

Class, Race and Corporate Power

Volume 11 | Issue 1

Article 3

2023

The Institutional Drivers Contributing to Billionaire Wealth at the Sector Level

Rob Piper

Florida International University, rpipe004@fiu.edu

Follow this and additional works at: <https://digitalcommons.fiu.edu/classracecorporatepower>



Part of the [International Economics Commons](#), [Macroeconomics Commons](#), and the [Political Economy Commons](#)

Recommended Citation

Piper, Rob (2023) "The Institutional Drivers Contributing to Billionaire Wealth at the Sector Level," *Class, Race and Corporate Power*. Vol. 11: Iss. 1, Article 3.

DOI: 10.25148/CRCP.11.1.010593

Available at: <https://digitalcommons.fiu.edu/classracecorporatepower/vol11/iss1/3>

This work is brought to you for free and open access by the College of Arts, Sciences & Education at FIU Digital Commons. It has been accepted for inclusion in Class, Race and Corporate Power by an authorized administrator of FIU Digital Commons. For more information, please contact dcc@fiu.edu.

The Institutional Drivers Contributing to Billionaire Wealth at the Sector Level

Abstract

Over the last 50 years (the period of neoliberalism) the national wealth of the United States reached unprecedented levels. Despite this dramatic increase in national wealth, an increasing amount of American wealth has found its way into the hands of a smaller percentage of the population. Indicative of this inequality, the number of individuals that have achieved a net worth of \$1 billion (billionaires) has increased at a higher rate than any other time in American history. Descriptive evidence and analysis of macroeconomics from scholarly literature and journalism attributes this dramatic increase in billionaire wealth to certain comprehensive and interrelated institutional mechanisms (or drivers). Although these drivers and their components contribute to our understanding of billionaire proliferation at the macroeconomic level, there is no analysis at the lower, meso-economic (or sector) level. The purpose of this article is to fill this gap by 1) identifying the sectors where billionaire wealth is most concentrated, 2) creating a sectoral analysis framework to analyze why billionaire wealth is concentrated in these sectors, 3) fully examining the characteristics associated with sectoral wealth that are responsible for billionaire wealth and 4) analyzing which institutional drivers may have most contributed to billionaire wealth at the economic sector level. The result of this sector analysis is a deeper understanding as to which institutional drivers are most responsible for billionaire proliferation during the neoliberal period.

Keywords

Billionaires, wealth, inequality, institutional

Introduction

The national wealth of the United States has reached unprecedented levels. The Federal Reserve reported back in 2019 that national wealth in the U.S. had reached \$126.08 trillion (\$396.85 trillion in assets minus \$270.77 trillion in liabilities).¹ This is double the national wealth in 2012 of \$60.09 trillion (\$226.89 trillion in assets minus \$166.79 trillion in liabilities).² Despite this dramatic increase in national wealth, an increasing amount of American wealth has found its way into the hands of a smaller percentage of the population. Americans in the bottom half of the income distribution only saw their average pretax income rise from \$16,000 to \$16,200, while those in the top 10% saw their income more than double, those in the top 1% saw theirs more than triple, and those in the top 0.001% saw theirs more than septuple.³

Indicative of this inequality, a peculiar trend has emerged during the last fifty years (the period of neoliberalism); the number of individuals that have achieved a net worth of \$1 billion (billionaires) has increased more than any other time in American history. Most economic historians agree that before 1970 there were not even five billionaires in the United States, but between 1982 and 1987, the number of American billionaires grew from 15 to 44.⁴ By March of 2020 the number of US billionaires had reached 610; over a forty-fold increase since 1982.⁵ By comparison, this rate of increase outpaced inflation, which increased over six-fold since 1970! And it far surpassed real U.S. GDP growth since 1970, which only increased three-fold. And the rate of billionaire proliferation easily dwarfs the rate of increase in national wealth by an immense margin. What factors have contributed to this trend of billionaire proliferation during the neoliberal period?

Theoretical Framework

Explaining the increase in billionaires during the period of neoliberalism requires an analysis of the U.S. economy at the macroeconomic level. Descriptive evidence from literature that explains the prevalence of billionaire proliferation at the macroeconomic level highlights major economic, social, and political themes that correlate with the concentration of wealth in the U.S. during the neoliberal period. These themes resemble comprehensive and interrelated institutional mechanisms (or drivers as I will refer to them) that lead to massive inequality (and by extension billionaire wealth). They include . . .

1. *Financialization*: the accumulation of capital mainly through financial activities. Contains the components of “debt” (collection of interest on loans in order to accumulate capital), “securitization” (turning non-financial assets into tradable financial instruments),

¹ “Z.1 Financial Accounts of the United States: Flow of Funds, Balance Sheets, and Integrated Macroeconomic Accounts, Second Quarter 2020”, *U.S. Federal Reserve*, 21 September 2020, 3.

² “Z.1 Financial Accounts of the United States: Flow of Funds, Balance Sheets, and Integrated Macroeconomic Accounts, First Quarter 2013”, *U.S. Federal Reserve*, 6 June 2013, 2.

³ Giridharadas, Anand, *Winners Take All: The Elite Charade of Changing the World*, 2018, 16.

⁴ “How the Number of Billionaires has changed over the last Century,” <https://www.lovemoney.com/gallerylist/90301/how-the-number-of-billionaires-has-changed-over-the-past-century>, 13 November 2019.

⁵ “Billionaires by the Numbers,” *Americans for Tax Fairness*, 18 March 2020.

“capital mobility” (the ease in which capital is moved around for conducting financial activities), “financial shift” (the move by different economic sectors from productive non-financial activities to less productive financial activities), and “intermediation” (when middlemen act as financial facilitators between multiple economic sectors).

2. *Rentierism*: the control of access to productive activities and assets for the sole purpose of extracting capital in the form of rents. Contains the components of “subsidization” (the act by capital accumulators to benefit from state support and investments) and “concentration” (small numbers of firms controlling access to a sector and its market).

3. *Labor Exploitation*: the exploitation of labor exclusively for the benefit of capital accumulation. Possesses the two components of “labor devaluation” (ensuring that less capital is expended for the benefit of labor) and “worker displacement” (displacing workers from their jobs or vice versa).

4. *Shareholder Culture*: the societal reverence for capital accumulation that creates a permissive environment for billionaire wealth proliferation. Consists of the following components: “maximization of shareholder value” (giving precedence to the maximization of profits and the interests of shareholders), “market fundamentalism” (the ideology that society benefits only when markets are structured for the advantage of capital accumulation), and “manipulation of perception” (the effort by capital accumulators to influence societal perceptions of their actions in positive ways).

5. *Crony Capitalism*: collusion between business and government officials to preserve the interests of capital accumulation at the expense of labor and society. Has the components of “lobbying” (influence of current government officials to ensure favorable policies), “regulatory capture” (control of government regulatory structures to ensure favorable policies), and “campaign finance” (monetary support to candidates for elected office to ensure favorable policies).

6. *Tax Policy*: the decisions that have manipulated the tax code to prioritize the capital accumulation that leads to billionaire wealth over all other societal investments. Tax Policy contains the component of “loopholes” (ambiguities or inadequacies within the tax code that can be exploited in a beneficial way by capital accumulators).

The above institutional drivers and their components provide a comprehensive framework for explaining billionaire proliferation at the macroeconomic level. But there is no analysis that explains billionaire proliferation at the lower, meso-economic (or sector) level. The purpose of this article is to fill this gap in the literature by 1) fully examining the characteristics associated with sectoral wealth that are responsible for billionaire wealth and 2) analyze how certain institutional drivers may have most contributed to billionaire wealth at the economic sector level. The article will achieve this by identifying the sectors where billionaire wealth is most concentrated, and then creating a sectoral analysis framework to analyze why billionaire wealth is concentrated in these sectors.

For the purposes of this analysis, a sector is defined as a distinct area of economic activity. As there are multiple sectors in the U.S. economy it is impractical to try and trace the patterns in all of them. Further, many of these sectors overlap with one another and there is not a single authority or consensus on just what constitutes a distinct economic sector in the U.S. economy. Therefore, it becomes essential to choose a sample of the most relevant sectors for which to focus this meso-economic analysis of billionaire wealth. Choosing which sectors to analyze requires one to consider factors that will best help to illustrate and analyze the patterns that led to the concentration of billionaire wealth during the neoliberal period.

The number of billionaires within a sector will be the metric used for sector selection (the most obvious factor to consider). Billionaire wealth signifies a concentration vice a distribution of capital, as such, if capital was distributed evenly within a sector there would be more millionaires and fewer billionaires. Based on the review of the U.S. economy through the lens of these criteria, the following three sectors are chosen to be analyzed in detail: finance, information technology, and food and beverage.

Sector Overview

The U.S. finance sector provides financial services to people and businesses and consists of sub-sectors like banking, investment services, tax preparation, accounting, and insurance. According to the financial media website Investopedia, this sector provides the processes that ensure that businesses and individuals obtain capital to pay for goods and services and to finance the means of production.⁶ The relevance of the U.S. financial services sector to this analysis is due to its dominance of billionaire wealth. According to Forbes Magazine, most U.S. billionaires in 2022 either worked, obtained income, or acted as stakeholders in this sector.⁷ Other sources in financial media highlight that “with senior bankers on Wall Street and the City of London paid well above €1 million (\$1.3 million) on average” that this sector was (in 2021) the top industry most likely to make one a millionaire.⁸

Current assets of U.S. financial institutions amounted to approximately \$123.1 trillion by 2020.⁹ Even further, the sub-sectors of life insurances and annuities, commercial banking, and direct insurance were among the highest amounts of revenue attained in 2022 (the sixth, seventh, and tenth highest respectively); totaling \$2.54 trillion.¹⁰ As far as net income, multiple sub-sectors of the financial services sector such as banks and investment management firms were among the

⁶ Kenton, Will. “Financial Sector: Definition, examples, importance to economy,” *Investopedia*, 29 June 2021, accessed 12 August 2022, https://www.investopedia.com/terms/f/financial_sector.asp#citation-1.

⁷ Dolan, Kerry A. and Chase Peterson-Withorn (ed.). “World’s Billionaires List: The richest in 2022,” *Forbes*, 2022, accessed 13 September 2022, [<https://www.forbes.com/billionaires/>].

⁸ “The 16 Industries Most Likely to Make You a Millionaire,” *Business Insider India*, 26 July 2021, accessed 13 July 2022, <https://www.businessinsider.in/finance/the-16-industries-most-likely-to-make-you-a-millionaire/slidelist/53396564.cms#slideid=53396587>.

