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The Labor Share in the Post-1980 U.S. Economy: An Analysis of the Contributing Factors

By

Mia Bellucci

A Proposal Submitted to the Honors Council

For Honors in the Economics Department

May 9, 2023

Approved by:

Adviser:



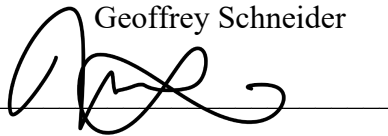
Erdogan Bakir

Second Reader in Economics Major:



Geoffrey Schneider

Honor's Council Representative:



Vivien Leung

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Abstract

During the Neoliberal period, which roughly began in the early 1980s in the U.S., there was a substantial slowdown in the growth rate of real hourly compensation, while productivity had continued to grow. The last two decades of the Neoliberal period (2000 – 2020) also experienced somewhat of a substantial decline in the labor share. In recent decades, there has been a growing amount of literature attempting to explain the major factors that have contributed to these recent labor market developments. This study provides a means of investigating the changes in the labor share and its components (i.e., real hourly compensation, productivity and price ratio). In particular, this study looks at the decomposition of the labor share in the *nonfinancial corporate* sector during three periods, namely the Golden Age (1947-1970), the Transition period (1970-1980), and the Neoliberal period (1980-2021). The results of the study are as follows: First, during the Golden age, the growth in the real hourly wage and productivity rose in tandem in the *nonfinancial corporate sector*. Second, the growth rate of real hourly compensation slowed down much more dramatically than the productivity growth during the Transition period. The unfavorable shift in the price ratio became the main contributing factor to the growth rate of labor share. Third, this trend continued in the Neoliberal period. The largest decline in the labor share has occurred within the last 20 years of Neoliberal period from 2000-2021. The paper then discusses competing theories on the slowdown in the real hourly compensation and the recent decline in the labor share.

I. Introduction

For the majority of workers and their families across the United States, labor earnings have constituted the main source of income for these households. Since the start of the Neoliberalism period, there has been an increasing divergence between the economy-wide productivity growth and the hourly compensation of low-to moderate-wage workers. In particular, there has been an overwhelming increase in productivity growth, while workers have not benefited from this growth as expected, as a significant portion of these earnings has failed to arrive in the pockets of average American workers. As economic growth begins to slow and income inequality starts to rise, the standard of living for those in the middle to lower classes begins to stagnate or even decline, which characterizes the challenges faced by average workers in the United States in recent years (Philippon 2019). Furthermore, the lack of paralleled growth between the pay and productivity has resulted in a concentration of salaries for the highest earners in the U.S. and a relocation of national income going to capital owners. In particular, from the years 2000 to 2018, the portion of the national income going to workers decreased from 63% to 56% (Leduc and Liu 2019). Due to the disconnect between workers' pay and productivity and without the implementation of policies that seek to address this discrepancy, the prioritization towards long-run productivity has failed to ensure fair compensation for American workers (Bivens and Mishel 2015). Since the year 1973, hourly compensation has failed to mimic the trend that has characterized the growth in overall productivity in the United States (Bivens and Mishel 2015, Meloni and Stirati 2021). From 1973 to 2014, the inflation-adjusted hourly compensation of the average worker only rose 8.7 percent with the largest gains in compensation occurring between the years 1995 and 2002 due to the tight labor markets during this time (Bivens and Mishel 2015). In contrast, the real average hourly compensation grew roughly 42.5 percent, reflecting

the growing inequality in the pay given to the highest earners compared to wage workers in the economy (Bivens and Mishel 2015). An examination of the real hourly compensation of production also revealed that the wages for roughly 80 percent of the workforce have stagnated since 1973 (Bivens and Mishel 2015). While net productivity grew at a rate of 1.33 percent per year, the median hourly compensation for workers only grew at a mere rate of 0.20, annually (Bivens and Mishel 2015). Even more startling, from 2000 to 2014, the net productivity growth of 21.6 percent materialized into a minuscule 1.8 percent increase in inflation-adjusted compensation for the median worker, further demonstrating the increasing divergence between pay and productivity beginning in the year 2000 (Bivens and Mishel 2015). Overall, roughly 80 percent of the productivity-pay divergence can be attributed to the growing share of income going to capital owners relative to workers (Bivens and Mishel 2015).

Despite the potential of productivity increases to benefit the majority of workers, rising inequality has hindered the realization of this potential in terms of the actual pay given to these workers. These trends have been the result of certain economic changes that have occurred during the Neoliberal period. This paper is structured as follows. Section II outlines the analytical framework used to study the trends in the labor share and its components among three distinct periods, namely the Golden Age (1947-1970), the Transition period (1970-1980), and the Neoliberal period (1980-2021), which was further divided into two sub-periods, 1980-2000 and 2000-2021. This section also describes the dataset that was utilized, provides a discussion of the compiled results for *nonfinancial corporate sector*, and summarizes the key findings that are relevant to establishing the background for the discussion provided in Section III. Section III provides a comprehensive understanding and review of the factors and contributors to the slowdown in real hourly compensation during the Neoliberal period and the recent decline in the

labor share, including the decline in unionization, the erosion of antitrust law and its enforcement, the rise in common ownership, concentration within industries (market power), monopsony power, and the growth in automation. Lastly, Section IV will both juxtapose and relate the similarities between the explanations posed in Section IV. Section V will conclude.

II. Methodology and Data

This study utilized the ‘labor productivity and cost measures data’ from the Bureau of Labor Statistics¹ to examine the trends in the labor share and its components in the Post World War II U.S. economy. The unit of analysis for this study is the *nonfinancial corporate sector*². I will be looking at the trends in the labor share in three distinct periods, the Golden Age (1948-1970), the Transition period (1970-1980), and the Neoliberal period (1980-2021). I will further decompose the Neoliberal period into two sub-periods, the first two decades (1980-2000) and the last two decades (2000-2021) of the Neoliberal period.

The labor share is decomposed into three different components, as seen in the following equation, namely, the price ratio (the ratio of the consumer price index to price index for value added, P_w/P_y), the real hourly wage (w) and the productivity (y/L).

$$\frac{W}{Y} = \frac{W/L}{Y/L} = \frac{P_w w}{P_y (y/L)} = \frac{P_w}{P_y} \times w \times \frac{1}{y/L} \quad (1)$$

where W is the total labor compensation

Y is the total value added

L is the total labor hours

P_w is the consumer price index

P_y is the price index for value added

y/L is labor productivity

y is the real value added

¹ This data can be found at <https://www.bls.gov/productivity/>.

² The following analysis was also completed for the *Nonfarm Business Sector*, which is included in the Appendix A. The trends in the *Nonfarm Business Sector* were very similar to the ones found in the *Nonfinancial Corporate Sector*.

and, lastly, w is hourly real compensation³ (i.e., $w = \frac{W/L}{P_w}$).

Figure 1 and Figure 2 depict the labor share and its components.

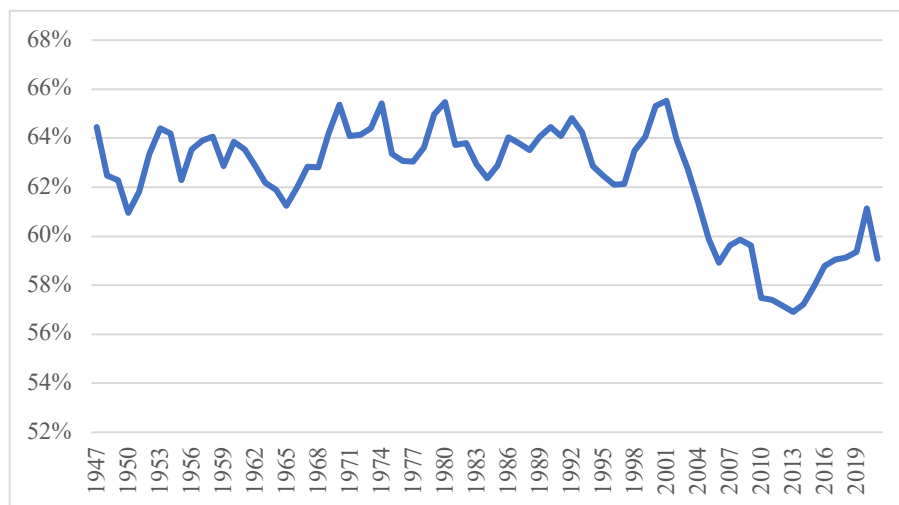


Figure 1. *Labor Share* in the Nonfinancial Corporate Sector, 1947-2021.

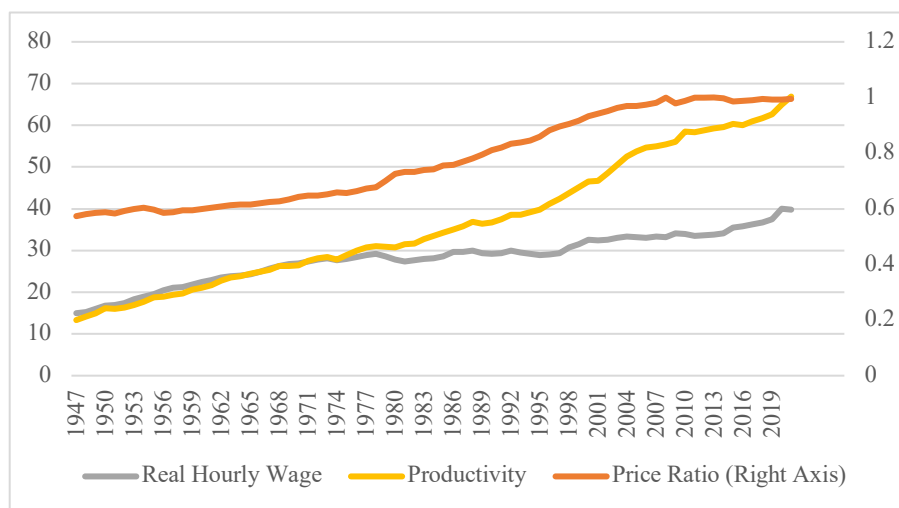


Figure 2. *Components of the Labor Share* in the Nonfinancial Corporate Sector, 1947-2021.

