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The Impact of Union Membership and Economic Policy on Income Inequality in the UnitedStates

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I. Introduction: The Problem

The United States and much of the industrialized world has experienced a significant increase in income and economic inequality over the past half-century. In recent times, wealth generated by economic activity has disproportionately flowed into the hands of the top income brackets, rapidly widening the gap between the richest and poorest members of society. This modern trend of inequity contrasts with the growth that occurred in the United States during the post-great depression and post-war eras from around 1945 to 1970. Despite rapid social changes in the areas of race, gender, and the environment, the country's immense wealth was distributed in a historically even manner during this stretch. New Deal public policies such as Social Security and Medicare were implemented and funded by overall higher levels of progressive taxation, helping to keep income inequality in check. In fact, the top marginal income tax rate was roughly double what it is today over these three decades. Furthermore, the G.I. bill allowed thousands of returning World War II soldiers to educate themselves debt-free, greatly improving their chances of finding quality work and the resulting high salary jobs. Additionally, the federal government created an array of strong regulatory agencies which went on to implement a variety of financial, economic, and workplace regulations.

In addition to these redistributive programs, laws such as the National Industrial Recovery Act (1933) and the National Labor Relations Act (1935) were passed by Congress, providing labor unions with federally protected rights never before seen in the country. For the first time in American history, private-sector workers were guaranteed the rights to form and join unions, employees were able to collectively bargain for wages and benefits, and businesses were legally required to negotiate in good faith with labor organizations supported by a majority of employees at a workplace (Ellwood and Fine, 1987). Over this time period, a relatively egalitarian set of government policies were created and implemented by the federal government of the United States. A broad middle-class emerged with the support of strong labor unions and favorable public policies that helped keep inequality at bay and resulted in millions of American citizens attaining wage increases and upward social mobility. According to some scholars, labor unions are an important part of civil society that hold the potential to encourage citizens to vote, increase citizen participation in political activity, and foster a sense of community connection. All of these impacts can create trust, legitimacy, and cohesion within a society, the foundations democracy depends on. Unions are connected to a number of important measures of well-being (Hogler, Hunt, and Weiler, 2014).

While economic inequality exists throughout the world, the United States currently has the third largest gap in wealth of any developed country, behind the middle-income countries Turkey and Mexico (OECD, 2011). The economy of the U.S. continues to expand; however, fewer and fewer citizens are benefitting from economic growth generated by capitalism. Major political upheavals and social disruptions of our time such as the Occupy Wall Street protests, the emergence of the Tea-party, and the anti-globalization movement are heavily influenced by this growing concentration of income at the top income tax brackets. The leaders and participants of many of these protest movements are under 30 years of age. While tension is high within all age groups of American society, the growing disunity and distrust within our system is even more apparent in the young sections of society. The burden of college debt grows on our country's youth as the number of well-paying jobs that do not require a degree continues to shrink.

Additionally, the recent 2016 presidential election was in part influenced by this trend of inequality and social unrest. In a revolt against the traditional political order of the

United States, primary and general election voters supported populist candidates at a nearly unprecedented level. During the Democratic Party primary, democratic socialist Bernie Sanders nearly defeated the heavily favored establishment candidate, Hillary Clinton. On the Republican side, voters selected the right-wing populist and eventual winner of the presidential election, Donald Trump. Public approval of government and corporate institutions has reached all-time lows, sowing disunity and instability within American government and society in general. For seven straight years, below 20 percent of Americans approve of the Congress. In 2016, only 17 percent felt confident in the main legislative body of the United States to perform its job. Further, 75 percent of citizens believe that corruption in government is widespread while nearly 58 percent are dissatisfied with big business and corporate practices (Gallup, 2016). Such widespread lack of confidence in major public and private institutions threatens the very foundations of the political system and the existence of democratic governance. While many factors are contributing to this erosion of public trust and cohesion, economic and income inequality are high on the list of potential driving forces.

The topic of income inequality is of interest to political scientists and other social scientists due to its wide range of negative societal effects and inherently complex nature. It would be impossible for any single study to account for the vast array of the ever-changing variables that influence income inequality.[1] Furthermore, this inherent complexity makes it difficult for scholars to pinpoint causal relationships between specific independent variables related to the phenomenon. All of the variables involved with the problem influence each other in one way or another. Moreover, the data on the subject is often incomplete and convoluted by the differing ways in which income, wealth, unionization, and government policy are collected and measured by state governments and intergovernmental organizations. Government agencies and other organizations may have political motivations for leaving some portions of the data left out and in some corrupt areas, the numbers may simply be made up to fit a specific narrative they wish to project to the public.

An analysis of income inequality can be done through economic, political, and sociological perspectives. However, this study will narrow its focus and utilize a specific perspective in order to take an in-depth look at one particular area of the phenomenon. For the aforementioned reasons, this study will generally focus on union density and the government's

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While this study focuses on unionization and the government's economic policy choices in relation to inequality, factors such as technological innovation, economic globalization, changes in the labor market, race, and gender all potentially influence the problem.[1]

economic policy choices as determining factors in its quantitative and qualitative analyses.

Coinciding with this development of economic inequity, rates of public and private labor union membership and the number of workers covered by collective bargaining has sharply plummeted in the United States. With this drop in membership, the political and organizing ability of unions has been decimated in the United States. In general, labor has experienced a significant decrease in its ability to exercise influence within the political, cultural, and economic spheres of the United States.