⁹ “Total Assets of Financial Institutions in the United States from 2002 to 2020,” *Statista*, 31 May 2022, accessed 13 July 2022, <https://www.statista.com/statistics/421697/financial-institutions-assets-usa/#:~:text=The%20total%20assets%20of%20financial,approximately%20123.1%20trillion%20U.S.%20dollars.>

¹⁰ “The Biggest Industries by Revenue in the US in 2022,” *IBISWorld*, 1999-2022, accessed 21 September 2022, <https://www.ibisworld.com/united-states/industry-trends/biggest-industries-by-revenue/>.

top ten industries with highest net profit margins as early as 2017, with finance and insurance possessing the fourth highest GDP share: 7.2% of US GDP totaling \$1.26 trillion (banks, insurance carriers, investment funds, etc. add up to about 1/14th of US total economy, with the Federal Reserve Bank alone constituting 3.1% of total GDP).¹¹ As expected, the financial services sector has become an increasingly large source of profit over the last several decades, with sector profits accounting for approximately 40 percent of total U.S. economy profits and nearly half of total US corporate profits by the turn of the 21st century.¹² The financial sector accounts for a significant and growing share of U.S. wealth and profits, but only 15% of the funds generated by this sector go to businesses in non-financial sectors with the rest simply being traded between firms within the sector that provide services for moving money around (i.e. intermediation).¹³

The information technology (or “tech”) sector is described by Investopedia as being “comprised of businesses that sell goods and services in electronics, software, computers, artificial intelligence, and other industries related to information technology (IT)” while investing heavily in research and development for risky projects with great potential for growth (like social media platforms and search engines).¹⁴ According to Forbes Magazine, the U.S. tech sector had the second highest number of billionaires in 2022.¹⁵ As discussed in the previous chapter, tech sector billionaires in 2021 made the greatest wealth gains during the COVID-19 pandemic. Like finance, it was the industry second most likely to make one a millionaire in 2021.¹⁶ In fact, of the eight people that controlled more wealth than the bottom half of humanity in 2017, five were heads of U.S. tech companies: Bill Gates of Microsoft, Mark Zuckerberg of Facebook, Jeff Bezos of Amazon, Larry Ellison of Oracle, and Michael Bloomberg of Bloomberg L.P.¹⁷

Businesses in the tech sector may not have assets since they may carry little to no inventory or take on large venture capital investments or issue large amounts of debt to fund research and development.¹⁸ Despite these deficiencies, tech sector businesses are extremely profitable. Information tech and services was tenth on the list of biggest industries in the U.S., ranking second overall in profits, with a stunning \$17.5 billion in profits in 2016.¹⁹ Other sub-sectors like tech services, biotech, and internet software and services ranked among the top 10 industries in the country for net income.²⁰ While the information sub-sector (internet publishing,

¹¹ “Ranking the Biggest Industries in the US economy,” *Blue Water Credit*, 18 March 17, accessed 13 July 22, <https://bluewatercredit.com/ranking-biggest-industries-us-economy-surprise-1>.

¹² Krippner, *Crisis*, 28, 33.

¹³ Mazzucato, 136.

¹⁴ Frankenfield, Jake. “Technology Sector: Definition, 4 Major Sectors, Investing in Tech,” *Investopedia*, 2 January 2022, accessed 15 September 2022, [https://www.investopedia.com/terms/t/technology_sector.asp#:~:text=The%20technology%20sector%20is%20comp,rised,to%20information%20technology%20\(IT\)](https://www.investopedia.com/terms/t/technology_sector.asp#:~:text=The%20technology%20sector%20is%20comp,rised,to%20information%20technology%20(IT)).

¹⁵ Dolan and Chase, “World’s Billionaires List.”

¹⁶ “16 Industries Likely to Make You a Millionaire.”

¹⁷ Giridharadas, 86.

¹⁸ Tarver, Evan. “Key Financial Ratio to Analyze Tech Companies,” *Investopedia*, 31 May 2021, accessed on 13 July 22, [<https://www.investopedia.com/articles/active-trading/082615/key-financial-ratios-analyze-tech-companies.asp>].

¹⁹ “Ranking the Biggest Industries.”

²⁰ “Ranking the Biggest Industries.”

broadcasting, media, sound recording, motion pictures, etc.) has the tenth largest share of U.S. GDP (4.6%) at \$807.9 billion.²¹

According to Investopedia, the food and beverage (or “food”) sector in the U.S. is a broad industry that “covers household consumer staples, restaurants, socially conscious food-related companies, grocery stores, and food distribution companies.”²² According to Forbes Magazine, this sector had the third highest number of U.S. billionaires in 2022.²³ It was also the 16th most likely to sector to make one a millionaire in 2021.²⁴

The U.S. food sector is a highly diverse collection of valuable sub-sectors. For example, the U.S. packaged food market was valued at \$1.03 trillion in 2021 and is expected to expand at a compound annual growth rate (CAGR) of 4.8% from 2022 to 2030.²⁵ In addition, the sub-sector of supermarkets and grocery stores, was in the top 10 (ranked 9th) biggest U.S. industries by revenue in 2022, totaling \$756.6 billion.²⁶ The food sector also includes the sub-sector of agriculture, which contributes input to the food industry as a whole. Agriculture, food, and related industries contributed \$1.055 trillion to the U.S. gross domestic product (GDP) in 2020, a 5% share.²⁷

Method of Analysis

Explaining the billionaire wealth in the above sectors can be done by examining how this billionaire wealth correlates with the wealth concentration in these sectors. Descriptive evidence will be provided to show how this wealth concentration occurred and why. Key questions to ask are 1) how heavily concentrated is ownership within the above sectors (as compared to other sectors)? 2) How much of the wealth generated in these sectors stays with the individual billionaires as opposed to the sector’s individual workers? And 3) how heavily subsidized (tax incentives, public money, etc.) are these sectors by the state when compared to other sectors? Answering these questions is crucial in meeting the purpose of this sectoral analysis.

Capital concentration within a sector is relevant in analyzing the causes of billionaire wealth in a sector simply because a more equal distribution of wealth in the U.S. would net fewer billionaires. Data that measures concentration within economic sectors is available from the U.S.

²¹ “Ranking the Biggest Industries.”

²² Twin, Alexandra. “Food Industry ETF,” *Investopedia*, 26 July, 2022, accessed 4 October 2022, <https://www.investopedia.com/terms/f/food-industry-etf.asp#:~:text=This%20broad%20industry%20covers%20household,stores%2C%20and%20food%20distribution%20companies.>

²³ Dolan and Chase.

²⁴ “16 Industries Likely to Make You a Millionaire.”

²⁵ “U.S. Packaged Food Market Size, Share & Trends Analysis Report By Product (Bakery & Confectionary Products, Snacks & Nutritional Bars, Beverages, Sauces, Dressings, & Condiments), By Distribution Channel, And Segment Forecasts, 2022 – 2030,” *Grand View Research*, 2022, accessed 14 October 2022, [https://www.grandviewresearch.com/industry-analysis/us-packaged-food-market.](https://www.grandviewresearch.com/industry-analysis/us-packaged-food-market)

²⁶ “The Biggest Industries by Revenue in the US in 2022.”

²⁷ Kassel, Kathleen and Anikka Martin. “Ag and Food Sectors and the Economy,” *USDA Economic Research Services*, 24 February 2022, accessed 16 October 2022, [https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-food-sectors-and-the-economy/.](https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-food-sectors-and-the-economy/)

Census Bureau. It has created a matrix that is useful for analyzing concentration in the above sectors in comparison with others.²⁸ Although the most recent matrix was completed in 2017 and the sectors may be delineated differently than in other sources of economic data (there are 17 designated economic sectors), the Census Bureau matrix is a good start to answer questions about ownership concentration within the three sectors. It includes the Herfindahl-Hirschman Index (HHI), which is used by antitrust regulators to score concentration within economic sectors and is based on how big a sector's 50 largest firms are in relation to the rest of their industry. It also breaks down other metrics such as the value of total sales as well as what percentage that the 50, 20, 8, and 4 largest firms each sector possess of these sales.

Individual income distribution is another relevant factor in analyzing billionaire wealth in a sector for the same reasons mentioned above. To answer the question about how much wealth in a sector stays with the billionaires, the Census Bureau's matrix is also useful for tracking the distribution of pay within the three sectors. It breaks down the total annual payroll and employees of all the firms in each sector as well these values for the 50, 20, 8, and 4 largest firms in these sectors. While it is impractical to determine the net worth of each employee in the sectors, one can examine the Census Bureau's data to determine if a correlation exists between the number of billionaires in each sector and the average pay for each employee.

And finally, answering the question of how much state subsidization has occurred in each sector is relevant because there is a possible correlation between the level of state subsidies and the amount of billionaire wealth in a sector. For the purposes of this discussion, subsidies are any form of financial aid, support, or benefit authorized by state entities and extended to an economic sector with the aim of promoting economic and social policy. State subsidies in the form of tax incentives, patent sales, access to public money, and research and development investments are all types of wealth (i.e. capital) infusion that, when combined with the revenue generated by sales and production, add to sector wealth and likely correlate with the billionaire wealth in said sector. Measuring state subsidization requires specifically defining its aspects, applying a dollar value, and using descriptive evidence from the last 40 years to show its level of prevalence in each sector.

Finance Sector Analysis

Level of Concentration of Ownership

Within the finance sector, data from the Census Bureau reveals a noticeable correlation between the level of concentration and the extent of billionaire wealth. The finance sector contained the most billionaires in 2022 while even as far back as 2017, this sector showed some of the highest levels of concentration, with an HHI rank being fifth among the other 17 sectors. In addition, out of the 236,950 firms in the finance sector back in 2017, almost half (45.7%) of its \$4.34 trillion in revenue and sales was achieved by only the top 50 (0.02%) of these firms. This percentage of revenue and sales by the top 50 firms was the fourth highest of all other sectors in 2017.

²⁸ "Selected Sectors: Concentration of Largest Firms for the U.S. (2017)", *United States Census Bureau*, 2017, accessed 7 October 2022, <https://data.census.gov/cedsci/table?q=concentration&tid=ECNSIZE2017.EC1700SIZECONCEN>.

Of note, these levels of concentration decrease the further one goes up the wealth scale in the finance sector. The further up you go, the less of a share of total revenue and sales are enjoyed by the firms that sit at the top. The percentage of total revenue and sales drops to only 29% for the top 20 firms (sixth out of 17), 16.2% for the top 8 firms (sixth out of 17), and only 9.3% for the top 4 firms (seventh out of 17). Despite this decrease in upward concentration, the data suggests that within the finance sector there are still significant levels of concentration, as only 0.02% of all the sector's firms amassed nearly half of its revenue back in 2017 and have likely amassed more by 2022.