In order to examine the trends in the labor share and its components more carefully, I will rewrite equation (1) in growth accounting terms as follows:

$$\frac{\dot{W}}{Y} = \frac{\dot{P}_w}{P_y} + \dot{w} - \frac{\dot{Y}}{L} \quad (2)$$

³ This is also referred to as the *real hourly wage*.

The growth rate of the wage share is being affected by the growth rate of the price ratio⁴ and the gap between the growth rates of the real wage and productivity (Weisskopf 1979). Table 1 shows the annual growth rates of the labor share and its components for three distinct periods, including the Golden Age (1948-1970), the Transition period (1970-1980), and the Neoliberal period (1980-2021). The Neoliberal period is further decomposed into two sub-periods, the first two decades (1980-2000) and the last two decades (2000-2021).

Table 1. *Average Annual Rate of Growth of the Labor Share and its Components (%)*, Nonfinancial Corporate Sector, 1948-2022.

	Labor Share	Price Ratio	Real Hourly Wage	Productivity
Full Period (1948-2021)	-0.12	0.74	1.32	2.18
Golden Age (1948-1970)	0.06	0.50	2.55	2.99
Transition period (1970-1980)	0.18	1.22	0.36	1.41
Neoliberal period (1980-2021)	-0.23	0.84	0.78	1.84
<i>1980-2000</i>	0.02	1.36	0.62	1.96
<i>2000-2021</i>	-0.37	0.37	1.05	1.79

i. Summary and Discussion of Results

During the Golden Age (1948-1970), labor share increased only marginally at an annual rate of 0.06%. However, workers experienced somewhat substantial increase in their real hourly compensation during the same period. Real hourly wage grew at annual rate of 2.55%, which was only slightly below the productivity growth (2.99%). Thus, the real hourly wage and productivity grew in tandem in the *nonfinancial corporate sector* during the period of Golden Age in the U.S. (see also Figure 2). During this period, the annual growth rate in the price ratio

⁴ The price ratio is the ratio of the consumer price index to the price index for value added. The Consumer Price Inflation can deviate from the GDP inflation to the extent that the input prices are rapidly increasing. If this ratio increases, workers are successful in shifting the adverse effect of the price change onto capital. The gap between the growth rates of the real hourly wage and productivity measures the workers' bargaining power relative to capital. In other words, this gap is an indicator for worker offensive strength in their real distributional struggle (Weisskopf 1979; Bakir 2015).

was 0.50%, offsetting the effect of the real wage – productivity gap on the labor share. During the Transition period (1970-1980), the labor share increased at an annual rate of 0.18%. This is despite the fact that annual growth rate of real wage dropped to 0.36%, which was 2.19 percentage points less than the previous period. Productivity growth also slowed down substantially during the Transition period although the decline in the growth rate of productivity between these two periods was somewhat less than the decline in the real wage growth. Productivity grew at an annual rate of 1.41% during the Transition period, which was 1.58 percentage points less than the previous period. Thus, the gap between the real hourly wage – productivity growth rates declined from -0.44 percent in Golden Age period to -1.05% in Transition period. Thus, with the Transition period, labor started to lose in their real distributional struggle as income was shifted away from labor to capital. While the real hourly wage – productivity gap declined, the price ratio, however, increased dramatically at an annual rate of 1.22% during the Transition period, which accounted for the entire increase in the labor share during this period. This change in the price ratio can be interpreted as labor's defensive ability to shift the burden of unfavorable price change on to the capital (Weisskopf 1979).

During the Neoliberal period, the labor share declined significantly at an annual rate of 0.23%. Although the annual growth rates in the real hourly wage and productivity began to recover from the previous period, they were still substantially lower than those experienced during the Golden Age period. The real hourly wage and productivity grew at an annual rate of 0.78 % and 1.84%, respectively, during the Neoliberal period. The real hourly wage – productivity gap, thus, dropped from -0.44% in the Golden Age period to -1.06% in Neoliberal period, indicating a continuous shift in the real distributional struggle in favor of capital. The price ratio, on the other hand, increased at an annual rate of 0.84% during the Neoliberal period,

offsetting some of the negative effect on the labor share of the deteriorating real hourly wage growth relative to the productivity growth. In other words, while labor defensively shifted some of the burden on to capital via price ratio, they were losing substantially in their real distributional struggle with capital. Thus, Neoliberal period recorded negative labor share growth rates very first time in the post WWII U.S. economy. I decomposed Neoliberal period into two distinct period as 1980-2000 and 2000-2021 to examine if these two periods differ in terms of the trends in the labor share and its components. In the first two decades of the Neoliberal period, labor share only marginally grew at an annual rate of 0.02%. It is important to note that gap between the real hourly wage and productivity growth rates, which dropped to -1.34%, was the lowest of all periods. In other words, labor experienced the biggest loss in their real distributional struggle during the first two decades of Neoliberal period. However, the price ratio grew at an annual rate of 1.36% during the same period, causing the labor share to marginally increase at an annual rate of 0.02%. The second subperiod of Neoliberalism (2000-2021), however, saw a declining labor share at an annual rate of 0.37%. The gap between the growth rates of the real hourly wage and productivity, which was -0.74%, was somewhat better than the one in the first two decades of Neoliberalism, but still substantially worse than what it was during the Golden Age period. In other words, as far as real distributional struggle is considered, balance of power shifted almost exclusively in favor of capital during the Neoliberal period, especially in the first two decades but still significantly in the latter period. The price ratio during 2000-2021 grew only at an annual rate of 0.37%, which was the lowest of all periods under analysis. This combined with the aforementioned gap between the growth rates of real hourly wage and productivity (-0.74%) led to -0.37% annual growth rate in the labor share.

In short, productivity growth slowed down substantially during the Neoliberal period compared to the Golden Age period. However, the slowdown in the growth rate of real hourly wage was much more dramatic. This implied a shift in the balance of power in favor of capital during the Neoliberal period. Even during the first two decades of Neoliberal period when labor was successful in maintaining their share in the value added, they experienced the biggest loss in their real distributional struggle (measured as a gap between the growth rates of real hourly wage and productivity). From 1970 to 2000, labor maintained its share in the value added only because they were able to shift the adverse effect of the price change on to capital. This also started to disappear in the last two decades of the Neoliberal period, giving rise to declining labor share.

III. The Debate on the Declining Labor Power in the Post-1980 Economy

In the following subsections, this literature review will outline the factors⁵ that economists attributed to the declining labor share of the national income to the weakening of workers' bargaining power, and the increasing divergence between pay and productivity in recent decades. Each subheading contains evidence for its contribution to the labor market outcome and provides the most recent scholarship on that respective topic.⁶

i. The Decline in Unionization

Over the last forty years, there has been a substantial decline in workers' bargaining power, causing the median pay to stagnate despite the substantial productivity growth that has occurred in recent years. Summers and Stansbury (2020) argue that the decline in workers power and the redistribution of market rents from laborers to capital owners are responsible for the

⁵ Although not investigated in this thesis, globalization has also been cited as a major factor in the weakening of bargaining power of workers and the decline in the labor share. Glyn (2009) finds that globalization pressures firms to adopt cost-saving measures like offshoring with regards to labor due to the ease of capital mobility. The purchase of intermediate goods abroad, immigration, and the increased trade from other countries have also produced this effect, offsetting any positive impacts from increased competition within the market.

⁶ Refer to Appendix C for a summary on the *Major Studies on the Labor Market Outcome*.

increased market value of corporations, income inequality, and the decline in the labor's share of national income. In particular, this decrease in labor power is the result of the decline in unionization and the credible threats posed by organized labor groups amongst a range of industries and firms. On average, unionized workers receive higher wages than their nonunion counterparts and possess a greater ability to demand a larger share of rents. In the 1950s, one-third of private sector workers belonged to unions, whereas only 24% of the workforce in 1973 and 6% in 2019 remained in unions (Summers and Stansbury 2020). Not only has there been a noticeable decline in union membership, but the union wage premium⁷ paid to workers has declined since the early 1980s. Furthermore, this trend regarding workers' bargaining power has also been observed among non-union workers, where workers in large firms or highly profitable industries have been associated with a lower wage premium. Shareholders' priority towards maximizing profits through activities like outsourcing may also account for the decline in the premium among non-union workers. Other factors attributed to the decline in the premium include increased global competition for labor, the reduction in the minimum wage, and deregulation across certain industries (Summers and Stansbury 2020). The decline in the labor share and the rise in corporate profitability has also been the result of the reduction in labor power during this time, as larger profits are distributed to the shareholders of companies. Additionally, those companies with the weakest power among their workers have also seen the largest decline in the labor's national share of income and the highest profit gains. Lastly, the weakening of labor power has also incentivized firms to hire due to the smaller share of profits going to workers and the decreased availability of high-wage jobs. Rather than explanations of

⁷ The *wage premium* refers to the higher wage rate paid to employees in a particular job compared to the wages of other workers performing similar responsibilities. The existence of a wage premium provides an important labor market indicator of labor market tightness, aiding employers in attracting and retaining high quality workers.

globalization, rising levels of monopsony power, and technological change, Summers and Stansbury (2020) believe that the decline in worker power through the weakening of unionization is likely the cause of the observed trends in the labor market outcome.