II. Rising disparities in income

Over the last four decades, the United States has experienced a sizeable increase in levels of income inequality. Scholars in a wide range of academic disciplines have published numerous academic papers and studies examining these economic inequalities and the influencing factors behind them. The following paper compounds upon these works and tends to focus on labor union membership and the policy choices of the United States government as significant factors in the escalation of income inequality and its related social ills in the United States.

A substantial increase in the levels of income inequality in the United States over the past 40 years is a well-documented phenomenon across a number of social science disciplines (Frank, 2009). Current scholarly literature has noted that top income shares of the wealthiest households have seen a great upturn in the last 30 or 40 years in the United States (Atkinson, Piketty, and Saez, 2011). In fact, from 1976 to 2011, households that fell within the top one percent of the income bracket captured 58 percent of the country's real economic growth and much of that growth in income has been concentrated in the top .01 percent of the bracket (Atkinson, et al.). The Gini Index, the most widely used measure of a nation's family income inequality, increased from 0.398 to .47 within the United States over that same time period (Atkinson, et al.)[2]. Further, Heathcote, Perri, and Violante (2010) document an escalation of wage and income inequality from 1976-2006 and find that it is likely to continue to worsen without redistributive government intervention, increases in labor union density, or substantive changes in the economic market. According to a Congressional Budget Office Report, the top 1 percent of the population's households real after-tax household income grew by 275 percent between the years 1979 and 2007 (CBO, 2011). Over this same time period, the share

[2] As measured by the Gini Index, a country with a 0 would have a perfectly equal distribution of income while a country with a 1 would be perfectly unequal.

of household income for the top 1 percent of earners rose by around 9 percent (CBO, 2011). By the year 2013, just the top 1 percent of households earned nearly 21 percent of the entire national income before taxes (Frank, 2009). In contrast to this significant income growth at the top, the 60 percent of the population that comprises the middle of the income scale and the 20 percent making up the lowest saw growth of 40 percent and 18 percent respectively between 1979 and 2007 (CBO, 2011). Nearly every widely-used method of measuring income inequality shows extensive increases of inequality in recent decades across the world. However, the United States is exceptional compared to other similar nations. Furthermore, income inequality and disparity between the top segment of society and bottom segment has not been this severe in the United States since the 1920s (Atkinson, Picketty, and Saez, 2011). The trends that have recently emerged resemble those present during the gilded age, a time marked by wealth disparity and frequent violent labor disputes.

Unions and laissez-faire economic policies

Despite record high levels of worker productivity over the last three decades, income inequality in the United States has continued to expand at an increasing rate. In fact, recent literature shows that American workers are significantly more productive now than in previous times of lower economic inequality. Certainly, improving new technologies have contributed to this rate of enhanced productivity. Nevertheless, a staggering amount of wealth and resources have been created as a result that the typical worker has not benefitted from as in times past. A steady increase of labor output over the last 30 years has not resulted in a more even income distribution partially due to the stagnation of wages over this period of time (Howell, 2013). Labor has become more profitable than ever as a result of this increase in productivity, yet it is seeing an increasingly small portion of the national income.

In the year 2010, the share of labor income in the United States captured by the bottom 50 percent of the population was merely 25 percent while the top 10 percent of the population garnered half of all labor income (Atkinson, Piketty, and Saez, 2011). This fact demonstrates that a large wealth transfer from the bottom and middle portions of the country to the top echelons occurred. More striking is the fact that the top 1 percent of households captured 12 percent of all labor income (Atkinson, Picketty, and Saez, 2011). To provide comparative context with the United States, the top 10 percent of households in Scandinavian countries captured around 20 percent of labor income, on average (Atkinson, Picketty, and Saez, 2011). Despite similarities in GDP per capita and overall levels of wealth, the United States and Scandinavian countries have a significantly different approach towards economic policy, unionization, and the problem of income inequality. Numerous measures suggest that the United States has one of the most unequal distributions of income and lowest union densities in the developed world. Additionally, economic policy in the United States tends to value individualism and a more laissez-faire approach. Smeeding (2004) notes that social insurance systems and economic safety nets provided by the United States government are weak compared to the rest of the world's industrial countries. This lack of social spending is a symptom of adherence to laissez-faire economics and a disregard for income inequality's corrosive effects. Figure 1 below graphically represents top tax rates in the United States over a period of 64 years.