This finance sector concentration grew during the neoliberal period due to certain economic conditions. This dynamic was especially true in the subsector of banking. In the 1980s state legislatures began removing restrictions on intra and interstate bank expansion, resulting in the number of banks falling from 14,000 to 10,000 between 1980 and 1995 thanks to mergers and acquisitions.²⁹ In the 1990s, banks enjoyed increasing profits, a favorable interest-rate environment, and unprecedented values on the stock market, thereby encouraging them to use their stocks to acquire other banks.³⁰ By 1994 the Riegle-Neal Interstate Banking and Branching Efficiency Act effectively removed any remaining geographical barriers to banking in the United States, and mergers and acquisitions in the banking subsector occurred in masse.³¹

This proliferation of bank mergers led to greater asset control and market power for large banks across the country. The amount of assets involved in interstate mergers between 1980 and 1998 increased significantly despite fewer mergers, with interstate mergers involving assets of more than \$1 billion in assets increasing to 68 percent of all interstate mergers.³² Even further, the share of banking assets controlled by large banks (banks with assets exceeding \$10 million) increased from 42 percent in 1984 to 73 percent in 2003.³³ As large banks continued to cross state lines and gobble up smaller community banks via mergers, more concentration in the finance sector occurred. Even worse, overall concentration of all U.S. wealth was present in the finance sector because of the banks. By 2000, the top five banks held only 30% of ALL the assets in the United States, but by 2015, these banks held nearly half.³⁴ The above factors contributing to finance sector concentration resulted in excess capital accumulation by increasingly fewer firms as well as growing wealth disparity, which is indicative of the proliferation of billionaire wealth.

Level of Income Distribution

The data from Census Bureau's concentration matrix reveals a correlation between a concentration of employee pay and the existence of billionaires. In 2017, a significant amount of

²⁹ Zhang, Jeffery. "The Rise of Market Concentration and Rent Seeking in the Financial Sector," *Harvard Law School*, No. 72, April 2017, 6.

³⁰ Zhang, 8

³¹ Zhang, 2.

³² Zhang, 5.

³³ Zhang, 7.

³⁴ Howe, Neil. "Why Markets Keep Concentrating, and How That Hurts Our Economy," *Forbes*, 30 December 2015, accessed 15 October 2022, <https://www.forbes.com/sites/neilhowe/2015/12/30/why-markets-keep-concentrating-and-how-that-hurts-our-economy/?sh=6ba5d0337959>.

annual payroll was paid out to a noticeably lower number of sector employees (when compared with data from other sectors. For example, the finance sector had the fourth highest annual payroll out of the 17 sectors (\$638.82 billion), but only had the eighth highest number of employees (6.5 million). This averaged out to an annual pay of \$98,282 per employee (the third highest amount amongst all of them).

This concentration of income distribution was even more pronounced when focusing on the top 50 firms in the sector. Finance's top 50 firms boasted an annual payroll of \$ 206.91 billion, making it the top sector, averaging out across 1.91 million employees (5th out of 17) was a \$108,584 average annual payroll per employee (the third highest among sectors). Like the previous metric of total sales and revenue, employee pay became less concentrated farther up the wealth scale, with payroll averages declining among the top 20, 8, and 4 firms within the finance sector.

What this data indicates is a greater concentration of income among employees in the finance sector when compared to other sectors. But what contributes to this? One factor is the extractive nature of the finance sector activities, which are capital extractive versus capital producing. Finance sector firms that do not produce anything tangible, but merely extract value from other productive and employee driven sectors. When firms in a sector are less dependent on employees for productive activities, there is less of a need for them. A significant number of finance sector employees are engaged only in the activities of financialization (intermediation, securitization, debt proliferation, capital mobility, etc.). This results in a greater share of income doled out to a fewer number of employees.

The extractive nature of the finance sector further translates into higher income gains concentrated at the very top. Financial wealth formed 13% of the total wealth of the top 10% (most of it concentrated in the top 1%), but less than 4% for the bottom 50%.³⁵ The richer people are, the more of their wealth tends to be in financial form. Individuals in the top 1% are likely to be involved in the financial sector with a greater reliance on income from capital gains, dividends, stocks, shares, and other financial assets.³⁶

Further evidence of the extractive nature of the finance sector is the way capital is gained even when assets lose value. Billionaire hedge fund managers made a fortune during the Financial Crisis by betting on the collapse in value of securitized mortgages. In 2008 hedge fund manager John Paulson got \$3.7 billion by helping the investment banking firm Goldman Sachs put together the very securitized mortgage packages that he was betting against.³⁷ Carl Icahn secured bankrupt Las Vegas property for approximately \$155 million, or about 4% of the estimated cost to build the property, only to sell the unfinished property for nearly \$600 million in 2017, making nearly four times his original investment.³⁸ Finally, JP Morgan CEO Jamie

³⁵ Sayer, 13.

³⁶ Sayer, 15.

³⁷ Sayer, 201.

³⁸ Furhmann, Ryan. "5 Top Investors Who Profited from the Global Financial Crisis," *Investopedia*, updated 10 June 2022, accessed 7 November 2022, <https://www.investopedia.com/financial-edge/0411/5-investors-that-are-both-rich-and-smart.aspx>.

Dimon used fear to his advantage during the Crisis, acquiring distressed banks in 2008 for a fraction of their value only to make huge gains for his bank in the following decade.³⁹

Another factor contributing to the concentration of income among finance sector employees is the exploitative nature of the activities in which this sector engages. Financial activities (intermediation, securitization, debt proliferation, capital mobility) are NOT labor intensive, but labor exploitative. This results in an advantage over other sectors whose firms were subjected to the financial shift from productive non-financial activities (like manufacturing) to less productive (but profitable) financial activities (like finance and lending). Throughout the neoliberal period, there was a shift from the managerial model to a financial model for businesses. In the managerial model, a productive workforce, needed to produce goods and services with the goal of generating profit, can share in the productivity gains and benefit from increased wages.⁴⁰ In the financial model, assets were no longer viewed as fixed resources for investment but as Lego pieces to be bought and sold with the goal of increasing shareholder returns.⁴¹ In this situation, the finance sector firms and employees that facilitated this process benefitted more as a result.

More than any other economic sector, the growth of finance has fed the growth of income inequality across other economic sectors, not least by adding to the influence and lobbying power of financiers who tend to favor reductions in taxes and social expenditures and promoting the financial market volatility that boosts the fortunes derived from it.⁴² This cronyism has created a pseudo aristocratic class that undermines economic equality and destroys the social mobility that accompanies quality job growth. The intermediary jobs in the finance sector are highly paid and contribute to the widened wage and income gap across the U.S. economy.⁴³ The move by other, non-financial sectors to the exploitative financial model has led to a lower concentration of income among employees in these other sectors.

Level of State Subsidization

The U.S. finance sector is heavily subsidized by the state. There are many ways that financial sector firms benefitted from state support during the neoliberal period. The most glaring example is the bailout of the industry as result of the Financial Crisis. As of 2019, the U.S. Treasury has disbursed \$443 billion to banks and other financial institutions as part of the Troubled Asset Relief Program (TARP) authorized by the Emergency Economic Stabilization Act of 2008.⁴⁴ Although a sizable portion of these funds were paid back, the initial funding constitutes a subsidy, as the U.S. government purchased billions in toxic securitized assets and the U.S. Federal Reserve sent \$16 trillion in bailouts to financial institutions (both U.S. and European) in an effort support the sector and save it from collapse.

The finance sector also benefits from U.S. government sponsorship of certain financial institutions. This support is subsidization in the form of guaranteed insurance in the event of

³⁹ Furhmann, "5 Top Investors."

⁴⁰ Appelbaum, 6.

⁴¹ Appelbaum, 13.

⁴² Mazzucato, Mariana, *The Value of Everything: Making and Taking in the Global Economy*, 2018, 127.

⁴³ Milanovic, 54.

⁴⁴ "Bailout Tracker," *ProPublica*, 2019, accessed 23 November 2022, <https://projects.propublica.org/bailout/initiatives/2-emergency-economic-stabilization-act>.

extreme losses. The bailout of both the Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Corporation (Freddie Mac) are examples of this. While Fannie Mae and Freddie Mac are both private mortgage companies, they are sponsored by the U.S. government, who disbursed billions of dollars (\$120 and \$71.6 billion respectively) to them as part of the Housing and Economic Recovery Act in 2008.⁴⁵ This form of guaranteed government aid in times of crisis extends even to non-government sponsored entities, who often enact self-serving strategies to ensure this support. Banks will deliberately enter mergers and/or acquire other banks to make themselves larger and less agile. The result is that federal deposit insurers might consider these combined banks “too big to fail” (TBTF), which allows all uninsured liabilities to have de facto insurance coverage and thereby maximizes the value of the implicit guarantees received from the government.⁴⁶ Financialization infects the entire economy with debt and risk, and finance sector firms will securitize this risk to extract wealth from it. When the U.S. government underwrites this risk with guaranteed bailouts, it effectively subsidizes these institutions, allowing them to privatize their profits while socializing their losses at the expense of taxpayers.

The benefits of state subsidization are not just limited to insurance in the form of taxpayer funded bailouts or government sponsorship. Finance sector firms also benefit from their access to pension funds at all levels of U.S. government (federal, state, municipal, etc.). Hedge funds and private equity firms received millions in fees for managing these public workers’ pension funds (often with very little transparency). One 2020 analysis by Oxford professor Ludovic Phillapou found that private equity firms have raked in nearly a quarter trillion dollars in performance fees in the last 15 years.⁴⁷ One pension fund in California alone has shelled out more than \$3.4 billion in fees, while in Pennsylvania, pension officials admitted to paying \$4.3 billion worth of fees to these firms.⁴⁸ Even more shocking, a forensic investigation in Ohio reported that the state teachers’ pension fund was likely paying \$143 million in fees to private equity firms on money merely set aside *for investments that haven’t even been made*.⁴⁹

In addition to the exorbitant fees, firms in the hedge fund and private equity sub-sectors benefit from the leverage that these pension funds provide. Pension funds are large pools of capital that can be used as collateral for increasingly risky investments. And the financial firms can reap immense profits when successful but shield themselves from losses when they aren’t. And these firms continue to reap the benefits of this subsidization even when they underperform. Public pension funds experienced large market losses during the market downturns of 2000-2002 and 2008, with their funding levels declining from more than 100 percent in 2000, to 85 percent in 2006 (well before the onset of the Great Recession) and to 72 percent as of 2012.⁵⁰ By 2020, private equity firms were only performing at 3.40%, well below returns on several broad U.S.

