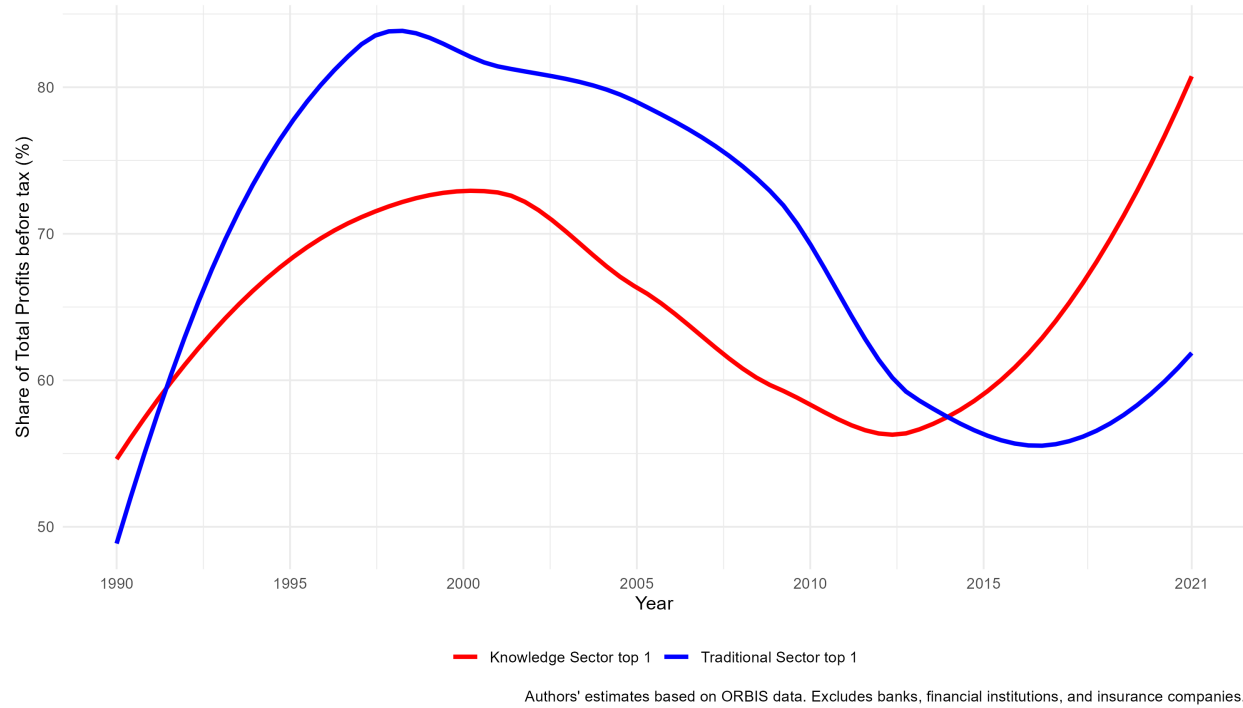


Figure 6: C4-Share by sector (2012 - 2021)
C₄ -Share by sector (2012-2021)