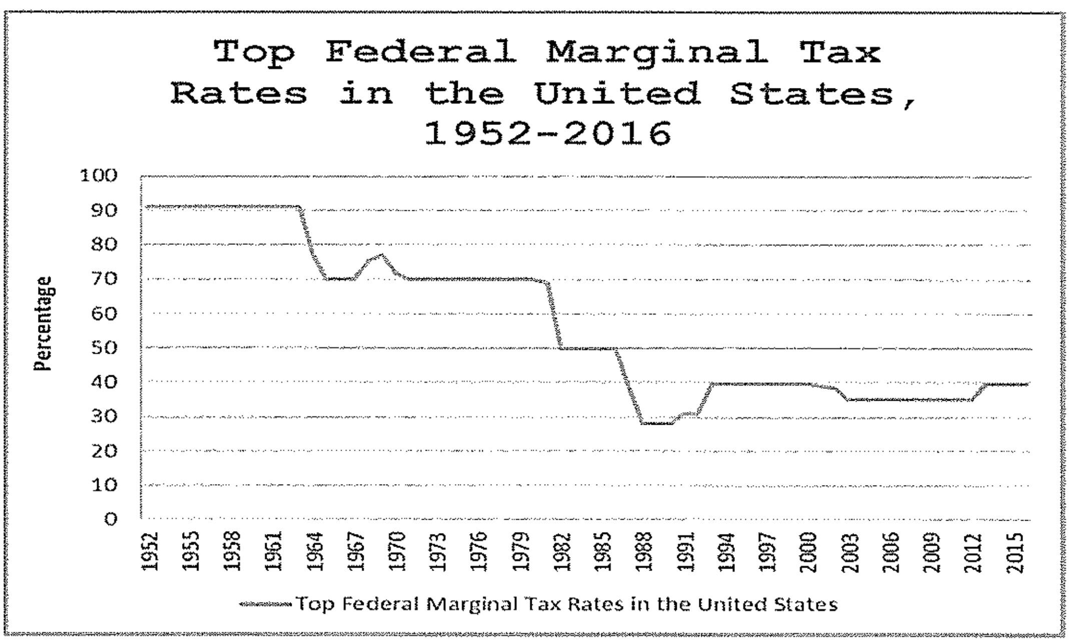

Figure 1: statistics computed by author from data taken from the IRS, historical statistics of income. https://www.irs.gov/uac/soi-tax-stats-historical-table-23

In general, the Scandinavian countries rank as some of the most egalitarian societies among the industrialized parts of the world (Fochesato and Bowles, 2015). These countries that consistently display high rates of labor union density, public intervention in the economy, and progressive taxation schemes tend to produce more economic equity than countries with a more laissez-faire or market-oriented economic approach (Foschesato and Bowles, 2015). Previous research on the problem suggests that the aforementioned policy characteristics of a country potentially influence income inequality (Smeeding, 2004).

A large portion of the U.S. population receives most of its income from their earned wages and salaries. As American labor unions' membership levels continue to dwindle, their ability to organize for the purpose of winning income-related concessions for the middle and lower portions of the income bracket wanes. This cycle helps to reinforce the continuing rise of inequality. In addition to this decline of union membership, the implementation of laissez-faire economic policies by the U.S. government and the resulting financialization of the economy also play a role in keeping the average worker's earnings at a low level. According to Lin and Tomaskovic (2013), financialization has been at least a partial force behind the growth in income inequality. The economy's reliance on financial income and obtaining capital through financial channels has reduced labor's share of income and potentially contributed to the drop in unionization in the United States. Due to a shift in focus from production to financial avenues, firms' top officers have seen increased compensation and obtained greater leverage in wage negotiations over labor union members and the typical non-unionized worker (Lin and Tomaskovic, 2013). In 2016, the average compensation for the CEOs of the largest 500 companies in the United States was around 12.2 million dollars. Compared to the typical American non-management worker, top CEOs earn about 300 times more per year (Larcker, Donatiell, and Tayan, 2016). This shift towards a financial economy, where workers and labor unions are increasingly left out of negotiations, has expedited the fall of union membership levels and labor power in the United States.

Another potential influencing factor, neoliberal economic policy and the resulting austerity and tax cuts have contributed to rising income inequality in the United States (Western and Rosenfeld, 2011). This austerity reduces the amount of resources that a government uses on social spending and protection. Programs such as unemployment benefits, pension funds, and family benefits have a tendency to be significantly reduced under austerity regimes. Proponents of free-market orthodoxy and laissez-faire economic principles openly admit that such policies raise income inequality levels (Howell, 2013). However, they contend that growth resulting from market incentives outweighs the plethora of negative consequences that substantial inequality has on a country.

Howell notes that over the past forty years, the private sector of the economy has largely been liberated from regulation and government interference while nondefense government spending has significantly decreased (Howell, 2013). An example of this was the Airline Deregulation act of 1978 signed into law by Jimmy Carter (Jimmy Carter, 1978). This legislation was created and put into law in order to reduce the significant levels of public intervention and federal government regulation within the aviation industry. This legislation was developed with the intent of increasing market competition within the industry and contributing to an overall reduction of inflation within the country. Similarly, Jacobs and Myers find that numerous measures of income and economic inequality accelerated in correspondence with the neoliberal or laissez-faire economic policies arising after the election of former President Ronald Reagan in 1980 (Jacobs and Myers, 2014). Once in office, the administration expressed that the main economic goals of its first policy program were to cut tax rates, reduce spending, lower inflation, and deregulate important industries such as banking and energy (Meltzer, 1998). As a result, government rules on mortgage lending, savings and loans transactions, and price controls on energy were significantly curtailed or outright eliminated. The United States' shift towards laissez-faire economics has spanned decades and been carried out by politicians from both major parties.

As noted by Howell (2013), income inequality has dramatically increased coinciding with the widespread implementation of deregulation, austerity, and a shift towards neoliberal "free market orthodoxy" in U.S. economic policy. In 1996, a welfare reform bill, The Personal Responsibility and Work Opportunity Reconciliation Act, was signed into law by then President, Bill Clinton (Ehrenfruend, 2016). This law reshaped welfare assistance with laissez-faire principles in mind. Welfare aid was turned into a system of block grants for states, prevented any person from getting cash payments for greater than five years over a lifetime, and established tough work restrictions and stricter program mandates in general (O'Connor, 2000).