⁴⁵ Bailout Tracker.”

⁴⁶ Penas, María Fabiana Penas and Haluk Unal. “Gains in Bank Mergers: Evidence from the Bond Markets,” *Journal of Financial Economics*, 2004 (74), 149 and 150.

⁴⁷ Sirota, David. “Workers are Funding the War on themselves,” *The Daily Poster*, 7 July 2021, accessed 23 November 2022, <https://www.dailyposter.com/workers-are-funding-the-war-on-themselves/>.

⁴⁸ Sirota, “Workers are Funding the War.”

⁴⁹ Sirota, “Workers are Funding the War.”

⁵⁰ “State Public Pension Investments Shift Over the Past 30 Years,” 3.

stock indexes, including the S&P 500 (performing at 7.51%), the Russell 1000 Index (performing at 7.48%), and the Wilshire 5000 Total Market Index (performing at 6.78%).⁵¹

Finally, the finance sector benefits from state subsidization via tax breaks that allow its firms to hold onto much of the wealth it extracts from the rest of society. The private equity firms that drain so much wealth from government pensions retain an estimated \$75 billion a year by funneling their earnings through private equity partnerships, while helping their managers avoid income taxes on the roughly \$120 billion the industry pays them each year.⁵² Then there is the carried interest loophole, which allows private equity fund managers to treat their compensation as capital gains vice actual earned income (thus having it taxed at a lower rate), which becomes an annual subsidy estimated at \$1.4 billion.⁵³ Bailouts, insurance, access to cash, and tax breaks are the multiple ways that the finance sector benefited from billions of dollars in state subsidies, which in turn fueled much of the billionaire wealth in this country.

Tech Sector Analysis

Level of Concentration of Ownership

For the tech sector, data from the Census Bureau reflects even higher levels of concentration than even finance. For one, despite having fewer billionaires than finance in 2022, the tech sector had a higher HHI. In fact, it had the highest HHI of all economic sectors in 2017. Within the tech sector, more than half (61.7%) of a total \$1.58 trillion in revenue and sales in 2017 was achieved by the top 50 firms (a mere 0.06% of the sector's 79,418 firms). This share of sales and revenue by the top 50 was the second highest among the 17 sectors in 2017.

It is especially telling that within the tech sector (unlike finance), levels of concentration increase the further one goes up the top. The total percentage of sales and revenue by the tech sector's top 20 firms was the highest of all sectors in 2017 (a 51% share at \$806.27 billion). Even further, the tech sector remained the top sector for the percentage of sales and revenue by its top 8 firms (36.4% share at \$576.53 billion) as well as its top 4 firms (25.7% share at \$406.74 billion). This data suggests that in 2017, more than in any other sector, tech firms at the top enjoyed a significant share of sales and revenue. This dynamic exemplifies high levels of concentration that has likely increased by 2022.

Tech sector concentration proliferated in the neoliberal period due to several factors. For one, the dynamic of first mover advantage contributed to the first tech sector firms gaining early market share and cornering the initial demand for products and services. A certain number of tech firms

⁵¹ Joffe, Mark. "Private Equity Returns Stumbled in 2020, Hurting Public Pension Plans," *Reason Foundation*, 27 April 2021, accessed 23 November 2022, <https://reason.org/commentary/private-equity-returns-stumbled-in-2020-hurting-public-pension-plans/>.

⁵² Drucker, Jesse and Danny Hakim. "Private Inequity: How a powerful industry conquered the tax system," *The New York Times*, 12 June 2021, accessed 24 November 2021, <https://www.nytimes.com/2021/06/12/business/private-equity-taxes.html>.

⁵³ Sullivan, Becky. "A Tax Loophole Made Fund Managers Rich. Closing it may help pay for the climate bill," NPR, 3 August 2022, accessed 24 November 2022, <https://www.npr.org/2022/08/03/1115218183/carried-interest-close-tax-loophole>.

were able to achieve significant first mover advantage despite rapidly evolving technology and increasing market demand. For example, the tech company Intel made the best use of its technical and marketing muscle for product development to stay one step ahead of its competition to dominate its industry while Apple was able to achieve an 82% share in the portable media player market with its iPod by the end of 2004 due to its strength in marketing, R&D, and design.⁵⁴ Advantages by tech sector first-movers facilitated concentration in this sector.

Corollary to this first mover advantage is the factor of geography. First mover firms tend to arrive first and set up shop in certain American cities. As a result, these firms gobble up resources and human capital in these areas and press their competitive edge. By 2020, despite the tens of thousands of digital services jobs sprouting in up-and-coming towns in the U.S. heartland, 90% of the nation's tech sector employment growth in the last 15 years was generated in just five major coastal cities: Seattle, Boston, San Francisco, San Diego, and San Jose, California.⁵⁵ These geographic hubs began with a high individual attainment of educational degrees and became centers of big platforms, command-control centers for the largest tech firms, and places with high amounts of human capital around skills acquisition.⁵⁶ Geographic concentration fueled the concentration that correlated with billionaire proliferation in the tech sector.

Another factor that contributed to tech sector concentration is the growing impact of virtually unlimited economies of scale. In traditional industries, firms can become less efficient once they exceed a certain size, but in the tech sector, firms like Google and social networks like Facebook can generate revenue from ads that reach millions of new users at little or no marginal cost.⁵⁷ Platforms similar to Google and Facebook, like Uber and Amazon, seem to have no limit to their size simply because (due to the network effects that pervade online markets) a tech firm's dominance (once in a market) self-perpetuates and increases automatically.⁵⁸ These tech sector firms managed to achieve infinite levels of production at very little cost because the digital nature of their products (raw data, information, etc.), which helped them acquire a disproportionate share of resources, revenue, and profits.

Finally, the global dominance of multiple tech subsectors fuels the immense levels of capital that contribute to the concentration in the U.S. tech sector. Six tech subsectors occupied the top 15 most profitable industries in the world in 2021. These include the software systems and application subsector, which was the most profitable in the world in 2021 with a net income of

⁵⁴ Suarez, Fernando F. and Gianvito Lanzolla. "The Half-Truth of First-Mover Advantage," Harvard Business Review, April 2005, accessed 1 November 2022, <https://hbr.org/2005/04/the-half-truth-of-first-mover-advantage>.

⁵⁵ Muro, Mark. "No Matter Which Way You Look at it, Tech Jobs are still Concentrating in Just a Few Cities," Brookings Institute, 3 March 2020, accessed 1 November 2022, <https://www.brookings.edu/research/tech-is-still-concentrating/>.

⁵⁶ Pethokoukis, Jame and Mark Muro, "Is the Tech Sector Too Concentrated? My Long-Read Q&A with Mak Muro, 15 April 2022, accessed 1 November 2022, <https://www.aei.org/economics/is-the-tech-sector-too-concentrated-my-long-read-qa-with-mark-muro/>.

⁵⁷ Howe, Neil. "Why Markets Keep Concentrating and How That Hurts Our Economy," *Forbes*, 30 December 2015, accessed 5 November 2022, <https://www.forbes.com/sites/neilhowe/2015/12/30/why-markets-keep-concentrating-and-how-that-hurts-our-economy/?sh=6ba5d0337959>.

⁵⁸ Mazzucato, 217-219.

\$81.3 billion, capital returns of 32.07%, and a gross profit at \$339.9 billion.⁵⁹ Growing at exponential rates, the global computer service subsector had a global net income of \$41.5 billion, a return of 21.92% on capital, and a gross profit of \$209.7 billion.⁶⁰ Finally with the global dependence on data, the information services industry had a net income of \$29.5 billion, a 23.40% return on invested capital and a gross profit of up to \$108 billion.⁶¹

Level of Income Distribution

Like the finance sector, the Census Bureau data shows a correlation between concentration of employee pay and the existence of billionaires in the tech sector. Tech had an annual payroll of only \$360.58 billion in 2017 (in the middle of the pack at 9th out of 17 sectors) and a relatively low number of employees (only 3.6 million which was 12th out of 17 sectors in 2017). This made the tech sector possess some of the highest paid employees among all economic sectors, with an average of \$101,143 average per employee (second out of 17 sectors).

The concentration of employee pay was even more pronounced when going up the scale for tech sector firms. The number of employees boasted by the top 50 firms in the tech sector was only 1.4 million in 2017 (seventh out of 17 sectors), but it paid out the second highest in annual payroll (\$179.27 billion). This payroll by tech's 50 top firms produced an average of \$127,032 per employee (the highest average among all sectors for the 50 top firms). This disparity of payroll between tech and the other sectors repeated itself among the top 20, top 8, and top 4 firms. Tech's top 20 firms boasted an annual payroll of \$141.3 billion (first out of 17) distributed among only 1.1 million employees (seventh out of 17) for an average of \$129,208 per employee (first out of 17 sectors). Payroll for the top 8 firms (\$94.54 billion) was first among sectors and distributed to only 814,628 employees (seventh out of 17) for an average of \$116,047 per employee (second out of 17 sectors). And finally, the top 4 firms had the second highest payroll when compared to their counterparts in other sectors (\$64.49 billion). Distributed to only 593,411 employees, the average was third among sectors at a \$108,673 average per employee.

This data shows that the tech sector (even more than the finance sector) had a great concentration of income among its employees in 2017 (especially among the sector's top firms). But like the finance sector, extraction and exploitation are factors most responsible for this trend. Tech firms can take advantage of artificial intelligence (AI), surveillance capability, economies of scale, and global connectivity to obtain data and information that allows them to undermine traditional services (lodging, transportation, retail, etc.) by cornering demand and markets with its predictive and surveillance capabilities. The result is an ability to extract capital from productive activities despite having a low number of employees. With the rise of the "gig economy" and the replacement of waged jobs with precarious "self-employment," tech is lucrative for Silicon

⁵⁹ Karlo, Jose and Mari Tottoc. "5 Most Profitable Industries In the World in 2021," *Insider Monkey*, 18 June 2021, accessed 7 November 2022, <https://www.insidermonkey.com/blog/5-most-profitable-industries-in-the-world-in-2021-946645/5/>

⁶⁰ Karlo, Jose and Mari Tottoc. "15 Most Profitable Industries In the World in 2021," *Yahoo!Finance*, 18 June 2021, accessed 5 November 2022, <https://finance.yahoo.com/news/15-most-profitable-industries-world-173731858.html>.