ii. The Erosion of Antitrust Law and its Enforcement

In addition to research conducted on the impacts of declining unionization on the American economy, Steinbaum (2019) argues that these trends in the labor market have been the result of the decline and erosion of antitrust law and its enforcement. Paul (2023) argues that the foundations of federal antitrust law's regulation of labor organizations have primarily prioritized the recognition of property rights and rights to control firms without allowing ways for average workers to collectively act to challenge these rights.⁸ At the firm level, this has led to a consolidation of power among firm owners, who are entrenched in positions that seek to solely benefit them. Furthermore, the capitalist economy's division of labor has placed workers in a weaker position where they are less likely or able to threaten their owners, reducing their labor power and creating social and economic inequality. Furthermore, production-level consolidation also suppresses competitive forces, allowing capital owners to gain control of all the available resources and preventing any rival firms from emerging (Paul 2023). Under the current legal rules, economic actors are incentivized to maximize their gains and benefits, seen in merger & acquisition activities, the use of sub-contracting and 'independent contract' relationships, and the fissuring of the workplace (Paul 2023). The deterioration of antitrust has legally allowed "more powerful firms to tell subordinate firms, contractors, and workers what to do even if those subordinates are not legally their employees" (Steinbaum 2019, 46). This has been achieved

⁸ Refer to Appendix B for the key policies and major FTC regulations that have influenced the labor market outcome.

through the use of vertical restraints,⁹ which seeks to prevent workers and other less-powerful actors from collectively organizing against their employers (Steinbaum 2019). Additionally, firms' efforts at price coordination and market allocation activities have also reduced competitive forces within the economy, leading to the displacement of previously existing firms in a given market or industry (Paul 2023).

Steinbaum (2019, 46) also argues that another component of the decline in labor's bargaining power has been the "gradual disappearance of the traditional and statutory, employment relationship." This has resulted in workers becoming increasingly more distant from centers of economic power and decision-making entities that exert power over their terms and conditions of work. This practice, known as reclassifying, enables employers to push their workers outside the firm and evade obligations of labor laws by categorizing their "workers as either independent contractors or as employees of their contractors," while still allowing them to exercise full control over them (Steinbaum 2019, 47). Additionally, firms can possess considerable discretion over deciding workers' pay, as outside job offers have become increasingly scarce. As a result, it has made it difficult for workers to receive gains from economic growth (Steinbaum 2019). Paralleling the separation of workers from the center of firms, there has been a breakdown in the understanding of the Sherman Act's prohibitions on vertical restraints, allowing independent businesses to avoid labor laws, evade antitrust regulations, and license their trademarks to franchisees to reduce direct supervision over activities of labor and antitrust. Beyond the advantages given to franchisors, franchisees have also been given independent status by the Small Business Administration, allowing them to receive subsidized federal loans. Additionally, franchisors have been successful in restricting the

⁹ "A *vertical restraint* is a contractual provision or mode of operation that restricts the autonomy of the counterparty in the case where each party operates at a distinct segment of the supply chain" (Steinbaum 2019, 49).

reach of a joint employer,¹⁰ which allows them to avoid being considered as an employer of their franchisees' workers and makes collective actions by workers against these actors prohibited under the Taft-Hartley Act. As a result, franchisors possess absolute control over their workers and sanction the poor treatment of low-wage workers. Moreover, franchisees' use of no-poaching restrictions, which are contracts that inhibit employees' ability to work for other franchisees in the same "franchising network," has further produced anti-competitive effects within the labor market, as it provides an additional avenue for franchisors to control activities of their workers by restricting their ability to work for their competitors (Steinbaum 2019, 51). Additionally, the advent of the gig economy, exemplified by ride-sharing platforms like Uber,¹¹ has also deprived workers of any traditional protections provided by labor laws due to the use of independent contractor status for employees and the existence of antitrust immunity status for companies based on the consumer welfare standard. Within the gig economy, employers still exercise significant control over workers without the stability provided by the employment relationship embedded in the New Deal, which has led to wage stagnation and deterioration in job quality due to the unilateral exercise of power over workers. Seen in the erosion of labor protections through these hybrid business models, the weakening of antitrust has "effectively legalized labor outsourcing, misclassification, and the gig economy," allowing dominant firms to exert greater power over workers and making it more difficult for less powerful firms to rival these large, dominant firms (Steinbaum 2019, 57, Eeckhout 2021). Additionally, the collective bargaining power of smaller firms has diminished since the 1970s, seen in the precedent that was

¹⁰ The term *joint employer* refers to sharing of control and supervision between two or more employers over the employee's activity.

¹¹ As a result of their surveillance methods and non-linear driver pay structure, Uber has experienced less shirking than typical taxi drivers, demonstrating the total control exhibited by their 'economic bosses' in the ride-sharing arena. Furthermore, these 'economic bosses' possess control over price-setting, the quality and terms of service, and all relevant margins to customers without assuming any responsibility.

set when the Federal Trade Commission accused the port truckers of violating the Sherman Act due to their adverse impact on efficiency based on the consumer welfare standard (Steinbaum 2019). According to the consumer welfare standard, if dominant firms can somehow show that they will help their consumers, these subsequent companies obtain immunity from antitrust liability.

iii. The Rise in Common Ownership

Another reason for the observed decline in labor market power is the rise in common ownership by shareholders of overlapping and/or competing firms and the increased power of employers in the labor market. This power imbalance is attributed to the influence of common ownership among shareholders (i.e., the rise of the ideology of shareholder value maximization). From the 1930s to the mid-1970s, corporate managerialism was the dominant form of operation within U.S. firms, where no single investor owned enough stock in their respective firm to control managerial decisions (Steinbaum 2021). The corporate, financial, and managerial revolution during the transition period from the 19th to the 20th century played an important role in the introduction of shareholder capitalism, constituting a historic change in the relations of production among large corporations. Under shareholder capitalism, shareholders take part in swaying managerial decisions toward portfolio-level profit maximization¹² over firm-level profit maximization¹³, strengthening anti-competitive conduct and prioritizing the interests of the shareholders over those of workers and consumers (Steinbaum 2021). Before this transition, workers were concentrated within unions, which provided employees with stronger bargaining positions and greater status with respect to their employers within multi-shareholder

¹² *Portfolio-level maximization* refers to the process of selecting the best asset distribution, out of all the available portfolios being considered, that has the highest expected return and minimizes financial risk.

¹³ *Firm-level maximization* refers to corporation's interest in increasing their respective profits.

corporations. However, starting in the 1980s, shareholders have become more powerful in the corporate ownership structure. Additionally, the rise of information and communication technology improved the rates of technical and managerial efficiency, revolutionizing the social relationships within firms and further increasing income equality in the United States (Duménil and Lévy 2016). Furthermore, there was an overwhelming shift in the balance of power from workers towards the firm's shareholders, which was also a consequence of declining unionization and the decoupling of pay and productivity in recent decades (Steinbaum 2021).

Due to this change in the corporate governance system, shareholder value maximization has become the goal of corporate management. During the 1980s and 1990s, the pay growth of the top managers was exacerbated by the use of stock-based rewards, especially seen in the use of stock options as compensation, which encouraged the increasing use of stock buybacks¹⁴ and dividends¹⁵ (Lazonick and O'Sullivan 2000). Within the United States, CEO pay has continued to surpass the pay given to those within the working class. In 2021, CEO pay at S&P 500 companies totaled to an average of \$18.3 million, increasing by more than \$540,000 yearly compared to \$58,260 yearly earned by the average U.S. worker¹⁶. Compared to the top earners in the U.S. economy, the average U.S. worker has only seen an increase of \$1,303 per year in their earnings.¹⁷ In 2021, the average pay ratio of S&P 500 company's CEO to worker was 324:1¹⁸. Stock repurchases have become a common method for numerous prominent American companies to distribute their earnings to shareholders in a systematic manner. According to Lazonick's (2013) analysis of the average yearly stock and bond yields of American corporations

¹⁴ A *stock buyback* occurs when a company buys back its shares from the marketplace with its accumulated cash and debt, allowing a company to re-invest in itself.

¹⁵ A *dividend* is the proportion of a company's earnings given to its shareholders.

¹⁶ Executive Paywatch AFL-CIO, "Highest-Paid CEOs," accessed April 18, 2023. <https://aflcio.org/paywatch/highest-paid-ceos>.

¹⁷ Ibid.

¹⁸ Executive Paywatch AFL-CIO, "Company Pay Ratios," accessed April 18, 2023. <https://aflcio.org/paywatch/highest-paid-ceos>.

between 1960 and 2009, the period from 2003 to 2007 witnessed a significant increase in stock repurchases. This phenomenon not only helped to bolster the stock market, but also drove the S&P 500 Index beyond its previous peak in 2000. Moreover, the focus on "maximizing shareholder value" has impacted the resource allocation decisions of corporation executives, ultimately hindering the performance of the U.S. economy. More specifically, the utilization of stock-based compensation has incentivized corporate executives to sustain their company's stock performance for their own benefit, which has increased income inequality, hindered economic performance, and decreased investment towards innovation. For example, S&P 500 companies spent roughly \$2.5 trillion on stock buybacks, totaling roughly 58% percent of their net corporate income during the years 2000 to 2009 (Lazonick 2013). By repurchasing the company's shares, executives are able to bolster their stock prices and increase confidence in the company's future stock-price performance. In addition to the use of stock-based compensation in supporting the price of their companies' stock, the corporate pay-out ratio also rose from the 1960s into the 1990s. Despite the 17 percent decrease in profits during this time, dividends also rose by 13 percent and the payout ratio-the percentage of a company's total earnings paid to its shareholders in the form of dividends-increased by 57 percent (Lazonick and O'Sullivan 2000). Similarly, in 1996, stock repurchases reached \$116 billion, constituting an executive payout ratio of 72 percent (Lazonick and O'Sullivan 2000).