Free-market orthodoxy and decreasing trade union density greatly reduced labor union's political power as well as the prevalence of egalitarian government policies. It appears that a loss of political power resulting from declining membership limited American labor unions' ability to influence government policy choices and engage in effective bargaining with employers. Stronger unions may have been able to balance the effects of these laissez-faire economic policies, however, reductions in density and labor's dwindling influence in the public sphere meant that unions could no longer slow the growth of income inequality (Jacobs and Myers, 2014). Prior to the shift towards laissez-faire economic policy, unions may have retained enough influence to keep the growth of income inequality at bay and even reduce it. The line graph below depicts the change in the share of national income captured by the top 10 percent of the population in comparison with union membership in the United States.

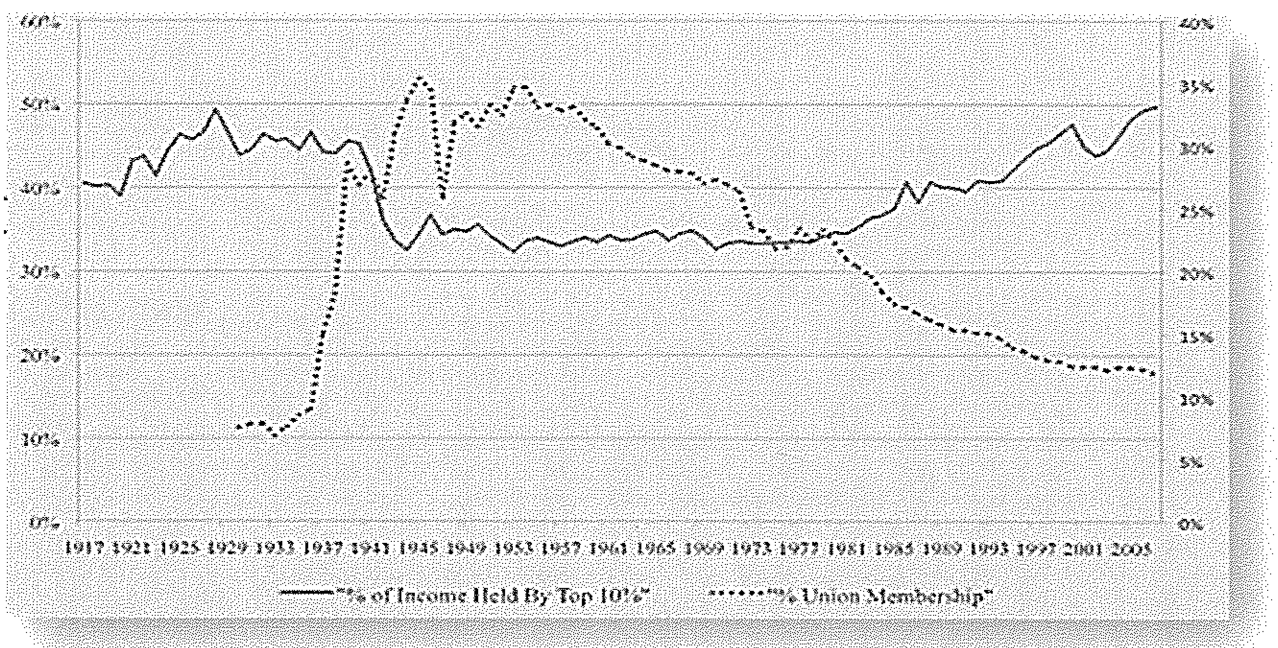

Figure 2: Source: Piketty and Saez. The Quarterly Jounral of Economics. Feb. 2003. The orginial line graph went to 1998 and was subsequently updated to 2005 by Saez.

The intersection of labor unions and income inequality has been of great interest to researchers in recent years due to the fact that two of the countries with the largest declines in unionization (the U.S. and U.K.) experienced the most significant increase in measures of income inequality (Card, Lemieux, and Riddel, 1). Compounding on this idea, (Card, Lemieux, and Riddel, 1984) found that "the inequality-reducing effects of unions are quantitatively larger than the inequality-increasing effects". Numerous quantitative studies have arrived at the conclusion that falling unionization rates played a contributing factor in the sharp rise of inequality in the United States during the 1980s. In support of the previous research on the topic, Western and Rosenfeld's findings indicate that falling union membership levels can effectively explain anywhere from a 1/3 to a 1/5 of the increase in wage and income inequality in the United States in the Post-War period (Western and Rosenfeld, 2011). Nevertheless, the number of people in private-sector unions has continually gone down over the last three decades.

Unionization rates in the private sector had fallen by up to 50 percent during the last half of the 20th century, with greater declines for America's youth and the less-educated, the poorest sections of society (Card, 2001). In contrast to the prevailing theories of the decline in American union membership due to political forces, technological change and mechanization of factories have also been pinpointed as significant. According to Dinlersoz, a large portion of labor union decline can be attributed to revolutionary changes in modes of production and rapid technological innovation (Dinlersoz and Greenwood, 2016). Prior to serious and large-scale industrialization and improvement in technology, few manufacturing jobs existed in the United States. As this composition of the labor market started to change, labor unions in the manufacturing sector started to gain traction and union membership levels exploded. However, technology progressed to a point where less and less laborers were necessary in the manufacturing factories, thus unions started to again become insignificant and density drastically fell.