⁶¹ Karlo and Tottoc.

Valley firms at the expense of employees.⁶² For example, the founder of Uber, Travis Kalanick, used technology to exploit the gig economy and collect rents from the labor market via a platform monopoly. Uber's driver terms and conditions casts each driver as an entrepreneur, a free agent choosing hours but receiving none of the regulatory infrastructure and protections that employees in other sectors depend on.⁶³ This type of arrangement allows tech firms to extract billions in revenue without the expense of providing for millions of employees.

The trend of extraction became even more pronounced by 2022. A crisis makes for a good opportunity for a sector's firms to extract wealth. Like the Financial Crisis did for the finance sector, the COVID-19 pandemic performed this role for the tech sector. As millions of U.S. employees found themselves out of work, tech sector employees found themselves still employed and making more money. In 2020, the five tech superpowers, Amazon, Apple, Google, Microsoft, and Facebook, had combined revenue of more than \$1.2 trillion.⁶⁴

As alluded to above regarding Uber, the tech sector's extractive ability simultaneously exploits labor. Tech firms will take advantage of a system of production or a weakness in an economy to acquire the most productivity from workers, even while paying them sub-standard wages. Examples abound of real-life firms that have facilitated this kind of individual inequality among employees. Amazon CEO Jeff Bezos took advantage of the technological innovations that allowed him to exert greater control of a production network, all while paying the employees in his fulfillment centers extremely low wages and squeezing as much productivity out of them as he could. And at Google, more than half of its workforce was on temporary contracts by 2019, with these workers being paid less without job protection despite doing the same work as Google's direct employees.⁶⁵ Others, will boost their profits by cutting jobs. Yahoo CEO Scott Thompson (while being paid \$27 million a year) axed 2000 jobs in 2012 (14% of the company's workforce) following four major layoffs over the previous six years.⁶⁶

The technological tools available to the tech sector make it easy (easier than the tools of financialization for the finance sector) to extract from productive activities all over the world (at very little expense). Amazon is already big in places like India and Mexico, taxi drivers in places like Uganda and Bangladesh pay large chunks of their income to Uber, and homestays and small hotels across the global south pay hefty commissions to Airbnb.⁶⁷ Even worse, U.S. tech firms are multinational corporations that rely on an exploitative global network of smaller companies that are often based in underdeveloped countries; child laborers are used in the Democratic Republic of Congo to mine the cobalt used in electronic components, which are assembled in Chinese factories by workers paid as little as \$2 an hour.⁶⁸ Specifically, Apple has the bulk of its

⁶² Scrivener, Alex. "Big Tech is an Extractive Industry, it Must Be Regulated as Such," *Al Jazeera*, 9 May 2018, accessed on 15 November 2022, <https://www.aljazeera.com/opinions/2018/5/9/big-tech-is-an-extractive-industry-it-must-be-regulated-as-such>.

⁶³ Giridharadas, 30-31.

⁶⁴ Olvide, Shira. "How Big Tech Won the Pandemic," *The New York Times*, 12 October 2021, accessed 17 November 2022, <https://www.nytimes.com/2021/04/30/technology/big-tech-pandemic.html>.

⁶⁵ "Tech Industry, Super Profits from Super Exploitation," *The Socialist*, 15 February 2019, accessed 15 November 2022, <https://thesocialist.org.au/tech-industry-exploitation/>.

⁶⁶ Sayer, 120.

⁶⁷ Scrivener, "Big Tech is an Extractive Industry."

⁶⁸ "Tech Industry, Super Profits from Super Exploitation."

manufacturing workforce in China, particularly at one of its chief suppliers, Foxconn, a company that made headlines for the high number of worker suicides, under-age labor and oppressive working conditions.⁶⁹ These global workers do not factor into the employee numbers of U.S. tech firms, but they are critical in ensuring the massive amounts of capital responsible for this sector's high payroll.

What the above trends highlight is that the tech sector's lack of income distribution is made possible by its ability to extract capital and exploit labor. The top firms in the tech sector (and those they employ) benefit handsomely in this situation. The high level of income concentration correlates with the concentration of wealth indicative by this sector's number of billionaires, as enormous amounts of capital flow into the sector among a relatively smaller number of employees.

Level of State Subsidization

State subsidization includes any form of support that results in a monetary benefit. This includes state funded research and development (R&D) that contributes to the creation of technologies from which tech firms can derive profit. Through this kind of state subsidization, the U.S. tech sector has received billions in dollars of monetary benefit in the form of decades of profit due to its firms' control of technology only made possible by initial state funding. For the purposes of this discussion, it is impractical to track every specific transaction that directly or indirectly resulted from state funding, but it is necessary to highlight the most significant instances across the neoliberal period.

Tech sector firms accumulate and concentrate capital in the form of rent derived from the usage of or access to digital platforms under control of these firms. The largest U.S. tech sector firms deriving the most benefit from digital platforms (Amazon, Google, and Facebook) each made \$470 billion⁷⁰, \$257 billion⁷¹, and \$118 billion⁷² in revenue in 2021 respectively. These platforms would never exist without the decades of state funded research and development that went into the Internet and World Wide Web. The Internet has its origins from U.S. government research that led to the establishment of the Advanced Research Projects Agency Network (ARPANET) of the U.S. Department of Defense. And although not funded via U.S. state subsidization, the World Wide Web was created as part of European state subsidization via funding by the European Organization for Nuclear Research (CERN). This state investment has ensured infinite rates of return for tech sector companies.

Like the Internet and World Wide Web made possible billions in dollars in digital platform rent for tech sector firms, computer technology made possible billions in dollars in sales and revenue for these firms. The innovations in computer technology would never be possible without the initial state-funded R&D that led to the development of computer hardware and software. In

⁶⁹ Sayer, 127.

⁷⁰ "Amazon Revenue 2010-2022," *Macrotrends*, accessed 27 November 2022, <https://www.macrotrends.net/stocks/charts/AMZN/amazon/revenue>.

⁷¹ "Annual Revenue of Google from 2002-2021," *Statista.com*, 26 July 2022, accessed 27 November 2022, <https://www.statista.com/statistics/266206/googles-annual-global-revenue/>.

⁷² "Meta's (formerly Facebook Inc.) Annual Revenue from 2009 to 2021," *Statista.com*, 27 July 2022, accessed 27 November 2022, <https://www.statista.com/statistics/268604/annual-revenue-of-facebook/>.

computing, the graphical user interface that involves the mouse, pointer, icons, and hypertext, was invented by state agencies before it was adopted by Apple and Microsoft; key innovations in electronics, including the microchip, were funded by the Department of Defense, while the technologies behind the iPhone (the GPS and touchscreen display) were dependent on state funding.⁷³ And this subsidization continues now in 2022 with the passage of the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act, which is a \$280 billion dollar spending package that includes about \$50 billion in spending on increasing domestic semiconductor production and \$39 billion in incentives to build chip manufacturing plants in the U.S.⁷⁴

Finally, patents are examples of state authority that grant exclusive rights for tech sector firms to take advantage of making, using, and/or selling technological inventions. Patents are a type of government support (subsidization) given to private tech sector firms who in turn benefit monetarily by having exclusive rights to these inventions. Since these inventions were made possible by state funded R&D, the resulting patents are an even greater example of state subsidization as they are made possible by state authority. In some cases, the patent is also a vehicle for labor exploitation if a tech company profits from the research and innovation done by its employees and fails to compensate them adequately. Examples of patents owned by U.S. tech sector companies that benefitted from U.S. Government R&D are Apple's original iPhone⁷⁵ and Qualcomm's several Third Generation Wireless Mobile Telecommunications (3G) patents⁷⁶, none of which would have been possible without the Internet.

Technological innovation is necessary for a country's economic development, as such, state subsidization of the R&D that leads to this innovation is crucial. But when a disproportionate share of wealth is created for those in a sector that exclusively profit from this innovation, billionaire wealth is the result within said sector. The U.S. tech sector is an example of this problem, as it has accumulated and concentrated capital to such a degree that billionaire proliferation is inevitable.

Food and Beverage Sector Analysis

Level of Concentration of Ownership

The 2017 Census Bureau data shows that the food sector experienced some of the lowest levels of concentration among the other sectors. Despite having the third highest number of billionaires by 2022, the food sector's HHI rank in 2017 was 12th out of the 17 other sectors. In addition, the sector's top 50 firms only possessed 19.2% share of the sector's \$938 billion in total revenue and sales (ranking only 13th out of 17 sectors). This distribution was confirmed even when going further up the scale. The share of the food sector's total revenue and sales by its top 20, 8, and 4

⁷³ Sayer, 126.

⁷⁴ "What's in the Recently Passed CHIPS Act?" *USA Facts*, 12 August 2022, accessed on 27 November 2022, <https://usafacts.org/articles/whats-in-the-recently-passed-chips-act/>.

⁷⁵ Bennet, Jay. "15 Patents That Changed the World," *Popular Mechanics*, 25 March 2022, accessed 27 November 2022, <https://www.popularmechanics.com/technology/design/g20051677/patents-changed-the-world/>.

⁷⁶ Goodman, David J. and Robert A. Myers. "3G Cellular Standards and Patents," *IEEE Wireless Communications*, 13 June 2015, accessed 27 November 2022, <https://patentlyo.com/media/docs/2009/03/wirelesscom2005.pdf>.

firms consistently ranked at only 13th out of 17 sectors. The data suggests that in 2017 the food sector revenue was evenly distributed among the sector's firms vice concentrated.