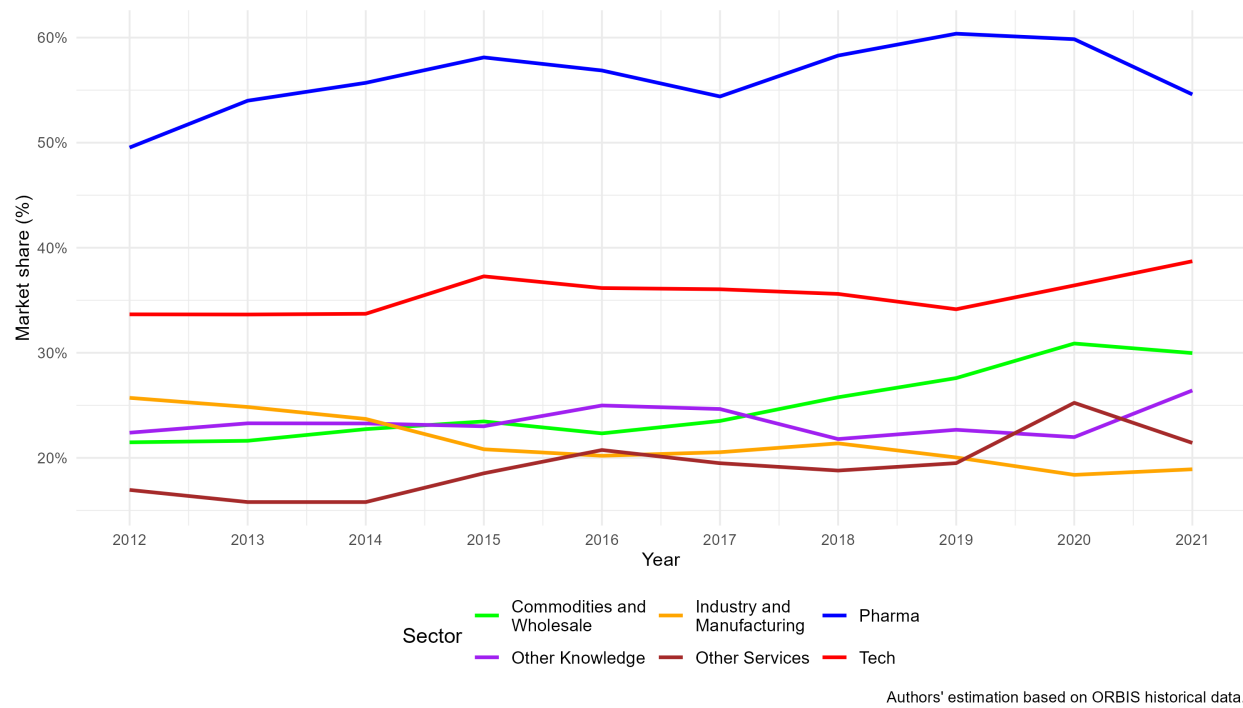


Figure 7: C10-share by sector (2012 - 2021)

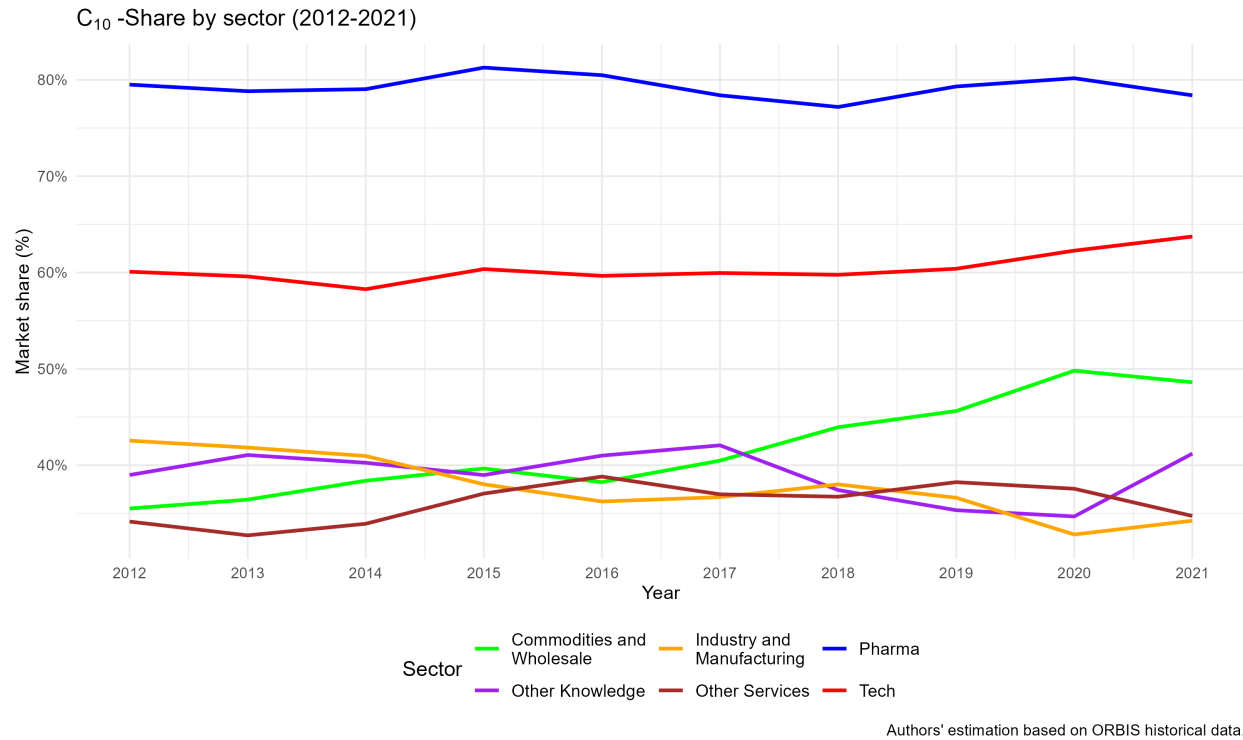


Figure 8: Averaged indices by sector (2012 - 2021)