Over a hundred years ago, it is estimated that around 10 percent of the non-agricultural workforce in the United States belonged to some form of labor association or union (Dinlersoz and Greenwood, 2016). At this point in history, the top 10 percent decile of the population controlled roughly 41 percent of the total national income. By 2010, private sector union membership levels had fallen just below 7 percent while the top income decile held nearly 46 of all income. Card (2004) establishes that much of this decline in union membership has disproportionately fallen on low-wage workers, further worsening the consequences of income inequality on the most vulnerable citizens of the country. In addition, around 11.9 percent of workers belong to a public or private union now, representing only a third of the levels reached during unions' peak year, 1955 (Fiorito). The available data and surveys clearly establish that union membership levels have drastically fallen over the last four to five decades.

This well-documented fall in unionization in the United States is important for various reasons. As reported by Hyclack, a higher percentage of workers unionized typically results in lower levels of income and wage inequality within a country. Further, labor union membership boosts political participation among poorer individuals and workers in the bottom 50 percent of the income bracket. The poorer sections of the United States tend to be more supportive of redistributive economic policies, which have been implicated in reducing inequality (Kerrissey and Schofer, 2013). In addition, when union levels are high, they have more political power that is in turn used to support left-of-center movements and political parties that view income inequality as harmful to society. Such evidence may serve to explain why "the percentage of the workforce belonging to unions is associated with a more equal distribution of family income" (Hyclack, 214). Additionally, extensive evidence exists showing unionization rates are positively associated with wage equity for nonunion workers (Western and Rosenfeld). Higher union levels not only result in lower levels of wage and income inequality among union members, but in the United States as a whole due to collective bargaining agreements and the tendency for union wage levels to put pressure on non-union wages within an industry. Studies completed by Kristal support the findings of Western and Rosenfeld that labor unions plays at least some direct role in increasing income equality within any given country (Kristal, 2010). Furthermore, Kerrissey and Schofer find that unions are able to impact the distribution of income and wages in this way largely due to their ability to influence the political process and resulting economic policies. A large public sector within the also tends to promote income equality (Kristal, 2010). This is due to the fact that the public-sector tends to have noticeably higher rates of union membership than the private-sector in the United States. In 2016, 34.4 percent of public-sector employees belonged to a union, a rate five times higher than people employed by private organizations (BLS, 2017).

A sharp decline in union membership and the resulting erosion of labor's political power started in the middle of the 1970s and carries on through the present day (Dinlersoz and Greenwood, 2016). Decreasing political support for unions among the general public and the subsequent repeal of laws sympathetic to unions expedited the decline of labor's power. In 2014, employees at a Volkswagen plant in Tennessee voted against joining the United Auto Workers (UAW), which would have created a unionized manufacturing plant in Chattanooga (DePillis, 2014). At this time, Volkswagen was actively encouraging the workers to organize and form worker councils similar to those found in European Volkswagen plants. Even with initial employer support, a union was not formed. In this case, it appears that fierce political opposition to a unionized workforce from Tennessee's highest-profile politicians and low-levels of support for unions amongst the public played the decisive role in blocking the UAW. U.S. Senator Corker threatened to repeal tax incentives for the company if the plant voted to unionize and explicitly promised that new jobs and large investments would follow a no vote.

In addition, the 1947 Taft-Hartley amendment enacted by Congress permitted individual states to pass legislation that outlawed the concept of a union shop created by the passage of National Labor Relations in the 1930s (Ellwood and Fine, 1987).

Legislation passed at the state-level that incorporates right-to-work laws makes it so that an employee in a unionized workplace may not be required to join that specific union or pay any fees towards the cost of union representation (Ellwood and Fine, 1987). By 2017, 28 states have enacted some form of right-to-work statute into official law. This development is one example of the political setbacks endured by labor unions over the last four decades. In support of Card's findings, Fiorito argues that labor and trade unions are a shadow of their historical levels due in large part to political and employer opposition to unionization (Fiorito, 2012). While a number of contributing factors exist, recent literature shows that levels of unionization and economic policy choices made by governments play an extensive role in determining how income is distributed in the United States and must be studied further to understand their full effects.

III. Explaining Income Inequality in the U.S.

Briefly summarized, the central hypothesis advanced in this paper is that a steady decline in labor union membership has made a significant contribution to the rising levels of income and economic inequality within the United States. In addition, it is hypothesized that the widespread implementation of government policies rooted in laissez-faire, free-market economic principles has influenced the rise of income inequality in the United States. The rate of labor union membership, the implementation of laissez-faire economic policies, and their intersection act as the independent variables in this study while the level of income inequality in the United States serves as the dependent variable.

It is expected that the relationship between the first independent variable, union membership, and the dependent variable, income inequality, is negative. As union membership levels increase, I hypothesize that levels of overall income inequality reduce. For the second independent variable, I predict that a higher prevalence and greater degree of implementation of laissez-faire economic policies tends to contribute to increases in levels of income inequality. It is important to note that labor union membership and the prevalence of laissez-faire economic policies are intertwined variables that frequently impact each other in a variety of ways.