Due to the prevalence of stock buybacks, workers are also further excluded from sharing in the gains of their work, as experienced under the erosion of antitrust legislation. As pointed out by Steinbaum (2021), certain policies and institutionalist changes have sought to favor the preferences of shareholders. For example, the lifting of the Securities and Exchange Commission's rule prohibiting stock buybacks, the exemption of "performance-based pay" from

the cap on the deductibility of CEO compensation, and financial deregulation that has enabled the exercise of hostile takeovers have sought to benefit the interests of shareholders within the corporate governance system. Furthermore, a shift has occurred in corporations' strategy from 'retain and reinvest'¹⁹ towards 'downsize and distribute,'²⁰ resulting in the decline in corporations' employed labor forces in efforts to increase their financial returns (Lazonick and O'Sullivan 2000). Since the 1980s, many U.S. corporations have reorientated their labor forces in a way that has undermined the availability of secure employment opportunities and fair compensation, resulting in the elimination of many stable and well-paid blue-collar jobs. The growth in shareholder activism had applied pressure on firms to cut labor costs, reducing the wage of the average worker and fissuring the workplace (Stansbury and Summers 2020). From 1979 to 1983, well-paid and stable employment within durable goods manufacturing decreased by 15.9% despite the increase in overall employment in the economy. Beyond the effects on blue-collar workers, corporate 'downsizing' eliminated a substantial number of positions held by professional white-collar employees, contributing to the 'white-collar' recession of the early 1990s (Lazonick and O'Sullivan 2000). Despite the accelerated economic growth into 1995, the job-loss rate continued to increase. In 1991 the fifty largest U.S. industrial corporations, who employed 6.4 million people in 1969, only employed 5.2 million people, roughly a 2.3% decrease since 1969 (Lazonick and O'Sullivan 2000). These job cuts were also more greatly concentrated among larger firms with labor forces of more than 10,000. Moreover, those workers received 13 percent less on average than they did before they lost their jobs. Besides the losses in employment, worker insecurity and the lack of investment in innovative processes have also

¹⁹ An economic strategy where corporations retain earnings and reinvest them into the productive capabilities of their employed labor force.

²⁰ An economic strategy where corporations lay off more experienced and expensive workers, distributing cash to shareholders.

been a byproduct of downsizing. For example, there has been a small decline in the median years of tenure among workers by 0.3 years between 1983 and 1998 (Lazonick and O'Sullivan 2000). With regards to investment, firms have prioritized the interests of executives and shareholders over that of national interests, by failing to focus on the creation of higher-value jobs (Lazonick 2013). Despite high profits and low funding costs, U.S. firms have not made strides to upgrade their capital in recent years. (Philippon 2019). From the period of 1984 to 2014, there was a decline in the capital share of 22%, which doubled the decline in the labor share during this time of 11% (Barkai 2020). Although labor costs have continued to surpass capital costs, the largest growth has occurred in the profit share of firms, which has amounted to \$1.2 trillion in 2014 (Barkai 2020). Furthermore, industries that are more highly concentrated and subjected to common ownership typically have invested less with respect to labor demands and capital inputs (Autor, Dorn, Katz, et al. 2020).

One theory called the 'skill-based hypothesis' attributes the worsening income inequality to corporations' investment in the activities of highly educated persons, such as those that are affiliated with universities and departments of higher education (Lazonick and O'Sullivan 2000). In efforts to compete with international competitors, U.S. corporations have sought to invest in the expertise of the most highly educated individuals from across the world, rather than focusing on upgrading the quality of education among most Americans (Lazonick and O'Sullivan 2000). As a result of the marketization and globalization in the U.S. economy during the 1980s to early 2000s, corporate executives have pursued employment strategies that have prioritized their financial gain, including the closure of manufacturing plants, termination of experienced workers in the labor force, and outsourcing of labor to countries with low wages. As a result of these

structural changes in the U.S. labor market, corporations²¹ lost the incentives to invest in higher-valued jobs. Ultimately, rather than investing in innovative processes, capital inputs, and job creation, money was alternatively spent to manipulate stock prices to turn a profit (Lazonick and O’Sullivan 2000).

iv. Rising Concentration and Market Power

Due to its ability to drive prices down, competition²² has been highly regarded as a positive influence on the economy, as there is demand for more than one business, thereby encouraging firms to produce, hire, and invest. Furthermore, competitive economies reduce inequality by increasing wages and decreasing profit margins, effectively reducing payouts relative to labor income. Competition also increases economic freedom, providing workers with the ability to quit and find better jobs. In other words, when employers compete, workers possess more options with regard to hours, jobs, and benefits (Philippon 2019). Rather than creating jobs, market power both lowers production and the demand for labor, as firms charge higher prices for their goods, in turn being able to sell and produce fewer goods. Moreover, these dominant firms also face fewer competitors, allowing them to acquire more profits by charging consumers high prices (Eeckhout 2021). As a result, these highly concentrated industries experience the largest fall in the labor share, since they need less labor and capital to produce a fewer amount units (Autor, Dorn, Katz, et al. 2020, Eeckhout 2021). Furthermore, Eeckhout (2021) argues that market

²¹Acemoglu, He, and Maire (2022) argue that wage stagnation and the decline in the labor share have been attributed to the implementation of policies and changes in rent-sharing practices associated with the business education of firms’ managers/CEOs. By using employer-employee datasets from Denmark and the United States, Acemoglu, He, and Maire (2022) find that in both countries business managers reduced the wages of their employees. In particular, five years after the appointment of a business manager, employees saw a wage decline of roughly 6% and 5% in their labor share in the United States. In Denmark, workers saw a decline of 3% in both their labor share and wages after the appointment of a business manager. Furthermore, the appointment of these business managers doesn’t result in any sizable changes in productivity, sales, investment, or employment growth. Other findings also seem to suggest that there has been a business-school led shift in emphasizing shareholder values and the acquirement of ideas and practices within business education towards corporation reengineering.

²² The deregulation of telecoms and airlines increased competition and thereby lead to lower prices, lower profits, and lower concentration, which benefited consumers (Philippon 2019).

power has also been responsible for the declining share of the active population of workers, especially women. In response to the firm's lower demand for employment, many employees accept the lower wages instead of staying inactive, putting downward pressure on wages. Furthermore, the lack of bargaining power due to the asymmetric relationship between workers and employers and the presence of non-compete clauses²³, especially among the top tech firms, has further allowed firms to exert monopsony power over their workers.

Recent literature has suggested that rising concentration and market power²⁴ in the U.S. economy have also been responsible for some of the recent economy-wide trends (Barkai 2020). Philippon (2019) found that since the year 2000, over three-quarters of U.S. industries have experienced a surge in concentration, leading to high-profit margins for those operating within these industries. In particular, industries like airlines, brewing companies, and hospitals have become increasingly more concentrated over recent decades (Baker 2017). Furthermore, rising concentration has been variously linked to discussions of lax antitrust enforcement, exclusionary behavior by firms, and the emergence of 'superstar firms' (Rolnik and Zingales 2017). According to the 'rise of superstar firms' theory, concentration isn't entirely a bad thing, as industry leaders have seen an increase in their market shares and their profits through the development of more efficient methods. According to Autor, Dorn, Katz, et al. (2020), those industries that have become more concentrated have also become more productive. The rise of superstar firms and the decline in the labor share has also been linked to changes in the boundaries of large firms like the outsourcing of labor and the 'fissuring' of the workplace (Autor, Dorn, Katz, et al. 2020). However, there has been a historic negative relationship

²³ Non-compete clauses prevent workers from joining other firms in the same industry for a certain period of time after they leave their current company.

²⁴ Market power measures the ability of firms to raise its prices and increase its profits at the expense of its customers.

between concentration and investment across firms that is inconsistent with the rise of superstar firms theory. From 2000 to 2015, the relationship between concentration and productivity was actually negative, refuting the argument that superstar firms have been the primary drivers of concentration over the past years (Philippon 2019). There has also been a growth in “mini-stars” due to the dramatic growth in earnings among those that are college educated. This ‘college premium’ has been the direct result of the growth of market power, as dominant firms seek out high-skilled workers in order to increase the profitability of the firm (Eekhout 2021).

Another explanation is that industry leaders have been more entrenched and domestic competition has decreased, leaving their market shares unthreatened and providing them the ability to increase their prices (Philippon 2019). Steinbaum (2016) finds that industrial concentration, along with merger activity, rising profits, inter-firm inequality, and shareholder payouts, have a role in stratifying the economy and making the market less competitive. Furthermore, Steinbaum (2016) argues that declining effective marginal tax rates on the rich and other elements of the ‘shareholder revolution,’ as mentioned above, have a role in driving entrepreneurs from the market, reducing business dynamism, and eroding the job ladder. The largest firms in many industries now have control of larger shares of revenues than they did in earlier eras (Steinbaum 2016). In most U.S. industries, the market shares have become more concentrated and persistent (Philippon 2019). Due to the lack of desire to invest within concentrating industries, leaders have chosen to maximize the interests of their shareholders by increasing their payouts. As previously mentioned, since the 1980s, corporate payouts have increased substantially, primarily driven by stock buybacks (Philippon 2019). The power that has accumulated at the top of workplace through maximizing returns for stakeholders and fissuring the labor market has sought to further concentrate profits and to reduce new entrants, which

reinforces both corporate payouts to shareholders and executive compensation (Steinbaum 2016). The rise in CEO compensation is directly associated with the rise in market power, as firms are able to pay their executives more (Eeckhout 2021). Both rising concentration and merger and acquisition activity have also demonstrated parallel growth since the boom of the 2000s and after the financial crisis, which in turn has led to yet higher profits rather than an increase in investment and capital expansion (Steinbaum 2021).