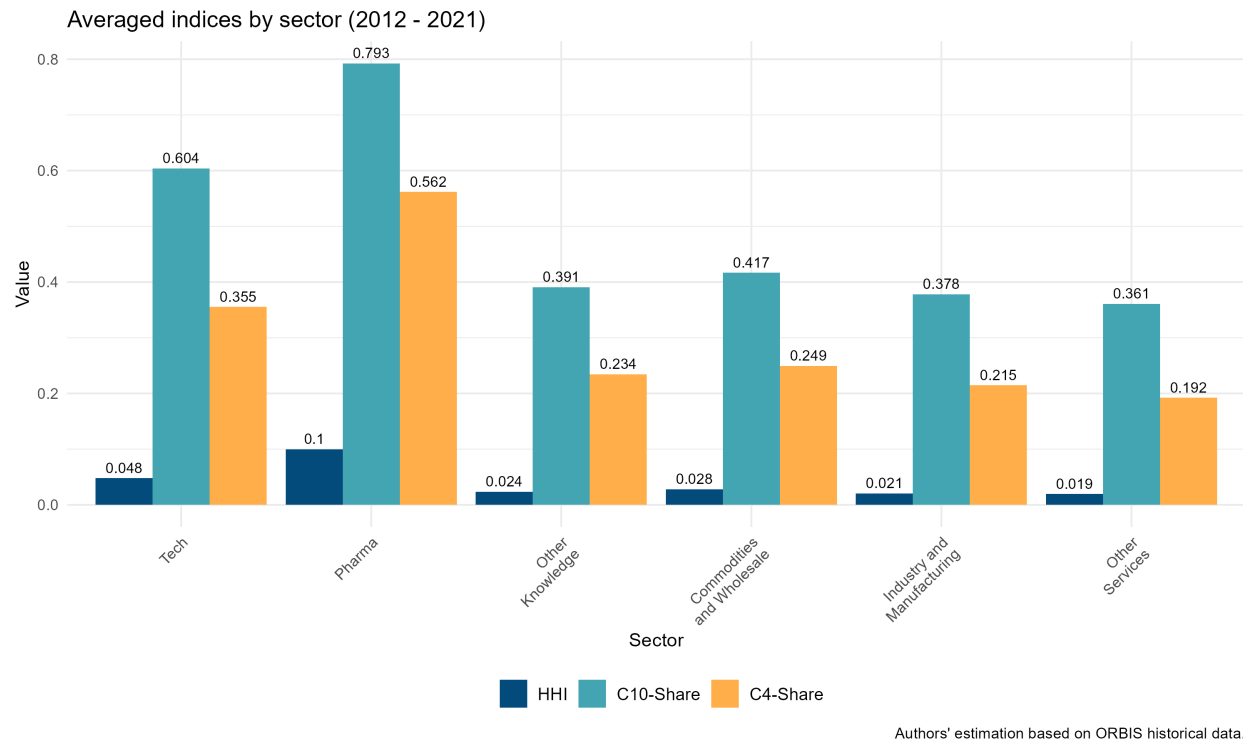


Figure 9: Average Tax Rate Paid by U.S. Companies (1990-2021)
Average Tax Rate for All U.S. Companies (1990–2021)