Unlike the previous two sectors, the wealth concentration in the food sector as noted in 2017 does not correlate well with its level of billionaire wealth in 2022. But this trend has reversed itself as evidenced by how concentration proliferated across the sector. By 2021, only four firms controlled 53% of the meat processing market, four companies processed 85% of America's beef and 65% of its chicken, four companies owned 80% of the beer market, four others controlled 83% of the ready-to-eat cereal market, only one company (J.M. Smucker) had a 45% share of the U.S. jelly market, and one (Frito-Lay) controlled 60% of the potato chips market.⁷⁷

Food sector concentration after 2017 is attributed to multiple factors. For one, international phenomena caused a small amount of U.S. based global corporations to increase their wealth. During the COVID-19 pandemic, when processing plant closures led to shortages in global food supply, the overall wealth of food sector firms and billionaires swelled by 45% in a mere two years to a mammoth \$382 billion because of the global rise of food prices (which went up by over 33% in 2021).⁷⁸ Another contributing factor is the large amount of generational wealth transfer within families owning food sector businesses. For example, thanks to the food price inflation caused by the COVID-19 pandemic, the Cargill Family (owners U.S. Cargill Corporation) added four more billionaires to its group of fifth generation heirs and heiresses for a total of 12 billionaires as of 2022.⁷⁹ Cargill is one of four companies that control over 70% of the global market for agricultural commodities (wheat, soy, and cocoa) and reaped record profits, increasing the family fortune by 65% since 2020 to a whopping \$42.9 billion.⁸⁰

Concentration proliferated in the food sector as opportunities for mergers and acquisitions kept presenting themselves to food sector firms. The incentives for these transactions (increased market share, economies of scale, reduced competition, etc.) became harder for food sector firms to resist. This pace of mergers was reinforced by lax anti-trust enforcement that shaped the pace of concentration in the food sector.⁸¹ Corollary to lax anti-trust enforcement is the industry collusion and cronyism that are allowed to emerge as a result. Instances include coordinated price-fixing among meat and poultry companies, which finally led to indictments by the U.S. Justice Department of executives in this subsector in 2020.⁸² Other cronyism is facilitated by international phenomena, specifically the COVID-19 pandemic. A major egg supplier in the Northeast was charged by the New York State attorney general with taking advantage of egg

⁷⁷ "The Food Industry's Market Concentration Problem," *Food Processing*, 25 February 2021, accessed 11 November 2022, <https://www.foodprocessing.com/business-of-food-beverage/mergers-acquisitions/article/11298617/the-food-industrys-market-concentration-problem>.

⁷⁸ Sethi, Vaamanaa. "The Pandemic Created 62 New 'Food' Billionaires and the Ukraine War Will Make Them Richer," *Business Insider India*, 23 May 2022, accessed 11 November 2022, <https://www.businessinsider.in/thelife/news/rising-food-prices-made-62-new-food-billionaires-and-the-dynasties-could-get-richer-this-year/articleshow/91738259.cms>.

⁷⁹ Sethi, "The Pandemic Created 62 New 'Food' Billionaires."

⁸⁰ Canning, Anna. "Child Labor is on the Rise. So are the Billionaires in the Food System," *Fair World Project*, 8 June 2022, accessed 20 November 2022, <https://fairworldproject.org/child-labor-is-on-the-rise-so-are-billionaires-in-the-food-system/#:~:text=Our%20Food%20System%20Prioritizes%20Profits,an%20increase%20of%20%24382%20billion.>

⁸¹ "The Food Industry's Market Concentration Problem."

⁸² "The Food Industry's Market Concentration Problem."

shortages during the pandemic by hiking prices by almost 500% in 2021.⁸³ The factors of international phenomena, wealth transfer, lax anti-trust enforcement, and cronyism explain food sector concentration despite what the Census Bureau data revealed in 2017.

Level of Income Distribution

Based on Census Bureau data, distribution of income within the food sector in 2017 was not as concentrated as the finance and tech sectors. This sector had the third highest number of employees in 2017 (14 million) while having an annual payroll in the bottom half of all the sectors (tenth out of 17) at only \$264.6 billion. Even more telling, its payroll average per employee was in last place at only \$18,897 per employee. And this disparity for average payroll per employee repeated itself in the top 50, top 20, top 8, and top 4 firms in the food sector, with each of these brackets coming in last among their counterparts within the rest of the 17 sectors.

But despite this low level of income distribution in 2017, the sector managed to have the third highest number of billionaires by 2022. This is largely because the extractive activities of the industry combined with its exploitation of workers and producers caused sector capital to wind up in the hands of a limited few. While the finance and tech sectors extract capital from and exploit labor in other sectors, the food sector does this within itself. Even worse, like finance and tech, the food sector can extract from productive activities outside of the U.S. (at very little expense). Cargill has made billions trading cocoa, while West African cocoa farming families earn, on average, less than \$1 per day.⁸⁴ Research by Oxfam found that employees and workers in global supply chains are those who suffer when corporations like Cargill protect their profits, and that just 5.9% of the value of an average basket of groceries reaches small-scale farmers.⁸⁵

As the food sector tends to be more labor intensive than most sectors, it continues to have a larger number of employees than most sectors. Concentration of power for the top food sector firms allows them to easily exploit these workers while extracting immense wealth from their efforts. Researchers maintain that food sector concentration (despite lower food prices) facilitates exploitation of farmers, plant workers and others.⁸⁶ Across the food sector, as workers (and even their children) continue to be exploited, powerful interests protect the industry and block progress against the exploitation that's baked into its business model.⁸⁷ For example, in 2019 an agricultural employers association sued in federal court to cut the wages of migrant farm workers (the suit was rejected).⁸⁸ Corporations like Pepsi and McDonald's hide behind trade associations like the National Restaurant Association (NRA) to resist efforts to raise the minimum wage in the U.S. Congress.⁸⁹ And according to research done by the advocacy group Feed the Truth, in the 2020 election cycle alone, the entire agribusiness sub-sector spent \$186 million on campaign

⁸³ "The Food Industry's Market Concentration Problem."

⁸⁴ Canning, Anna. "Child Labor is on the Rise."

⁸⁵ Sethi, "The Pandemic Created 62 New 'Food' Billionaires."

⁸⁶ "The Food Industry's Market Concentration Problem."

⁸⁷ Canning, Anna. "Child Labor is on the Rise."

⁸⁸ Martin, Nick. "American Farming Runs on Exploitation," *The New Republic*, 17 October 2019, accessed 22 November 2022, <https://newrepublic.com/article/155403/american-farming-runs-exploitation>.

⁸⁹ Sullivan, Lucy Martinez. "Op-Ed: We Need to Get Food Industry Dollars Out of Our Politics to Save Our Democracy," *Civil Eats*, 26 February 2021, accessed 22 November 2022, <https://civileats.com/2021/02/26/op-ed-we-need-to-get-food-industry-dollars-out-of-politics-to-save-our-democracy/>.

contributions, nearly four times more than the defense industry, and on par with the oil and gas industry.⁹⁰

Level of State Subsidization

The level of state subsidization to the food sector is not as high as with the finance and tech sectors, but it is significant, nonetheless. This is especially true in the farm sub-sector, where the U.S. government provides massive subsidies via costly programs like a highly restrictive sugar import and domestic production quota system, a federal crop insurance program, and price and income support programs for major crops such as corn and wheat.⁹¹ The extent to which the farm sub-sector benefits from direct federal subsidies was significant, averaging at \$15 billion annually from 2000 to 2008, surging to \$30 billion in 2019, and then to \$52 billion in 2020 (reaching record levels to compensate for losses from the trade wars with China and the COVID-19 related market disruptions).⁹²

This subsidization of the farm sub-sector has been a key contributor to the wealth concentration in the food sector as a whole, as the U.S. government has become an important source of income for many farms, especially larger “commercial farms” where most of the benefits are concentrated.⁹³ And these federal farm subsidies further prop up the global conglomerates like Archer Daniels Midland, Cargill, and Bayer, while America’s smaller family farms decline by the thousands each year.⁹⁴ This situation is exacerbated when these smaller farms are purchased by asset-collecting billionaires in other sectors solely for the purpose of extracting rents. The U.S. Department of Agriculture estimated in 2021 that approximately 39% of the 911 million acres of farmland across the U.S. is rented out to farmers, and 80% of that rented farmland is owned by landlords who don’t farm themselves.⁹⁵ In 2020 for example, tech billionaire Bill Gates became the largest private farmland owner in the U.S., having accumulated more than 269,000 acres of farmland across 18 states in less than a decade.⁹⁶

And these subsidies continue to benefit the richest of the rich and create more billionaire wealth, even in other sectors. According to an analysis by the Environmental Working Group (EWG), fifty members of the 2016 Forbes 400 richest Americans list (with a combined net worth of \$331.4 billion) received at least \$6.3 million in farm subsidies between 1995 and 2014, and this doesn’t include the subsidies likely received through the federal crop insurance program.⁹⁷ Like

⁹⁰ Sullivan, “Get Food Industry Dollars Out of Our Politics.”

⁹¹ Smith and Goren, “Farm-Sector Spending.”

⁹² Smith and Goren, “Farm-Sector Spending.”

⁹³ Smith, Vincent H. and Benjamin J. Goren. “Farm-Sector Spending on Federal Campaign Contributions and Lobbying Expenditures: Evidence from 2003 to 2020,” *American Enterprise Institute*, December 2021, accessed 27 November 2022, <https://www.aei.org/wp-content/uploads/2021/12/Farm-sector-spending-on-federal-campaign-contributions-and-lobbying-expenditures.pdf?x91208>.

⁹⁴ Sullivan, “Get Food Industry Dollars Out of Our Politics.”

⁹⁵ Lee, Nathaniel. “Here’s Why the Ultra-wealthy like Bill Gates and Thomas Peterffy are Investing in U.S. Farmland,” *CNBC.com*, 20 August 2021, accessed 29 November 2022, <https://www.cnbc.com/2021/08/20/heres-why-the-ultra-wealthy-like-bill-gates-investing-to-farmland.html>.

⁹⁶ Lee, “Here’s Why the Ultra-wealthy like Bill Gates and Thomas Peterffy are Investing in U.S. Farmland.”

⁹⁷ Coleman, Robert. “The Rich Get Richer: 50 Billionaires Got Federal Farm Subsidies,” 18 April 2016, accessed 28 November 2022, <https://www.ewg.org/news-insights/news/rich-get-richer-50-billionaires-got-federal-farm-subsidies>.

other farm subsidies, the greatest share of crop insurance subsidies flows to the most successful farm businesses; per an EWG analysis of USDA data, the top 1% of crop insurance subsidy recipients received on average nearly \$227,000 a year in crop insurance premium support in 2011, while the bottom 80% of recipients received only about \$5,000 a year.⁹⁸

Despite lower levels of concentration in the food sector in 2017, there is a correlation between its current level of billionaire wealth and the level of state subsidization received over the years. Subsidies from the U.S. government are an investment in food sector firms that the firms do not have to make themselves. As such, they can accumulate wealth at a faster rate. And this is true for other sectors that can take advantage of this situation by acquiring food sector assets.

What Patterns Have Been Identified?

Now that the characteristics responsible for billionaire wealth at the sector level have been examined, it is possible draw certain conclusions from the findings. Analyzing the three most billionaire heavy sectors through the lenses of concentration, income distribution, and state subsidization reveals some telling patterns. Chief of which is the degree that the institutional drivers of billionaire wealth discussed above (and their individual components) are represented by the actions of firms within these sectors. This degree of representation provides clues as to the most relevant drivers and components to the proliferation of billionaire wealth.