Labor unions

According to Visser, labor unions can be defined as organizations consisting predominantly of workers and employees that negotiate wages, working conditions, and benefit structures on behalf of its members (Visser, 2006). Unions can be comprised of either private-sector or public-sector employees. The purpose of a union is to protect the interests and rights of its membership. Typically, unions engage in collective bargaining, work strikes, and individual negotiation with the employers of a particular industry (Visser, 2006). The term trade union is seldom utilized in this work but can be interchangeable with the term labor union in many instances. In addition to direct negotiation with management and administrations, unions frequently lobby on behalf of specific political causes and attempt to mobilize voters during election and ballot campaigns. While the political allegiance of union members varies from individual to individual, there is a common pattern of support that emerges within labor union leadership. In general, unions tend to support political parties that want to reduce economic inequality through redistributive means.

Laissez-faire economics

In the French language, laissez-faire literally means "allow to act" or "let be". The concept puts a great emphasis on the merits of economic individualism within a society (Webb, 1926). In theoretical terms and in relation to this study, a government that utilizes a laissez-faire approach is attempting to maintain the autonomous character of the economic order, free-market capitalism. Laissez faire represents an economic tendency favoring minimal governmental interference in the economic affairs of society. A Laissez faire economic policy is associated with low rates of taxation, a rejection of redistributive government programs, freedom from regulation, freedom from international trade barriers, and a general separation of economics and the government. This belief system contends that human-beings acting in their own economic and political self-interest results in a balanced structure of economic production and exchange with mutual benefit for all of society. According to this approach, government should leave individuals alone unless their social liberties are being infringed upon. The duties of a government do not extend upon enforcing contracts, protecting the population against foreign attack, and maintaining the general order and peace within a country. It is important to note that laissez-faire economics is closely related to and sometimes used interchangeably with the terms neoliberalism and free-market orthodoxy.

Income Inequality

Income inequality is defined as a measure of the distribution of material resources across society. This indicator is based on quantitative sets of data that describe the disposable income of households (OECD, 2011). Disposable income is comprised of the sum of personal earnings, public cash transfers, and capital income with taxes and other public contributions deducted. The most widely-used method of measuring income inequality levels is through the Gini Index or Coefficient. However, a wide variety of statistical measurements exist such as Interdecile ratios, and the Pareto Index. While a number of different methods are employed in this paper to explore the problem, the Gini Index and Interdecile ratio are utilized as the two dependent variables in order to rigorously test the connection between union membership levels and inequality.

High levels of income inequality are linked to a wide array of negative consequences for political systems and society as whole. Inequality is associated with lower levels of social mobility (Lenzner, 2012), a decrease in social and civic participation on the part of citizens (Lancee and Werfhorst, 2012), and lower levels of trust within a population (Jordahl, 2007). In addition, as a country's income inequality levels increase, voter participation and turnout tend to go down (Geys 2010 and Solt 2008, 2010). As a result of these destabilizing impacts, social cohesion and the overall health of democracy are threatened. These links are by no means an exhaustive list of income inequality's impact on human populations; however, this overview provides us with valuable insight into the nature of its impacts on society.

IV. Research Design

The study explores and analyzes the relationship between unionization and its intersection with laissez-faire economic policies and income inequality in the United States. In the process of investigating the effects of these variables on levels of income inequality, this study employs a number of distinct strategies. A mixed-method research design is utilized that incorporates both quantitative measures and a qualitative, case-study approach. First, statistical comparisons of trade union density levels and reliable measures of income inequality such as the Gini Index and the Inter-decile income share ratio are utilized to highlight any correlations or associations that exist between the concepts of union membership and income inequality. Following the quantitative portion of the study, the "Kansas experiment" is analyzed from a qualitative perspective to shed further insight on the connections between laissez-faire economics, unions, and income inequality.

It is important to note that the Gini Index and Inter-decile ratio are widely accepted and used by scholars, journalists, and intergovernmental organizations alike (OECD, 2011). These two methods are critical to measuring levels of income inequality in well-developed and heavily industrialized nations. Furthermore, the use of two distinct quantitative measures provides a broader picture of the problem and enables this study to analyze the relationship between unionization and income inequality from a range of different perspectives. The use of quantitative and statistical methods creates an important foundation of empirical, statistical evidence from which the problem of inequality can be further explored.

First, the Interdecile ratio is a method that compares disposable income between the different income groups within a country. In this study, the P90/P10 ratio is utilized. This specific ratio compares the share of total disposable income controlled by the highest 10 percent decile of households to the share of total disposable income controlled by the lowest 90 percent decile of households. Next, the Gini Index method measures the degree of inequality in a distribution of family income within a given country. The Gini Index is a summary measure of income inequality. It is based on the difference between the Lorenz curve (the observed cumulative income distribution) and the notion of a perfectly equal income distribution. A Gini Index score of zero represents perfect equality of income distribution while a perfectly unequal country would score a 1. Both of these measures are representative of the dependent variable in the following statistical analysis.

Finally, trade union density corresponds to the percentage of all workers in a country which are members of a trade union (labor and professional unions). The Interdecile ratio and Gini Index are two different ways of measuring the dependent variable of the study while the trade union density is representative of the independent variable. The data used for these comparisons was pulled from resources made available by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics. Additionally, the data necessary for Trade union density is compiled through annual surveys of the United States population completed by the U.S. Census Bureau. This data on union membership and density was subsequently put into a dataset by the Bureau of Labor statistics, providing a density percentage for the country. The two measures of income inequality used in the quantitative portion of the paper are concepts derived from a comprehensive analysis of tax and earnings information collected by the United States government.