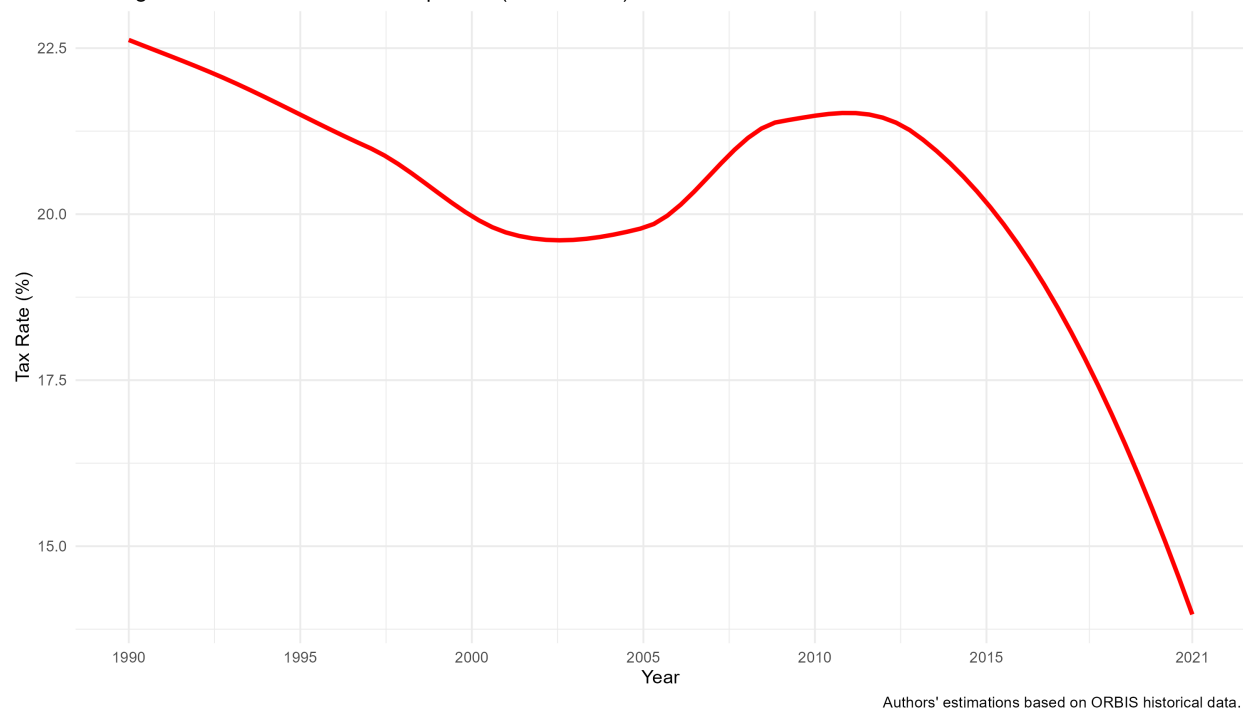


Figure 10: Tax Rate for Traditional Knowledge -Based Sector
Tax Rate for Traditional & Knowledge-Based U.S. Sectors (1990–2021)