Since the 1980s, there has also been a sustained decline in the entry and exit of new and existing firms among all industries since the year 2000 (Philippon 2019). Furthermore, there has been a more pronounced decline in the entry of new firms, where only 10% of the U.S. economy consists of ‘young firms’²⁵. From 1950 to 2016, American firms experienced the largest rounds of mergers, which allowed companies to increase their market share, cut their costs, and increase concentration in the United States (Philippon 2019). These dominant firms have also erected entry barriers to exclude new firms from entering the markets (Baker 2017). Furthermore, this has also resulted in the reduction of publicly-listed firms across all industries due to the increase in merger activity. In 1976, there were 4,943 publicly-listed firms, whereas there were only 3,627 publicly-listed firms by the year 2016. Prior to the 1970s, legislation like the Clayton Act of 1914 sought to prohibit mergers and acquisitions that substantially inhibited competition and to oppose the creation of monopolies within the market; however, in recent years, economic efficiency has been at the center of antitrust policy. As a result of this counterrevolution, several revisions were made to antitrust legislation in the years 1982 and 2010, requiring a further increase of 200 points in one’s HHI score²⁶ to consider a market as highly concentrated

²⁵ *Young firms* are those firms in the U.S. economy that are less than five years old.

²⁶ “HHI” refers to the Herfindahl-Hirschman Index that measures of market concentration. The DoJ classifies markets as highly concentrated when there HHI score is above 2,500.

(Steinbaum and Abdela 2018). Additionally, merger reviews have also become relatively lax in the United States, and enforcement actions by the FTC have reached nearly zero in moderate-concentration industries (Philippon 2019). Furthermore, the lack of better-defined markets has allowed antitrust officials to further allow anti-competitive mergers, as seen in the case of the pharmaceutical industry (Steinbaum and Abdela 2018). Other government regulations like patents, “pay-for-delay” settlements, and other activities by firms that have sought to obtain market rents have limited competition and bolstered profits (Baker 2017). Overall, the surge in concentration has stemmed from both entry issues and the unprecedented growth in merger activity in recent years due to the insufficient deterrence of collusive conduct (Baker 2017).

v. Rising Levels of Monopsony Power

Despite the assumption that most markets are competitive, Manning (2021) finds a link between the recent inequality in wages and the fall in the labor share and increasing levels of monopsony power within the labor market. Monopsony refers to a market in which there is only one buyer that purchases all the inputs in the market. Often times, the most prominent example given for monopsony concerns the sole purchase of a certain kind of labor in the labor market. Furthermore, the rise in anti-competitive practices and decline in institutions that offered protections against monopsony power, including the minimum wage and the power of labor unions, may have also contributed to the growth in monopsony power in recent years. For example, protections like the minimum wage have a large role in reducing job turnover and increasing stability within employment for the most vulnerable employment groups, especially teens (Dube et al. 2016). Moreover, within the lower-wage labor market, monopsony power is more likely to result in wage inequality and declines in the labor share due to the gap between wages and marginal products. In particular, monopsony power has been attributed to a decline in

the labor share of roughly 22%. According to Azar et al. (2017), when going from the 25th percentile to the 75th percentile in concentration, there was a decline of roughly 17% in wages, demonstrating the effect that increasing concentration has on labor market power. Furthermore, Marinescu and Posner (2020) found that an increase in HHI by 10% in a given labor market has been associated with a decrease in the wages for available positions by 0.4% to 1.5%. In other words, increasing industrial concentration and monopsony power is associated with lower wages for workers.

Moreover, there has also been firm-specific earnings premia due to the lack of competition among employers over labor and lack of job offers that would address the discrepancy between the earnings of similar workers across firms. As a result, firms gain significant market power in terms of setting wages for their workers and experience little labor market competition against other employers. Due to the lack of emphasis on the labor market within antitrust, many measures underestimate the concentration in labor markets and overestimate the options that are available to workers for hire. In roughly 60% of United States industries, concentration is considered high, whereas only a third of the United States labor markets have been considered high. In labor markets where monopsony is present, employers are able to pay their workers less due to the lack of a credible threat to quit and the workers' inability to find a better, higher-paying alternative (Marinescu and Posner 2020). While investigating the manufacturing industry in the year 2012, Azar et al. (2017) also found that the higher concentration was associated with significantly lower wages, while higher product market concentration failed to demonstrate similar effects on wages. Moreover, evidence also suggests that when there is sufficient market power, employers may exhibit non-optimizing behaviors, including paying round-number wages that actively misprices labor (Dube et al. 2020). Antitrust

law also fails to punish unilateral price settings by dominant firms, allowing them to set very low prices for their purchases of labor. Despite the effects on the worker's wages, antitrust law largely ignores prohibiting mergers that affect employment markets and is primarily directed at addressing output-reducing practices, leaving anti-competitive mergers within labor markets unchecked and making litigation against employers rare (Marinescu and Hovenkamp 2019). It is apparent that those reviewing mergers cannot simply assume that the conditions for the lack of sufficient competition within the product market are the same for the labor market (Marinescu and Hovenkamp 2019).

vi. The Growth in Automation

Another factor to consider when discussing the decline in labor's share of national income is automation. Due to the relatively low prices of automation equipment, artificial intelligence, and robots, businesses are more inclined to turn towards machines to take over hard-to-fill positions and may incentivize firms to create jobs that a robot can perform. Furthermore, the profitability and productivity gains of automation seek to discourage workers from asking for a pay raise out of fear of losing their jobs to automation, weakening workers' bargaining power and leading to stagnant wage growth (Leduc and Liu 2019). The digitalization of work has also made highly-educated workers more productive, equipping them with more sophisticated technology, while making less educated workers, including factory workers, receptionists, and other kinds of employees, easier to replace with machinery, contributing to the labor market trends of the last four decades. Furthermore, the acceleration of trade and globalization has also reduced manufacturing employment in addition to the effects of automation, which has been a source of the disappearance of middle-income jobs (Eekhout 2021). Additionally, there have been sharp declines in labor among sectors such as steel, mining, and textile production due to

the global competition over low-wage labor. Those industries that have seen a growth of concentration have also experienced faster technical change, seen by looking at indicators like patent intensity and total factor productivity (Autor, Mindell, and Reynolds 2020).

Moreover, the decline in union participation and the erosion of institutions that have inhibited workers' ability to bargain further for higher wages have also contributed to these recent trends (Autor, Mindell, and Reynolds 2020). From 1979 and 2017, the share of U.S. workers engaged in collective bargaining agreements fell from 26% to 12%, with an even larger fall in the private sector from 21% in 1979 to 6% in 2019 (Autor, Mindell, and Reynolds 2020). Starting in roughly 1987, jobs that were lost to automation failed to be replaced by new work opportunities, permanently displacing workers (Dizikes 2020). Prior to the growth in automation, the displacement rate of workers, as understood as the rate of subsequent job loss caused by changing economic conditions, was roughly 17 percent, whereas the replacement rate²⁷ was 19 percent from 1947 to 1987. Between 1987 and 2016, the rate of displacement was 16%, while the rate of reinstatement was just 10%, as stated by Dizikes (2020). From the years of 1993 to 2007, each new robot that was introduced replaced roughly 3.3 jobs across the United States. From 2016 to 2018, the adoption of advanced technologies has remained limited with only 3.2% and 2% of firms, respectively. However, those firms that have adopted these technologies possess a sizable share of the workforce and economic activity in the United States. Furthermore, the implementation of these advanced technologies has been concentrated among the largest and youngest firms in these industries. For example, AI technologies make up 2.6% of the workforce, whereas, "15.7% for robotics, 64.4% for specialized software, 36.4% for dedicated equipment, and 61.8% for cloud computing" (Acemoglu, Anderson, Beede et al. 2022, 33). In the

²⁷ The *replacement rate* refers to the amount of job opportunities that are put in place after those jobs have been lost to automation.

manufacturing industry, the adoption of advanced technologies is even greater, where the share of workforce is employed 22.6% by AI, 45.1% by robotics, 70.7% by dedicated equipment, 72.3% by specialized software, and 62.3% by cloud computing (Acemoglu, Anderson, Beede et al. 2022). For most firms, automation has been the primary driver for the adoption of these technologies, resulting in greater levels of productivity, a reduction in the labor share, and higher demand for skilled workers (Acemoglu, Anderson, Beede et al. 2022). Industries that have adopted robots quickly and subsequently hired more workers have also contributed to the reduction in employment, as rival firms let go of workers in order to be more competitive in the market (Acemoglu and Restrepo 2020). When automation was introduced, low-skilled workers were actively being pushed backwards financially beyond what can be explained by the 'skill-biased hypothesis'. Since the 1970s, real wages for low-skilled workers have decreased while productivity gains have been meager totaling only 1.2 percent. In other words, these 'so-so technologies' have replaced workers to reduce labor costs without adding much productivity to the economy.