The Role of Financialization

From this sectoral analysis it can be gathered that the driver of Financialization (which is defined at the accumulation of capital mainly through financial activities) is an extremely relevant contributor to billionaire wealth. For one, the entire finance sector and all its activities is the absolute manifestation of Financialization and the components described above. Firms in the finance sector use the components of “debt” (collection of interest on loans in order to accumulate capital), “securitization” (turning non-financial assets into tradable financial instruments), “capital mobility” (the ease in which capital is moved around for conducting financial activities), “financial shift” (the move by different economic sectors from productive non-financial activities), and “intermediation” (when middlemen act as financial facilitators for multiple economic sectors) to achieve dominance over the U.S. economy. As discussed above, financial firms managed to sell debt in the form of mortgages throughout the U.S. economy and securitized this debt via the creation of tradable financial assets. In addition, large banks used the mobility of capital across state lines to gobble up smaller banks and facilitated the financial shift that led other sectors to move from a managerial model to a financial model. And finally, finance sector actors like pension funds, private equity firms, hedge funds, and sovereign wealth funds also used their capital mobility to swiftly move capital into the food sector during the Financial Crisis and made investments in agriculture and farmland as promising alternatives to their floundering investments.⁹⁹

⁹⁸ Coleman, “The Rich Get Richer.”

⁹⁹ Stephens, Phoebe. “Perspective: The financialization of food,” *University of Ontario Open Library*, accessed 14 December 2022, <https://doi.org/10.22215/fsmmm/sp46>.

The low levels of income distribution in the finance sector are indicative of Financialization's component of intermediation. Finance sector firms amassed tremendous amounts of wealth and speculative profits because what they were selling did not require purchase of goods, products, or supplies from other sectors (just lots of mobile capital). As a result, finance sector employees like bankers, financiers, and hedge fund managers received massive salaries thanks to their skills as intermediaries between their sector and others. Between 1985 and 2012, the average bonus of an employee on Wall Street has increased by 409% (from \$29,809 to \$121,890).¹⁰⁰ These intermediaries got paid massive amounts of money to orchestrate Financialization's components to extract more and more capital from other sectors across the U.S. economy.

The financial shift across the U.S. economy was massive and pervasive during neoliberalism. As discussed above in the section on income distribution in the finance sector, firms in other sectors shifted from productive activities to non-productive financial activities. This dynamic could not be better represented than in the automobile sector. Before the 1980s, the main function of finance companies within automobile manufacturers like General Motors and Ford was to provide their customers access to credit to increase car sales. Starting in the 1980s, however, these firms broadened their portfolio to include mortgage lending, savings and loan markets, insurance, banking, and commercial finance.¹⁰¹ Other sectors followed suit, and this embrace of Financialization has led to more billionaires, a concentration of wealth, and greater inequality across non-financial sectors.

Among the sectors that followed suit were the other two billionaire heavy sectors in this analysis: tech and food. If the finance sector is the manifestation of the driver of Financialization, then the tech and food sectors are extreme beneficiaries. Currently, tech companies are increasingly practicing financial activities by pulling tech sector resources away from innovation and entrepreneurship and toward the creation of platforms to facilitate financial asset trading (which helped push finance sector growth during the Financialization boom of the 2000s).¹⁰² While China is leaping ahead in semiconductor innovation and leading the world in drone technology, America's brightest minds are spending their time and energy thinking of new ways to trade tokens back and forth.¹⁰³ And in the food sector, agricultural trading firms such as Cargill are increasingly involved in financial activities to generate profit by structuring themselves into several business units and subunits for trading seed, feed, fertilizer, and agrochemicals all while providing financial services through subsidiaries like Black River Asset Management.¹⁰⁴ Financial activities track robustly across both the tech and food sectors and the driver of Financialization is implemented heavily in these sectors, ensuring the proliferation of billionaires more than any sector of the U.S. economy.

¹⁰⁰ "Wall Street Salaries and Bonuses," *Financial Planning*, 28 March 2013, accessed 14 December 2022, <https://www.financial-planning.com/slideshow/wall-street-salaries-bonuses-1985-2012>.

¹⁰¹ "Financialization: Why the finance sector now rules the global economy," *Mises Institute*, 18 March 2020, accessed 14 December 2022, <https://mises.org/wire/financialization-why-financial-sector-now-rules-global-economy>.

¹⁰² Smith, Noah. "The Financialization of Tech," *Substack*, 26 July 2022, accessed 2 January 2023, <https://noahpinion.substack.com/p/the-financialization-of-tech>.

¹⁰³ *Ibid.*

¹⁰⁴ Stephens, "The Financialization of Food."

The Role of Rentierism

All three sectors engaged in the driver of Rentierism, which was defined above as the control of access to productive activities and assets for the sole purpose of extracting capital in the form of rents. In discussing the prevalence of Rentierism among the finance, tech, and food sectors, it is useful to note how they engage in the multiple types of rentierism as highlighted by Brent Christophers in *Rentier Capitalism*. Christophers' concepts complement the theory of Rentierism as an institutional driver very well, and there are multiple examples of how the firms in the analyzed sectors comport to Christophers' types of rentierism.

The extractive nature of the finance sector is indicative of what he refers to as *financial rentierism*, which he describes as receiving rents by limiting access to capital and collecting them in the form of interest, capital gains, and dividends from financial assets.¹⁰⁵ As discussed in the section about the finance sector, an excessive number of mergers and acquisitions in the banking subsector led to concentration. This concentration gave banks greater control over access to capital which helped them achieve higher rents. In addition, other financial firms collected rents by selling debt, collecting fees, and securitizing assets and liabilities. And finally, state subsidization of these financial firms ensured even greater financial rents as these businesses benefitted from exclusive access to state capital in the form of bailouts, government sponsorship, insurance against loss, and access to state pension funds.

The tech sector overlaps with other sectors (financial, services, medical, etc.) and is responsible for engaging in what Christophers describes as *platform rentierism* since they derive rents (income) by controlling access to platforms either through subscription charges, fees, commissions, and/or advertising.¹⁰⁶ Firms in the tech sector like Google, Facebook, and Uber, collected rent from their control of platforms and technology that were heavily subsidized by state funded R&D and these platforms used powerful AI and surveillance capability to extract value from productive labor and activities from all over the U.S. and the world (at very little expense). Closely related to platform rentierism, with their reliance on state enforced patents and subsidized R&D, tech sector firms took part in what Christophers describes as *intellectual property rentierism*, which he characterized as rents coming from the ownership of intellectual creations as recognized by law.¹⁰⁷ Patented technologies like the previously mentioned graphical user interface, iPhone, and 3G technology allowed their respective tech sector owners to collect billions in rents as they retained exclusive control and government protection of these assets.

Service contract rentierism is practiced by firms in all three sectors as they have benefitted from what Christophers describes as “a veritable explosion in the outsourcing industry” and “awarding contracts for the services to be provided.”¹⁰⁸ The management of state pensions by hedge funds (as discussed above in the section on finance sector subsidization) includes firms that typically

¹⁰⁵ Christophers, Brett. *Rentier Capitalism: Who Owns the Economy, and Who Pays for it?* New York, Verso, 2020, xxxi – xxxii.

¹⁰⁶ Christophers, xxxiii.

¹⁰⁷ Christophers, xxxii – xxxiii.

¹⁰⁸ Christophers, xxxiii – xxxiv.

enter into exclusive contracts with state government agencies, including the Kentucky Public Pension Authority, which had contracts with several investment firms from 2011 to 2016.¹⁰⁹ Tech sector firms that benefitted from the previously mentioned state subsidized R&D include computing firms like Amazon Web Services, which has contracts with the U.S. Federal Government.¹¹⁰ And subsidized agriculture firms like Cargill are contracted by government agencies like the U.S. Department of Agriculture's Farm Service Agency to support U.S. midwestern farms.¹¹¹

As highlighted above, “subsidization” (the act by capital accumulators to benefit from state support and investments) and “concentration” (small numbers of firms controlling access to a sector and its market) are components of the institutional driver of Rentierism. As revealed repeatedly in this sector analysis, these concepts have emerged via the blatant practices of firms in all three sectors. First, the concentration in the three sectors has meant less competition for a minority of the firms in those sectors. When facing little or no competition, these companies can extract excess returns on their capital (i.e. rents) from their customers in the form of higher prices (thus deepening income inequality). As economist and Nobel laureate Joseph Stiglitz states, “In a competitive economy, the real return to capital would be much smaller.”¹¹² And second, this lack of competition has also led to greater subsidization as these firms have gained exclusive access to state resources and benefits. As components of Rentierism, concentration and state subsidization has led to increased rents for businesses in all three sectors, and these rents come in the form of more sales, higher prices, a rising share of national income, and a proliferation of billionaires, showing just how prevalent Rentierism is at the sector level.

The Role of Labor Exploitation

All actions within the three sectors show the prevalence of the driver of Labor Exploitation, which was defined above as the exploitation of labor exclusively for the benefit of capital accumulation and possesses the two components of “labor devaluation” (ensuring that less capital is expended for the benefit of labor) and “worker displacement” (displacing workers from their jobs or vice versa). What makes Labor Exploitation so relevant to billionaire wealth proliferation at the sector level is how its components perpetuated an unequal capital-labor relationship in the three sectors of this analysis.

As noted above in the section on income distribution in the finance sector, the financial shift in other sectors was characterized by businesses practicing a financial model instead of a managerial model to increase shareholder returns. With the move to a financial model,

¹⁰⁹ Sonka, Joe. “Long-suppressed Report on Kentucky Pensions’ Hedge Fund Deals is Public at Last,” *Louisville Courier Journal*, 7 September 2022, accessed 17 December 2022, <https://www.courier-journal.com/story/news/politics/2022/09/06/report-on-kentucky-pensions-hedge-fund-deals-finally-made-public/65476649007/>.

¹¹⁰ “AWS Public Sector Contract Vehicles,” *Amazon Web Services*, accessed 17 December 2022, <https://aws.amazon.com/contract-center/federal-contracts/>.

¹¹¹ “Contract Summary: Cargill, Inc.” *USASpending.gov*, 2022, accessed 17 December 2022, <https://www.usaspending.gov/recipient/a31654c7-f5ff-71fe-90d8-91a59745fb51-C/latest>.