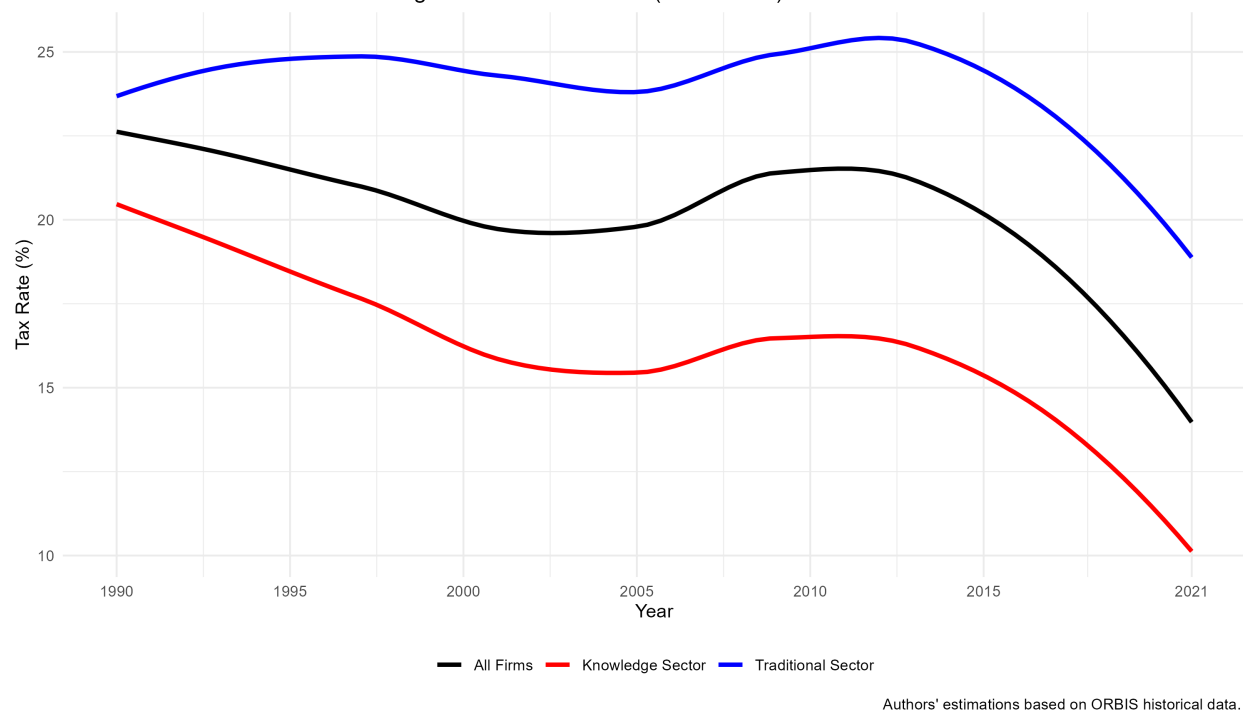


Figure 11: Tax Rate paid by U.S. companies by Sector - 1990 - 2021

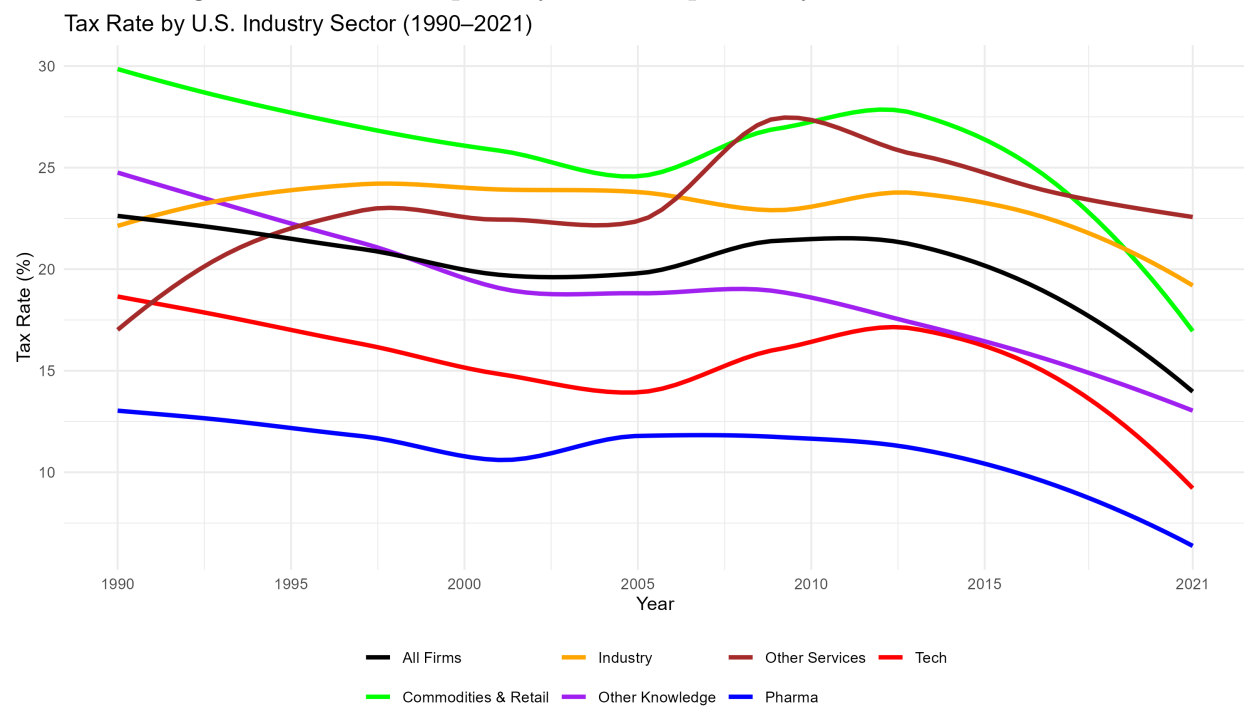


Table 1: Summary Statistics of Firms (1990-2010)