According to Acemoglu and Restrepo (2020), these changes in automation and task content account for the majority of changes experienced in the labor share and wage structure in the last three decades. In addition to the role of automation, the choice not to set the minimum wage to keep up with inflation, antiquated U.S. labor policies, and the unchecked expansion of trade have also put pressure on the labor market in the United States. With regards to the failure of U.S. labor policies, Congress has struggled to modernize the current labor policies to afford protections to the growing ranks of contract, temporary, and gig workers, to increase the availability of unemployment insurance benefits, and to ensure that a foundational level of insurance and leave is available for all workers. Furthermore, without enacting protections for

workers that would complement the expanded trade to Mexico and China, workers faced new challenges in the labor market due to the lack of policies aimed at buffering earnings and employment losses (Autor, Mindell, and Reynolds 2020). However, the negative consequences of technologies are not inevitable, rather the direction of technological development is important (Dizikes 2020). With regards to employment, technological change will not eliminate work altogether, but rather it can replace existing work, while also creating new work opportunities. Rather than a jobless future, robotics and automation can actually create more jobs than workers can fulfill, in response to addressing our most pressing issues. Furthermore, there is no evidence to conclude that the recent effects on the labor market are directly the result of innovation, but rather the failure of U.S. policy to foster new institutions for workers' voices. In order to channel rising productivity into shared gains with workers, institutional innovation must be created that complements technological change, like providing avenues for work in other industries when workers are displaced or shaping innovation to maximize the benefits shared by all²⁸. In other words, it is United States' responsibility to create policies that will restore the gap between productivity and worker's benefits (Autor, Mindell, and Reynolds 2020).

IV. Analysis

As demonstrated in the previous sections, it is inadequate for one to isolate a singular factor in explaining the recent labor market trends in the United States, including the fall in the labor share of national income, the reduction of stable employment opportunities and investment, and the loss of bargaining power among workers in the American economy. Rather, it is the interaction of the aforementioned factors, including the erosion of antitrust law and its enforcement, rising concentration and market power, the decline in unionization, the rise in

²⁸ Often, this is the policy approach undertaken by many Nordic countries who prioritize retraining those who have experienced job loss and simultaneously work to develop new work opportunities in cutting edge industries.

common ownership, the growth in automation, and rising levels of monopsony power, that collectively are responsible for our current labor market outcomes. However, many of the aforementioned scholars argue about the influence that each of these factors has on the recent trends, giving each scholar their own unique position with regard to the debate on this topic.

According to Steinbaum (2019), the decline and erosion of antitrust legislation and the prohibition of collective organizing and coordinating between workers is ‘partly the problem’ in explaining the factors that have contributed to the labor market outcome, described throughout this paper. In addition to the decline and erosion of antitrust legislation, Steinbaum (2021) also argues that the rise in shareholder maximization and common ownership can also explain the persistence of increasing markups, declining worker power, the divergence of pay and productivity, low levels of investment, declining firm entry, and rising concentration. Furthermore, Steinbaum believes antitrust legislation can be used as a remedy to address the rise in common ownership, by regulating the exercise of power across the boundaries of the firm. Along with Marinescu and Posner (2020), Steinbaum (2019) also recognizes that changes to the prevailing ‘market definition’ can help to better respond to firms’ labor supply elasticities and aid in antitrust enforcement (Steinbaum and Abdela 2018). However, Bivens and Marshall (2015) argue that the rise in employer power and antitrust’s role in this phenomena is less of cause than prescribed by Steinbaum (2021), Steinbaum and Abdela (2018), Baker (2017), and Rolnik and Zingales (2017). According to Bivens and Marshall (2015), the main reason for stagnant wages and the disconnection between pay and productivity in recent years is the weakening of labor law and the collective bargaining power of workers, as evidenced by the rise in labor income inequality. However, Steinbaum doesn’t believe that the divide between rising labor income inequality and increasing employer power drawn by Bivens and Marshall (2015)

can be treated as two different phenomena. With regards to increasing concentration, Rolnik and Zingales (2017) also argue that the recent rise in concentration is the result of ‘too permissive’ of a merger policy, resulting in a lack of deterrence of anti-competitive mergers (Baker 2017). Alternatively, Autor and Dorn *et al.* (2020) argue that the theory of ‘super star firms’ is better equipped in explaining increasing concentration rather than that leading firms have become better equipped to erect barriers to entry. For Autor and Dorn *et al.* (2020), the alternative explanation is likely improbable because the industries that have experienced a surge in concentration have exhibited the highest levels of innovation. Furthermore, in cases where firms initially gain large market shares by competing on the merits of their work, these firms may subsequently be able to leverage their power to use their market power to erect barriers to entry to safeguard their economic positions.

With regards to the role of automation, Barkai (2020) found that the labor’s share of output fell by 10 percent, while the capital share declined by a greater amount since the 1990s. This indicates that automation is not solely responsible for the reduction in the labor share over the past 30 years. Although Lazonick (2013) also agrees that technological change isn't the primary reason for the recent trends, Lazonick finds that rationalization, marketization, and globalization due to the rise in the maximization of shareholder values has had the largest role in increasing inequality in income, the explosion of pay at the top, and the erosion of middle-class jobs in the recent years. However, Stansbury and Summers (2020) believe that the declining share of unionized workers, growth in shareholder power through the use of outsourcing of labor and the fissuring of the workplace, and increased competition for jobs from low wage countries best explains the recent labor market outcome like rising corporate profitability and falling labor share compared to other explanations of globalization, technological change, and monopoly or

monopsony power, proposed by Manning (2021), Dube *et al.* (2020), Azar *et al.* (2017), etc.

Stansbury and Summers (2020) suggest that the impact of globalization and technological advancements on inequality varies considerably across different nations. As a result, country-specific factors are likely to be significant contributors to the decline in the labor share.

Furthermore, Stansbury and Summer (2019) believe that monopoly or monopsony power is an inadequate explanation for the recent trends, seen in the primary example of the manufacturing sector. The manufacturing sector in the United States has experienced the largest decline in unionized workers and transfer of market rents away from workers. Furthermore, it is also the sector where the greatest proportion of the reduction of the labor share occurred. If monopsony or monopoly power was responsible, there would be a substantial increase in product market power among the manufacturing sector as low-wage economies have been open to international markets and there has been a growth in international trade. Rather, Stansbury and Summers (2020) find that explanations of monopsony or monopoly power are unclear in explaining the recent trends, and are skeptical of the influence that the rise in concentration has on increasing aggregate monopoly power. Rather, even in well-defined markets, this rise in concentration may not be present and in smaller service industries concentration ratios have actually fallen. Lastly, Summers and Stansbury (2020) argue that even where concentration ratios have increased in well-defined markets, however, they have not raised profit concerns. With regard to monopsony power, Summers and Stansbury (2020) believe that there is a lack of evidence to suggest that a rise in market monopsony power has contributed to a fall in worker power or that it is the result of an increase in labor market concentration. Although non-compete clauses and occupational licensing requirements have become more common, the emergence of the Internet has lowered job search expenses for numerous employees today.

Davis and Orhangazi (2021) also argue that the relationship between highly concentrated industries where competition usually remains low and the ability of firms to charge high markups, to earn high profits, and to reduce their funding for investment isn't entirely straightforward. Davis and Orhangazi (2021) find that there has been an increase in average concentrations among the entire economy from 1997 to 2012 with the greatest growth in the retail and information sectors. Moreover, Davis and Orhangazi (2021) found that industries with above-average concentration have higher profitability than those with below-average concentrations, however, there are key differences among the above-average group. In particular, the highest profits resided in firms within industries that fell in the middle of the concentration distribution. Sectors, especially retail, have seemed to increase in competition due to rising concentration within the industry. Seen in the example of Walmart, efficient concentration within the retail sector has led to low prices and caused profit margins to stabilize or even decline, benefiting U.S. consumers (Philippon 2019). With regard to markups, the relationship between high-concentration and high markups was present in specific industries, like the information sectors. However, the average investment in the most concentrated industries has fallen below that of mid-concentration industries starting in the 2000s. Overall, concentration is not the only reflection of market power, as many firms with lower market shares are able to acquire market power through the use of intangible assets. Those firms that are successful in acquiring intangible assets may also possess high profits and isolate themselves from competition (Philippon 2019).

V. Conclusion

During the Golden Age, the average labor share was roughly 64%, whereas in the Transition and Neoliberal periods the average labor share fell to 63% and 60%, respectively. During the

first two decades of the Neoliberal period (1980 – 2000), the average labor share was 62%, whereas the last two decades (2000 – 2021) experienced the lowest average labor share at 58% (see also Figure 1). More importantly, labor also started to lose in their real distributional struggle as income was shifted away from labor to capital, starting with the Transition period. During Transition and Neoliberal periods, the price ratio started to play an important role, offsetting the negative effect of the widening productivity – real hourly compensation gap on the labor share. This change in the price ratio shows labor’s defensive ability to shift the burden of unfavorable price change on to the capital. During the first sub-period of Neoliberalism, the price ratio grew at an annual rate of 1.36%, causing the labor share to remain stable during the first two decades. However, labor had also experienced the biggest loss in their real distributional struggle during the first two decades of Neoliberal period. Contrastingly, the price ratio grew meagerly during the second sub-period of Neoliberalism (2000 – 2021). This combined with the aforementioned gap between the growth rates of real hourly compensation and productivity resulted in largest decline in labor share. Overall, despite the widening gap between the productivity and real hourly compensation growth rates, labor maintained its share in the value added during the Transition period and the first two decades of Neoliberalism only because they were able to shift the adverse effect of the price change on to capital. However, with the decline in the growth of the price ratio, the last two decades of the Neoliberal period gave rise to declining labor share for the first time in the post-WWII economy.