¹¹² Porter, Eduardo. “Concentrated Markets Take Big Toll on Economy,” *The New York Times*, 27 May 2014, accessed 15 December 2022, <https://www.nytimes.com/2014/05/28/business/economy/concentrated-markets-take-big-toll-on-economy.html>.

investment in the skills, productivity, and benefit of workers became less a priority as businesses sought to increase their earnings by paying lower wages; exploitation of workers was the result. But while the financial shift component of Financialization resulted in the exploitation of labor across the U.S economy, the Labor Exploitation is seen as a separate driver simply because it has directly contributed to billionaire wealth other sectors.

Labor Exploitation's contribution to billionaire wealth is especially obvious in the tech and food sectors, both having glaring examples of this driver as shown above in this analysis. As noted in the section on income distribution in the tech sector, tech firms created multiple technological platforms that controlled access to the productive activities of other sectors and exploited these workers in the process. Labor Exploitation's component of "labor devaluation" was facilitated by tech companies like Uber who profited off driver labor without providing them with the wages and benefits of regular employees (which enabled it to attain billions of dollars in profit). Amazon used technology to squeeze productivity out of its workers without paying them the requisite compensation while Google didn't even bother to give them the protection of full-time work. Making increased investments in worker pay, benefits, and well-being would effectively mean a greater distribution net-profits between capital and labor within these sectors. This would result in less wealth for these firms and make billionaire proliferation less likely.

Labor devaluation combined with the component of "worker displacement" was the result of actions exemplified above in both the tech and food sectors. As mentioned, both Apple and Uber displaced jobs from U.S. workers when they outsourced labor to countries with more exploitative laws. In the food sector, firms that weren't guilty of paying U.S. workers sub-standard wages, were busy displacing as many of these jobs as they could into the Global South where wages are even lower. Research suggests that, thanks to globalized food chains, jobs in industrialized countries are impacted from the outsourcing and relocation of this work to lower-cost destinations; as relocation of manufacturing and processing facilities to lower-cost regions has been practiced by American food companies.¹¹³ By analyzing the sectors through the lens of income distribution, the driver of Labor Exploitation and its components among the respective firms are revealed in a very visible way.

The Role of Shareholder Culture

A connection can also be made between the other three institutional drivers discussed above and the actions of firms in the three sectors. For example, all the actions discussed so far in the three sectors would be less likely without the driver of Shareholder Culture. Shareholder Culture was characterized as the societal reverence for capital accumulation that creates a permissive environment for billionaire wealth proliferation and consists of the following components: "maximization of shareholder value" (giving precedence to the maximization of profits and the interests of shareholders), "market fundamentalism" (the ideology that society benefits only when markets are structured for the advantage of capital accumulation), and "manipulation of perception" (the effort by capital accumulators to positively influence societal perceptions of them). This driver and its components permitted large banks in finance sector to gobble up

¹¹³ "The Impact of Global Food Chains on Employment in the Food and Drink Sector," *Issues paper for discussion at the Tripartite Meeting to Examine the Impact of Global Food Chains on Employment 2007* (pp. 20). International Labour Office Geneva. https://www.ilo.org/sector/Resources/publications/WCMS_161663/lang--en/index.htm.

smaller banks with impunity, expected taxpayers to subsidize financial losses, permitted tech companies to exclusively reap the benefits of taxpayer funded R&D while using the same technology to exploit workers, and allowed food sector firms to collect the benefits of federal subsidies while using their increasing market share to fix prices. The permissive attitude for these actions in turn further paved the way for more billionaires. As author Anand Giridharadas makes clear, billionaires exist at society's collective pleasure, but if enough people made the decision, there could be labor, tax, antitrust and regulatory policies enacted to make it hard for anyone to amass that much wealth.¹¹⁴ Thanks to the existence of Shareholder Culture, the activities revealed in this sector analysis make it clear what society has chosen.

Although Shareholder Culture is an important driver that leads to billionaire wealth at the macroeconomic level, it contributes to a lesser degree at the meso-economic or sector level. Shareholder Culture's and its respective components were not crucial to making the finance, tech, or food sectors billionaire heavy. Shareholder Culture simply provides justification for the changing of rules that elevate the power of sector actors who create wealth for shareholders and justify their position, while giving the ideological cover that legitimizes the changing of these rules and the power received. Shareholder Culture therefore emerges as an effect of the existing power relationships that allow ALL sectors to amass wealth and proliferate billionaires in the first place. While the actions of the finance, tech, and food sectors continue and receive greater legitimacy because of Shareholder Culture, the effect of this driver doesn't necessarily make billionaires any more likely in these sectors than in other sectors.

The Role of Crony Capitalism

Although minimal descriptive evidence was revealed, instances of the institutional driver of Crony Capitalism has been shown in this sectoral analysis. As stated above, this driver is characterized as collusion between business and government officials to preserve the interests of capital accumulation at the expense of labor and society and has the components of "lobbying" (influence of current government officials to ensure favorable policies), "regulatory capture" (control of government regulatory structures to ensure favorable policies), and "campaign finance" (monetary support to candidates for elected office to ensure favorable policies).

As discussed above in the income distribution sections for both the finance and food sectors, the "lobbying" component was regularly practiced; actors in the finance sector used their resources to influence elected officials for policies favoring financial market volatility while firms in the restaurant and farm subsectors worked to ensure the continued existence of low wages. The component of "regulatory capture" was demonstrated above thanks to the weak antitrust enforcement that permitted the high levels of concentration in all three sectors (along with the instances of criminal price fixing in the meat and poultry industry). And finally, the component of "campaign finance" was exemplified above through the agribusiness sub-sector's \$186 million in contributions during the 2020 election cycle. Crony Capitalism has run rampant at the macroeconomic level during the neoliberal period, and its presence at the meso-economic level is revealed through this analysis of the finance, tech, and food sectors.

¹¹⁴ Giriharadas Anand. "This Week, Billionaires Made a Strong Case for Abolishing Themselves," *The New York Times*, 19 November 2022, accessed 23 November 2022, <https://www.nytimes.com/2022/11/19/opinion/musk-trump-bezos-bankman-fried-billionaires.html>.

Despite its presence at the sector level, Crony Capitalism does not stand out as a critical institutional driver of billionaire wealth in the three most billionaire heavy economic sectors. As a driver, Crony Capitalism has the same effect across all economic sectors. The existence of this institutional driver does not create billionaires but allows them to persist and thrive. Furthermore, the existence of Crony Capitalism (like Shareholder Capitalism) does not have a crucial role in making the finance, tech, and food sectors billionaire heavy in a way that is unique to other sectors. Through Crony Capitalism and its components, economically powerful actors in ALL sectors use their position to dominate the political arena. Subsequently, they can increase their market power through regulatory favoritism and state policy.

The Role of Tax Policy

Finally, this sector analysis has revealed a small amount of descriptive evidence of the institutional driver of Tax Policy. Tax Policy was defined above as the decisions that have manipulated the tax code to prioritize the capital accumulation that leads to billionaire wealth over all other societal investments. Obviously, tax policy can be structured to prevent billionaire wealth, but for the purpose of this discussion, Tax Policy as an institutional driver is tax policy that has been structured to perpetuate it. Without the driver of Tax Policy, billionaire wealth would be less likely because the tax code would be more progressive and financiers, rentiers, and shareholders would surrender more of their wealth in the form of taxes, making them less likely to be billionaires.

This sector analysis showed how the Tax Policy component of “loopholes” (ambiguities or inadequacies within the tax code that can be exploited) were exemplified by actors in the finance sector that used certain loopholes to retain billions of dollars in the capital they extracted. As stated above regarding the finance sector, private equity firms funneled \$75 billion in profits through private equity partnerships as their managers managed to avoid taxes on \$120 billion in earnings. This was complicated by their use of the carried interest loophole to have their earned income taxed as capital gains, saving \$1.4 billion in the process. Tax Policy as an institutional driver permits finance sector actors to retain growing amounts of capital and ensures this sector’s spot as the most billionaire heavy sector.

It must be noted that although Tax Policy is an important institutional driver for billionaire wealth at the macroeconomic level, at the meso-economic level it is less so because it doesn’t necessarily contribute to a sector’s number of billionaires any more than in other sectors. Like the previous two drivers of Shareholder Culture and Crony Capitalism, Tax Policy functions the same way in the finance, tech, and food sectors as it does in others. It also only accentuates gains and advantages initially secured by the most powerful actors in a market. And these initial gains and advantages are made possible by the effects of other drivers, with Tax Policy acting as a tool to preserve them. Hedge fund manager John Paulson, Amazon CEO Jeff Bezos, and the family of owners of food conglomerate Cargill did not become billionaires because of Tax Policy, they merely remain billionaires because of it.

Conclusion

Existing research has established the economic, social, and political themes contributing to billionaire wealth during the neoliberal period. Most of this research into those institutional themes (or drivers) deal with the effects at the macroeconomic level. Research on the effects at the meso-economic (or sector) level is not as robust. This article has filled this gap in the research using an analysis of a sample of the three most billionaire-heavy economic sectors. Thanks to the methodology used in this sector analysis (concentration level, income distribution, and state subsidization), it has been revealed just how relevant the institutional drivers are to billionaire proliferation at the meso-economic level.

Even though the methodology used in this sector analysis appears totally unrelated to these drivers, their presence still managed to emerge and allows researchers to draw certain conclusions. For one, there is a greater degree of certainty that it is the institutional drivers that contribute to billionaire wealth across sovereign economies. The United States is by no means an outlier in this phenomenon. While the increase in billionaire wealth has been more intense in the United States, this trend has occurred on a global scale, with individuals crossing the billionaire wealth threshold in every continent.

Two, this sector analysis has determined the most relevant drivers of billionaire wealth (Financialization, Rentierism, and Labor Exploitation). Because these drivers emerged as the most prevalent factors in the three U.S. sectors containing the most billionaires, one can ascertain that these sectors could not have achieved their dominance without their extensive use of these mechanisms. The other three drivers (Shareholder Culture, Crony Capitalism, and Tax Policy) have perpetuated billionaire wealth but could not have pushed its current level without existence of the previous three.

And finally, an even stronger theoretical foundation has been built for explaining billionaire wealth during the neoliberal period and provides an excellent start towards a useful policy discussion on economic inequality. As a concept, economic inequality is vague and solutions for its eradication can lack enough focus to be effective. Billionaire wealth is a stronger representation of inequality because it is more specific and therefore easier to target. Along with this ease in targeting, a determination of the contributing factors gives policy experts, elected officials, and academics better tools in finding solutions. The institutional drivers are the contributing factors, and with their identification they can also be targeted with solutions to reverse or counter their effects on sovereign economies.