Year	Turnover					Profit					Tax Rate				
	Min	Max	Mean	SD	Obs	Min	Max	Mean	SD	Obs	Min	Max	Mean	SD	Obs
1990	1.02	124,706	538.31	4,632.18	1,021	0	5,649	30.10	219.52	1,021	0.00	1.00	0.20	0.20	1,021
1991	1.01	123,109	480.37	4,217.07	1,251	0	2,260	19.24	113.77	1,251	0.00	1.00	0.20	0.21	1,251
1992	1.03	179,236	1,083.52	6,438.94	2,022	0	10,162	79.83	451.46	2,022	0.00	1.00	0.23	0.20	2,022
1993	1.01	173,006	1,127.00	6,507.68	2,379	0	12,067	81.89	439.03	2,379	0.00	0.99	0.22	0.19	2,379
1994	1.01	178,885	1,143.30	6,582.17	2,625	0	11,482	101.42	550.48	2,625	0.00	0.95	0.22	0.19	2,625
1995	1.00	195,217	1,172.06	6,863.16	2,892	0	14,833	106.16	592.59	2,892	0.00	0.99	0.20	0.19	2,892
1996	1.00	207,888	1,250.02	7,247.70	3,024	0	18,142	117.87	687.60	3,024	0.00	0.95	0.20	0.20	3,024
1997	1.00	197,735	1,325.89	7,412.62	3,120	0	19,337	122.73	733.47	3,120	0.00	0.99	0.20	0.20	3,120
1998	1.00	165,627	1,321.31	6,958.84	3,200	0	24,280	122.63	783.74	3,200	0.00	1.00	0.19	0.20	3,200
1999	1.00	182,529	1,477.52	7,738.62	3,270	0	15,577	143.65	828.00	3,270	0.00	0.97	0.19	0.20	3,270
2000	1.01	227,596	1,689.27	8,938.23	3,187	0	26,881	176.28	1,076.80	3,187	0.00	0.97	0.18	0.20	3,187
2001	1.00	208,715	1,765.66	8,973.34	2,870	0	23,970	144.09	914.36	2,870	0.00	1.00	0.17	0.20	2,870
2002	1.01	205,823	1,893.21	9,468.88	2,701	0	18,972	153.91	887.39	2,701	0.00	1.00	0.17	0.19	2,701
2003	1.00	237,054	2,213.02	10,817.93	2,499	0	31,966	197.18	1,107.53	2,499	0.00	0.99	0.18	0.19	2,499
2004	1.01	291,252	2,516.89	12,287.54	2,506	0	41,241	241.90	1,360.25	2,506	0.00	0.96	0.19	0.19	2,506
2005	1.01	358,955	2,779.65	13,911.60	2,495	0	59,432	293.68	1,736.74	2,495	0.00	0.97	0.19	0.18	2,495
2006	1.00	365,467	2,973.72	14,565.26	2,529	0	67,402	354.81	2,077.04	2,522	0.00	0.99	0.19	0.19	2,522
2007	1.00	390,328	2,956.87	14,660.51	2,756	0	71,479	356.45	2,094.84	2,497	0.00	0.96	0.18	0.18	2,497
2008	1.00	459,579	3,386.40	17,093.74	2,400	0	83,397	363.95	2,380.97	2,261	0.00	0.99	0.18	0.19	2,261
2009	1.00	404,254	3,196.12	15,127.02	2,398	0	102,493	385.96	2,748.11	2,209	0.00	0.91	0.17	0.19	2,209
2010	1.00	408,085	3,562.05	16,365.20	2,369	0	52,959	429.22	2,074.85	2,199	0.00	0.98	0.19	0.18	2,199

Note: Figures are presented in USD millions. The table presents summary statistics for U.S. firms from 1990 to 2010. Turnover, profit, and tax rate are reported in nominal terms. Data are derived from Orbis Historical and include only firms with reported turnover above 1M USD.

Table 2: Summary Statistics of Firms (2011-2021)