After examining the trends in the *nonfinancial business sector* and the ongoing debate surrounding the recent labor market developments, antitrust legislation seems to be playing a significant role in the recent macroeconomic trends, including the declining labor’s share of national income, the weakening of worker bargaining power, and increasing income inequality

since the start of the Neoliberal period. This is primarily due to antitrust legislation's interaction with several of the other factors mentioned in my above discussion. First, the decline and erosion of antitrust legislation has led to a consolidation of power among employers, leading to a reduction in labor power and the distribution of market rents towards owners instead of employees (Steinbaum 2019). Furthermore, merger activity under antitrust law has sought to favor the preferences of shareholders by further stratifying the economy thereby encouraging the use of stock-based compensation and inflating corporate pay-outs, which has further increased income inequality between workers and employers (Steinbaum 2016). In particular, the erosion of the traditional employment relationship and fissuring of the workplace through the use of vertical restraints has also allowed more powerful firms to control subordinate firms, contractors, and workers, preventing them from collectively organizing against their employers and weakening the incidence of unions (Steinbaum 2019). These profit-maximizing methods of outsourcing, pricing fixing, and other means of excluding workers further from the centers of economic power has also made it more difficult for new firms to challenge these large, dominant firms, and has replaced existing firms in the market, increasing the market power of these entities (Philippon 2019). Both rising concentration and merger and acquisition activity have been on the rise, which has in turn lead to higher profits and a decline in investment and capital expansion among firms (Steinbaum 2021). In particular, the revisions made to existing concentration measures and the lax enforcement and review of mergers in recent years has both increased concentration and further reduced competitive forces in the economy (Rolnik and Zingales 2017). Lastly, antitrust law has also allowed firms to set low prices for their purchases of labor and has largely ignored prohibiting mergers that affect employment markets (Marinescu and Hovenkamp 2019). Both the increase in industrial concentration and rise of monopsony power

on account of antitrust law have been associated with lower wages for worker (Marinescu and Posner 2020). Lastly, the failure of U.S. policy, including the area of antitrust law, to foster new institutions for workers' voices to prevent the recent effects on the labor market that have directly resulted from innovation have allowed automation to be an additional factor in the weakening of workers' bargaining power and the decline in the labor share (Autor, Mindell, and Reynolds 2020). In conclusion, the six aforementioned factors, with an emphasis on the role of antitrust legislation, have had a crucial role in explaining the changes in the labor share investigated in Section II of this paper.

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Appendix A: Trends in the Labor Share and its Components in the *Nonfarm Business Sector*

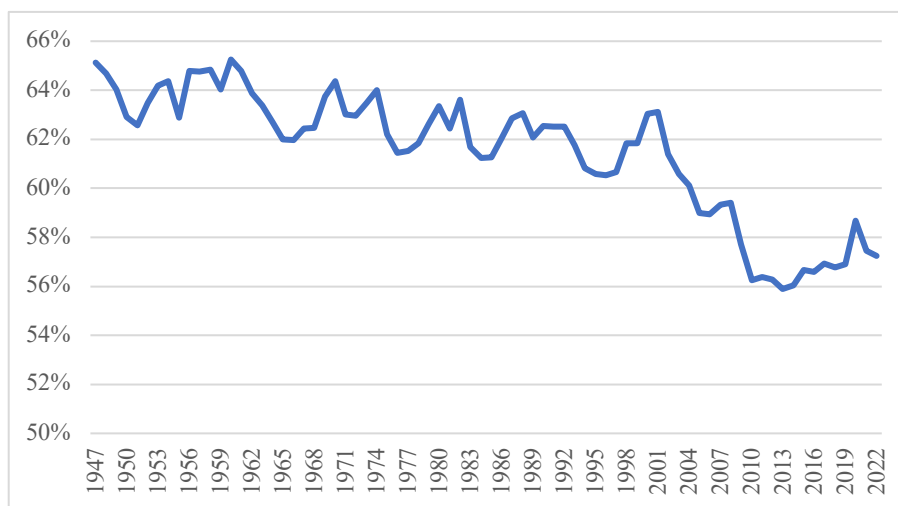


Figure 3. *Labor Share* in Nonfarm Business Sector, 1947-2021.

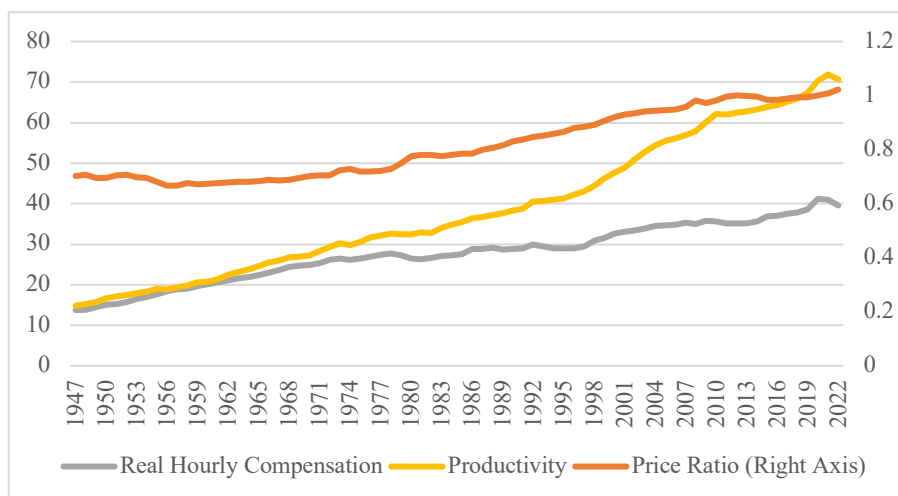


Figure 4. *Components of the Labor Share* in the Nonfarm Business Sector, 1947-2021.

Table 2. *Average Annual Rate of Growth of the Labor Share and its Components (%)*, Nonfarm Business Sector, 1948-2022.

	Labor Share	Price Ratio	Real Hourly Wage	Productivity
Full Period (1948-2022)	-0.17	0.50	1.41	2.08
Golden Age Period (1948-1970)	-0.05	0.01	2.59	2.65
Transition Period (1970-1980)	-0.06	1.02	0.64	1.72

Neoliberal Period (1980-2021)	-0.21	0.72	0.87	1.81
<i>1980-2000</i>	0.03	0.97	0.87	1.82
<i>2000-2021</i>	-0.34	0.53	0.98	1.85

Appendix B: Some Key Policy and Rule Changes Affecting the Labor Market

<i>Date</i>	<i>Antitrust & Labor Policy</i>	<i>Outcome</i>
July 2, 1890	The Sherman Act of 1890.	The Sherman Act prohibits “every contract, combination, or conspiracy in restraint of trade,” and any “monopolization, attempted monopolization, or conspiracy, or combination to monopolize”. ²⁹
September 26, 1914	The Federal Trade Commission Act of 1914.	The Federal Trade Commission Act outlaws “unfair methods of competition and unfair or deceptive acts or practices” ³⁰
October 8, 1914	The Clayton Act of 1914.	Section 7 of the Clayton Act prohibits mergers and acquisitions that are understood to substantially “lessen competition, or to tend to create a monopoly,” , which was an area left unaddressed by previous legislation. ³¹
May 20, 1926	The Railway Labor Act of 1926.	According to the Railway Labor Act (RLA), both carriers and employees are obligated to make every reasonable attempt to preserve their collective bargaining agreements and resolve disputes without disrupting interstate commerce, while ensuring that employee’s rights are safeguarded through the use of mandatory dispute resolution procedures. ³²
March 3, 1931	The Davis-Bacon Act of 1931.	The Davis-Bacon Act mandates that contractors must compensate their workers no less than the prevailing wage at the work site. Additionally, Congress extended these provisions to other federally funded projects in areas such as transportation,

²⁹ Federal Trade Commission, “The Antitrust Laws,” accessed April 18, 2023, <https://www.ftc.gov/advice-guidance/competition-guidance/guide-antitrust-laws/antitrust-laws>.

³⁰ Federal Trade Commission, “The Federal Trade Commission Act,” accessed April 18, 2023, <https://www.ftc.gov/legal-library/browse/statutes/federal-trade-commission-act>.

³¹ Federal Trade Commission, “The Antitrust Laws,” accessed April 19, 2023, <https://www.ftc.gov/advice-guidance/competition-guidance/guide-antitrust-laws/antitrust-laws>.

³² Federal Railroad Administration, “Highlights of the Railway Labor Act and the U.S. Department of Transportation’s Role in RLA Disputes.” Accessed April 19, 2023, https://railroads.dot.gov/sites/fra.dot.gov/files/fra_net/1647/Railway%20Labor%20Act%20Overview.pdf.

		housing, air, and water pollution reduction, and health. ³³
March 23, 1932	The Norris-LaGuardia Act of 1932.	The Norris-LaGuardia Act was passed to remove certain “legal and judicial barriers” that hindered the collective actions of labor organizations by granting workers “full freedom of association” and preventing employers from pursuing legal means to end strikes, boycotts, etc. ³⁴
June 16, 1933	The National Industrial Recovery Act of 1933.	The National Industrial Recovery Act (NIRA) mandated that employers recognize the rights of workers to collectively organize and prohibited employers from forcing workers membership in labor organizations. This provision was later invalidated by the case of <i>Schechter Poultry Corp. v. United States</i> . Under this legislation, companies were also obligated to write codes that fixed employee’s wages, stipulated production quotas, defined working hours, and placed restrictions on the entry of other companies. ³⁵
July 5, 1935	The National Labor Relations Act (Wagner Act) of 1935.	The National Labor Relations Act (NLRA) went beyond the NIRA by guaranteeing private-sector workers the right to unionize, allowing workers to engage in collective bargaining agreements, and allowing them to wage for better working conditions without reprisal from their superiors. ³⁶
May 24, 1938	The Fair Labor Standards Act of 1938.	The Fair Labor Standards Act (FLSA) instituted a baseline “minimum wage, overtime pay, recordkeeping, and youth employment standards” for employees in both in the private sector and among all levels of the government. ³⁷
June 23, 1947	The passage of the Taft-Hartley Act in 1947.	To address flaws within the Wagner Act, the Taft-Hartley Act specified

³³ United States Department of Labor, “Davis Bacon and Related Acts,” accessed April 19, 2023, <https://www.dol.gov/agencies/whd/government-contracts/construction>.