The Interdecile P90/P10 Ratio and union density

The available data on trade union density levels and the Interdecile income share ratio in the U.S. are compared every year from 1983 to 2015, resulting in a total sample size of 32 observations. The scatterplot in figure one depicts a fairly strong negative correlation between the trade union density and represents an increase in overall income equality. The trade union density data utilized remained unchanged from the previous figure in this correlation analysis. When the Gini Index and trade union density data are plotted and compared, they exhibit a fairly noticeable negative correlational relationship which appears to be stronger than the correlation between union density and the P90/P10 Interdecile ratio. The scatterplot indicates that an increase in rates of trade union density or unionization is correlated with a decrease in the value of the Gini Index. In other words, an increase in the amount of American workers that are part of a labor union coincides with a more equitable distribution of income across the United States' population.

It is important to understand that a correlation between trade union density and the two measure of income inequality cannot prove causation. Proving a direct causative relationship between variables requires a high-degree of certainty that can only be accomplished through experimentation and the controlling of every possible independent variable. What these correlations provide is a deeper insight into the problem beyond theoretical examination of the problem. Taken together, the Gini Index and P90/P10 incorporate both specific and broad elements of the inequality problem. An approach that utilizes numerous methods of measuring inequality can provide a better understanding of the concept as a whole. Both dependent variables exhibit a negative relationship with the independent variable.

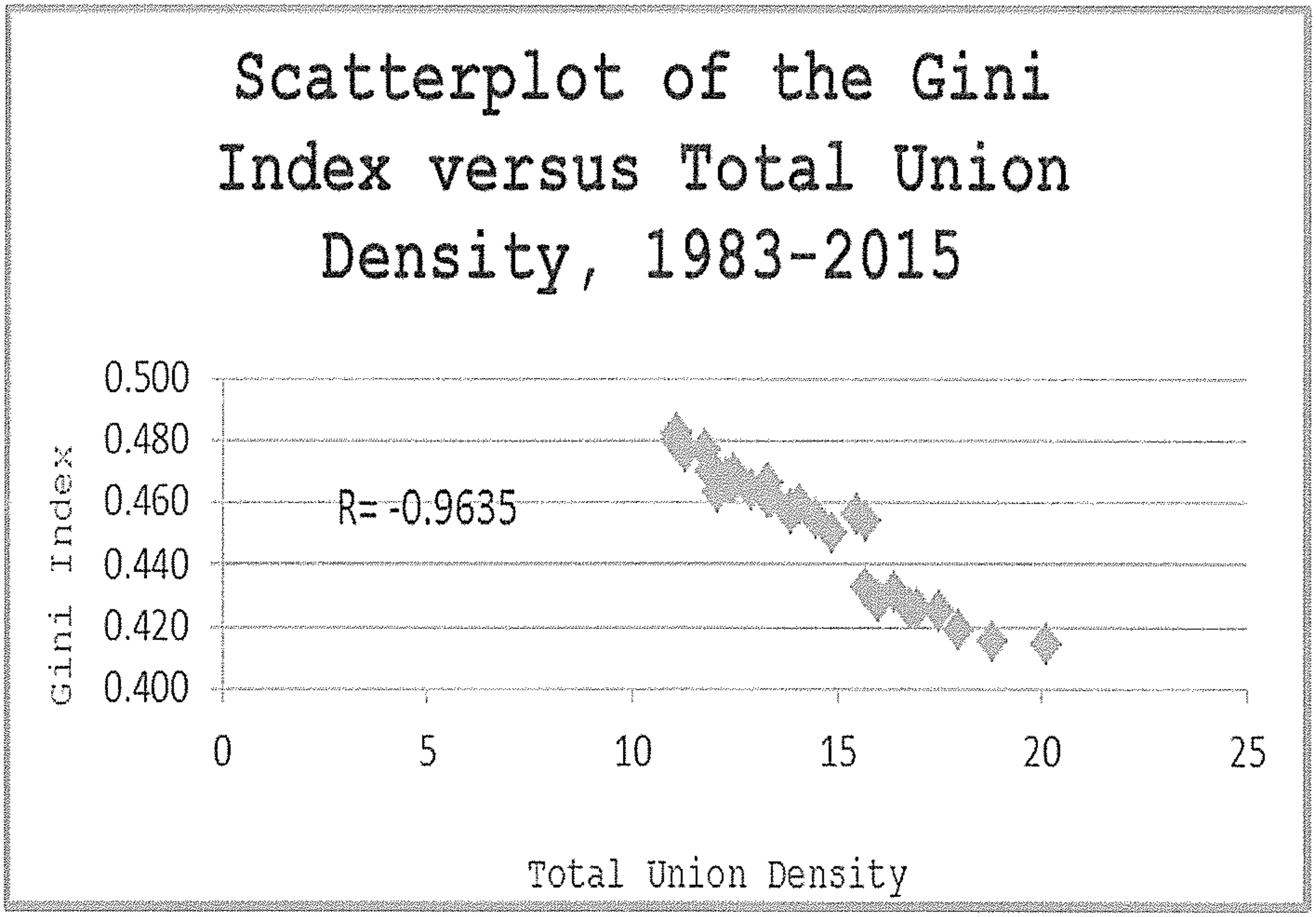

Figure 4: author created statistics with the use of Bureau of Labor Statistics data on trade union density and U.S. Census Bureau data on the Gini Index.