Year	Turnover					Profit					Tax Rate				
	Min	Max	Mean	SD	Obs	Min	Max	Mean	SD	Obs	Min	Max	Mean	SD	Obs
2011	1	467,029	4,145.4	18,771.3	2,325	0	73,257	497.4	2,591.8	2,167	0.0	1.0	0.20	0.18	2,167
2012	1	451,509	3,582.4	17,461.7	2,734	0	78,726	501.0	2,796.9	2,135	0.0	0.9	0.20	0.18	2,135
2013	1	468,651	1,772.0	12,314.4	5,773	0	57,711	546.0	2,631.9	2,079	0.0	1.0	0.19	0.18	2,079
2014	1	476,294	1,626.2	11,726.0	6,256	0	53,483	594.1	2,593.8	1,897	0.0	1.0	0.21	0.18	1,897
2015	1	485,651	1,101.6	9,188.8	8,995	0	72,515	559.0	2,542.2	1,860	0.0	1.0	0.20	0.18	1,860
2016	1	482,130	989.8	8,729.6	10,479	0	61,372	582.4	2,449.1	1,852	0.0	1.0	0.20	0.18	1,852
2017	1	485,873	747.5	7,710.5	14,771	0	64,089	597.9	2,493.3	1,947	0.0	1.0	0.17	0.17	1,947
2018	1	500,343	1,433.9	10,747.7	8,070	0	72,903	681.1	2,882.1	1,871	0.0	1.0	0.15	0.15	1,871
2019	1	514,405	15.6	1,086.7	937,712	0	65,737	674.1	2,795.0	1,823	0.0	1.0	0.14	0.15	1,823
2020	1	523,964	35.7	1,812.0	329,680	0	67,091	620.1	3,033.3	1,683	0.0	1.0	0.12	0.15	1,683
2021	1	559,151	427.	6,877.9	33,024	0	109,207	974.7	4,613.3	1,843	0.0	1.0	0.14	0.15	1,843

Note: Figures are presented in USD millions. The table presents summary statistics for U.S. firms from 2011 to 2021. Turnover, profit, and tax rate are reported in nominal terms. Data are derived from Orbis Historical and include only firms with reported turnover above 1M USD.

Table 3: Classification of Sectors by NACE Rev. 2 Codes

Group	NACE Rev. 2 Codes
Knowledge-intensive sectors	
1 - Tech	262 - Manufacture of computers and peripheral equipment 61 - Telecommunications 62 - Computer programming, consultancy and related activities 63 - Information service activities
2 - Pharma	21 - Manufacture of basic pharmaceutical products and pharmaceutical preparations 4646 - Wholesale of pharmaceutical goods 7211 - Research and experimental development on biotechnology
3 - Other knowledge-intensive industries	58 - Publishing activities 59 - Motion picture, video and television programme production, sound recording and music publishing activities 60 - Programming and broadcasting activities 64 - Financial service activities, except insurance and pension funding 65 - Insurance, reinsurance and pension funding, except compulsory social security 66 - Activities auxiliary to financial services and insurance activities 69 - Legal and accounting activities 70 - Activities of head offices; management consultancy activities 71 - Architectural and engineering activities; technical testing and analysis 72 - Scientific research and development
Traditional sectors	
4 - Commodities, retail and wholesale	10 - Manufacture of food products 11 - Manufacture of beverages 12 - Manufacture of tobacco products 13 - Manufacture of textiles 14 - Manufacture of wearing apparel 15 - Manufacture of leather and related products 45 - Wholesale and retail trade and repair of motor vehicles and motorcycles 46 - Wholesale trade, except of motor vehicles and motorcycles 47 - Retail trade, except of motor vehicles and motorcycles

5 - Industry and manufacturing	16 - Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 17 - Manufacture of paper and paper products 18 - Printing and reproduction of recorded media 19 - Manufacture of coke and refined petroleum products 20 - Manufacture of chemicals and chemical products 22 - Manufacture of rubber and plastic products 23 - Manufacture of other non-metallic mineral products 24 - Manufacture of basic metals 25 - Manufacture of fabricated metal products, except machinery and equipment 27 - Manufacture of electrical equipment 28 - Manufacture of machinery and equipment n.e.c. 29 - Manufacture of motor vehicles, trailers and semi-trailers 30 - Manufacture of other transport equipment 31 - Manufacture of furniture 32 - Other manufacturing 33 - Repair and installation of machinery and equipment
6 - Other services	05 - Mining of coal and lignite 06 - Extraction of crude petroleum and natural gas 07 - Mining of metal ores 08 - Other mining and quarrying 09 - Mining support service activities 36 - Water collection, treatment and supply 37 - Sewerage 38 - Waste collection, treatment and disposal activities; materials recovery 39 - Remediation activities and other waste management service 41 - Construction of buildings 42 - Civil engineering 43 - Specialised construction activities 49 - Land transport and transport via pipelines 50 - Water transport 51 - Air transport 52 - Warehousing and support activities for transportation 53 - Postal and courier activities