³⁴ Britannica, “Norris-La Guardia Act,” accessed April 19, 2023, <https://www.britannica.com/event/Norris-La-Guardia-Act>.

³⁵ National Archives, “National Industrial Recovery Act,” accessed April 19, 2023, <https://www.archives.gov/milestone-documents/national-industrial-recovery-act>.

³⁶ National Archives, “National Labor Relations Act,” accessed April 19, 2023, <https://www.archives.gov/milestone-documents/national-labor-relations-act>.

³⁷ United States Department of Labor, “Wages and the Fair Labor Standards Act,” accessed April 19, 2023, <https://www.dol.gov/agencies/whd/flsa>.

		six unfair labor practices committed by union groups. For example, unions were now prohibited from charging excessive fees for admittance, participating in secondary boycotts, and coercing workers into membership. They were also subjected to several changes with regards to elections for representation. ³⁸
July 2, 1951	The Supreme Court decided <i>United States v. Richfield Oil Corp.</i> in 1951.	The Supreme Court created a sharp distinction between labor and antitrust litigation by ruling that it is illegal to exert control over subordinate actors that are deemed “independent businessmen” (Steinbaum 2019, 49).
July 30, 1953	The passage of the Small Business Act in 1953.	With the intention of protecting the interests of small business owners, the Small Business Act was created to oversee the Small Business Administration. In particular, the Small Business Administration re-allowed for the reclassification of franchises as “independent”, allowing them to benefit from subsidized federal loans (Steinbaum 2019, 50).
September 14, 1959	The passage of the Labor-Management Reporting and Disclosure Act of 1959 (Landrum–Griffin Act).	The Landrum–Griffin Act strengthened provisions in the Taft-Hartley Act. In essence, the Landrum–Griffin Act further addressed unfair practices by union groups, including the misuse of funds and the suppression of legal rights of fellow union members, while banning secondary boycotts. ³⁹
January 17, 1962	Executive Order 10988 was enacted in 1962.	President John F. Kennedy’s granted federal workers the right to collectively bargain, as they were previously unprotected under the National Labor Relations Act. ⁴⁰
June 12, 1967	The Supreme Court decided <i>United States v. Arnold, Schwinn & Co.</i> in 1967.	The Court ruled that “non-price vertical restraints” were illegal (Steinbaum 2019, 50).
April 20, 1964	The Supreme Court decided <i>Simpson v. Union Oil Co. of California</i> in 1964.	The Court reaffirmed the principle that it is illegal for companies to force non-employees to engage in vertical supply contracts, as

³⁸ National Labor Relations Board, “1947 Taft-Hartley Substantive Provisions,” accessed April 19, 2023, <https://www.nlr.gov/about-nlr/who-we-are/our-history/1947-taft-hartley-substantive-provisions>.

³⁹ Britannica, “Landrum-Griffin Act,” accessed April 19, 2023, <https://www.britannica.com/event/Landrum-Griffin-Act>.

⁴⁰ U.S. Federal Labor Relations Authority, “50th Anniversary: Executive Order 10988,” accessed April 19, 2023, https://www.flra.gov/50th_Anniversary_EO10988.

		previously established in the <i>United States v. Richfield Oil Corp.</i> case (Steinbaum 2019).
1977	The Supreme Court decided <i>Continental Television v. GTE Sylvania</i> and <i>State Oil Co. v. Khan</i> in 1977.	These decisions sanctioned antitrust immunity for firms engaging in vertical integration by contract. Additionally, <i>State Oil Co. v. Khan</i> held that “vertical maximum price fixing” was not entirely illegal, as outlined in <i>Albrecht v. Herald Co.</i> (Steinbaum
1982	Stock buybacks became a legal practice.	Rule <i>10b-18</i> , which was passed by the Security and Exchange Commission, reduced the liability for corporations that engaged in buybacks and allocated earnings to their stockholders. This form of deregulation allowed companies to start repurchasing their corporation’s stock at the expense of investing in their workers, capital, or innovation. ⁴¹
	The 1982 Merger Guidelines were enacted.	The Merger Guidelines were enacted by the U.S. Department of Justice to address the enforcement of antitrust laws, specifically the acquisition and mergers, subject to previous legislation like the Clayton Act and Sherman Act. These guidelines provided overarching principles and standards for analyzing market power among mergers. ⁴²
August 19, 2010	The Horizontal Merger Guidelines was passed in 2010.	Antitrust legislation underwent several revisions that required a further increase of 200 points in one’s HHI score in order to classify the market as ‘highly concentrated’ (Steinbaum and Abdela 2018).

Appendix C: Recent Major Studies on the Labor Share

Factors	Study	Measures Used	Country	Period	Influence on the Labor Market Outcome	Influence of other Variables
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⁴¹ Investopedia, “Rule 10b-18 Definition and How Compliance Works,” accessed April 19, 2023, <https://www.investopedia.com/terms/r/rule10b18.asp>.

⁴² The United States Department of Justice, “1982 Merger Guidelines,” accessed April 19, 2023, <https://www.justice.gov/archives/atr/1982-merger-guidelines>.

Decline in Unionization	Stansbury and Summers (2020)	union membership and coverage rates, share of value added (nonfinancial corporate business), etc.	United States	1980-2015	negative	shareholder maximization, reduction in the minimum wage, deregulation in industries, and increased competition for labor with low-wage countries
The Erosion of Antitrust Law and its Enforcement	Steinbaum (2019)	n/a	United States	n/a	negative	collective bargaining
	Paul (2023)	n/a	United States	n/a	negative	special treatment of firms with regards to forms of economic coordination based on productive efficiency grounds
The Rise in Common Ownership	Lazonick and O'Sullivan (2000)	rate of job loss in the U.S., announced staff cuts by major U.S. corporations, etc.	United States	1980-2000	negative	
	Lazonick (2013)	gini coefficient, share of total U.S. income among the top ten percent of income recipients, etc.	United States	1947-2011	negative	globalization, rationalization, and marketization
	Duménil and Lévy (2016)	n/a	United States	n/a	negative	transformation of technology, organization, and distribution

Rising
Concentration
and Market
Power

Steinbaum (2021)	n/a	United States	n/a	negative	anticompetitive conduct arising between firms in the labor market, antitrust remedies, and increased market power
Autor, Dorn, Katz, <i>et al.</i> (2020)	n/a	United States	n/a	negative	the rise of 'superstar' firms
Steinbaum (2016)	change in earnings of new hires vs. change in quit rate, differences in employment share by firm age group, etc.	United States	1980- 2014	negative	weak labor demand and power shift in favor of owners
Baker (2017)	n/a	United States	n/a	negative	antitrust institutions, insufficient deterrence of anticompetitive conduct
Rolnik and Zingales (2017)	n/a	United States	n/a	negative	antitrust policies and lack of competition
Steinbaum and Adbela (2018)	concentration levels in antitrust industries	United States	2000- 2016	negative	antitrust markets, mergers guidelines, lax enforcement, inadequate market measurements
Autor, Dorn, Katz, <i>et al.</i> (2020)	labor share by country, labor share in manufacturing, etc.	United States	1980- 2010	negative	rise of 'superstar' firms

Rising Levels
of
Monopsony
Power

Barkai (2020)	capital costs, capital share, etc.	United States	1984- 2014	negative	
Steinbaum (2021)	n/a	United States	n/a	negative	shift in the corporate governance to favor shareholders and the decline in competition due to antitrust inadequacies
Dube <i>et al.</i> (2016)	mean 1- quartter change associated with minimum age increases, minimum wage elasticities for teens and restaurant workers, etc.	United States	2000- 2011	negative	minimum wage
Azar <i>et al.</i> (2017)	summary statistics for the sample consisting of commuting zone- occupational code labor markets, effect of market concentration on real wages,etc.	United States	2010 Q1- 2013 Q4	negative	
Manning (2021)	n/a	United States	n/a	negative	
Marinescu and Hovenkamp (2019)	HHI by commuting zone based on vacancy shares and number	United States	2016 Q1- 2016 Q4;	negative	no-poaching agreements, litigation ignores labor monopsony, section 1

The Growth in Automation		of antitrust cases		2016-2019		liability, arbitration clauses, standardize the labor market definition
	Dube et al. (2020)	n/a	United States	n/a	negative	worker left-digit bias and employer optimization frictions
	Marinescu and Posner (2020)	HHI by commuting zone based on vacancy shares	United States	2016 Q1-2016 Q4	negative	lack of antitrust policy that targets mergers that have harmful effects on the labor market
	Autor, Mindell, and Reynolds (2020)	employment to population rate of U.S. adults by sex, new occupations added to the U.S. census between 1940 to 2018, etc.	United States	1948-2020	negative	education and trainings, access to good jobs, etc.
	Leduc and Liu (2019)	labor share in U.S. nonfarm business sector and the U.S. labor share: actual versus scenarios without automation	United States	1985-2015	negative	
	Acemoglu and Restrepo (2020)	cumulative growth of real hourly wages by gender and education, percent decline industry's	United States	1980-2016	negative	

	labor share, etc.			
Dzikes (2020)	n/a	United States	n/a	negative
Acemoglu, Anderson, Beede, <i>et al.</i> (2022)	technology adoption rates for processes and method and as a part of goods and services, conditional adoption rates of multiple technologies, etc.	United States	2016- 2018	negative