The Kansas Experiment

In addition to union membership, it is hypothesized that economic policies are an influencing factor related to income inequality. Shifting the focus away from unions, a qualitative case-study approach is used to explore this second hypothesis in more depth. In this section, the impact of laissez-faire economic policy choices in Kansas are analyzed and contrasted with the policy-orientation of Hawaii.

In 2010, Republican Sam Brownback was elected governor of Kansas as a part of the Tea-party wave in American politics with the promise of implementing sweeping economic and tax reform in the mid-western state. These policy changes were largely based on laissez-faire principles and free-market orthodoxy. The economic reforms focused on the implementation of fiscal austerity, the drastic reduction of taxation levels, and a decrease in state government regulations and employment. Starting in 2011, a new policy program aimed at completely removing the public-sector from the economic affairs of the state was enacted. Following the election of Brownback, the personal income tax structure was altered to include only two levels, 3.0 and 4.9 percent, standard tax deductions for households were significantly increased, and around 330,000 businesses were completely exempted from state income taxes (Rickman and Wang, 2017). In addition, the state rejected the Medicaid expansion of the Affordable Care Act and privatized its delivery, requirements for welfare payments were made more stringent, and state agencies were slashed across the board.

With the support of conservative super-majorities in the state's legislative bodies, a "real live experiment in supply-side economics" (Berman, 2015) was carried out by Governor Brownback and his administration. In the words of its proponents, this economic policy program was devised with the intention of creating a business-friendly environment in Kansas that would "act as a shot of adrenaline" to an economy still struggling to recover from the Great Recession of 2008 (Suellentrop, 2015). The widespread tax and spending cuts were justified as a way to create thousands of new jobs for Kansas residents and spur unprecedented economic growth in the private-sector. Through the implementation of laissez-faire oriented policies, competition and efficiency would increase, benefitting all sections of the state's population. Brownback's administration argued that the resulting creation of wealth and prosperity would trickle-down throughout the economy, creating a tide that would lift all boats. Since the start of this experiment, Kansas has not seen either exceptional rates of job or economic growth, however, income inequality within the state continues to worsen. In fact, some new research implicates reduced spending by the government, a general laissez-faire approach, and uncertainty as causative in some of the negative economic multipliers witnessed (Rickman and Wang, 2017). From 2011 to 2016 the Gini Index of Kansas rose from 0.44 to 0.46 (US

Census Bureau, 2016). Further, the state's budget deficit continues to grow as government revenues fall short of already tightened expenditure levels.

Union membership and policy choices in Kansas and Hawaii

Compared to the rest of the United States, unions in Hawaii are powerful and able to exert influence on the economic policy choices of the state. Over the past ten years, the percentage of the Hawaiian workforce belonging to a labor union was more than double the average for the rest of the country in 2016. Further, the average union density for Hawaii from 2006-16 was 22.27 percent, 14.86 percent higher than the state of Kansas specifically. Over the last ten years, Kansas has had a union density of around 7.41 percent, well below the average of the United States (BLS, 2017). It is important to note that a weak labor union movement in a state is correlated with regressive tax policies (Hogler, Hunt, and Weiler, 2014). Coinciding with this comparatively high rate of unionization, the top 10 percent of the income bracket in Hawaii controlled only 13.36 percent of the state's total income and the top 1 percent's share of income growth has expanded by 32.9 percent since 1979 on average (Tani, 2015). In contrast, Kansas' top 1 percent has seen a 50.3 percent average expansion in the share of income growth they captured over the same time period contributing to the rise in state's Gini Index (IRS, Picketty and Saez, 2011). The Gini Index in the state remained stagnant at 0.43 from 2011 to 2016 (US Census Bureau, 2016). It appears that labor union influence on the policy process and a more relaxed stance towards government intervention in the economy played at least some role in keeping income inequality fairly low. Furthermore, the state government of Hawaii did not carry out nearly as much laissez-faire oriented reforms as did the administration and legislative bodies of Kansas. Tax rates are higher, Medicaid expansion was fully implemented, and a more egalitarian approach to policy was pursued in general. However, it is important to mention that a state such as New York has high rates of unionization, yet exhibits greater than average rates of income inequality. This fact highlights the inherent complexity and difficulty in finding direct causation between independent variables and inequality.

V. Conclusions

Through the use of both quantitative and qualitative analyses, this multi-method research paper examined the relationship between labor union membership, laissez-faire economic policy, and income inequality. Economic, political, and sociological perspectives were incorporated to provide a broad view of the interconnections between inequality and a number of independent variables. Measures such as the Gini index and Interdecile ratios were used to find correlations between unions and inequality while historical documents illuminated the connections between policy and the income distribution of the United States. Answering the question of what causes income inequality within industrialized countries is a complex task, making it difficult to pinpoint definitive, causal relationships.

Despite this complexity, the data analysis and qualitative theory utilized in this study support the two original hypotheses proposed. It appears that a higher level of union density was strongly correlated with a more equitable distribution of income. Further, widespread implementation of laissez-faire economics over the last five decades was found to be associated with a sharp rise in levels of income inequality in the United States. When free-markets are permitted to run their course unregulated and unions are unable to exercise power, the upper classes in society tend to see increasing shares of the national income. It is important to note that a laissez-faire policy orientation and unionization are interconnected variables that frequently influence one another.

Due to the large array of variables involved with the question of income inequality, this study was somewhat limited

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