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Inequality and Institutions in 20th Century America

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ABSTRACT

We provide a comprehensive view of the worsening income distribution in the United States in this paper, contrasting conditions since 1980 with those in earlier postwar years and arguing that income distribution in each period was strongly shaped by a set of economic institutions. The postwar years were dominated by unions, the negotiating framework set in the *Treaty of Detroit*, progressive taxes and other government regulations including a high minimum wage that pushed toward income equality. More recent years have been characterized by reversals in all these dimensions, in an institutional pattern known as the *Washington Consensus*. Other explanations for income disparities including skill-biased technical change and international trade are seen as factors operating within this broader institutional story.

Key words: Income inequality, Treaty of Detroit, Washington Consensus

JEL Codes: J31, J53, N32

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I. Introduction

Economic growth is valued as the best way to raise living standards. In the famous words of President Kennedy, a rising tide lifts all the boats. But while a rising tide may lift all boats, rising national product may not raise everyone's income. Many observers have noted the growing inability of American workers, including college graduates, to capture a significant piece of productivity gains.² From 1989 to 2004, non-farm business output per hour rose by 43.6 percent. Over the same period, the median annual earnings of male college graduates who worked full time rose only from \$51,019 in 1989 to \$53,835 in 2000 before falling back to \$51,111 in 2004 (in 2004 dollars).³ Adjusting these figures for the consumer/producer price differences and the value of fringe benefits closes the gap between productivity and wage growth modestly, but the weak ability of the average college graduate to claim a share of recent productivity growth is inconsistent with strong labor demand for most well-educated workers.⁴

This lack of progress among workers should be contrasted with the growing concentration of income at the very top of the income distribution. Thomas Piketty and Emmanuel Saez estimate that the share of all income claimed by top 1 percent of tax returns – about 1.4 million returns – rose from 9.1 percent in 1985 to 16.2 percent in 2004.

² See for example, Dew-Becker and Gordon (2005), Krugman (2006), Pearlstein (2006, a, b), and Tritch (2006),

³ Earnings figures from www.census.gov.

⁴ If productivity is deflated using the PCE deflator rather than the GDP deflator, the rate of productivity growth *increases* slightly to 45.1 percent. The value of fringe benefits can be approximated by inflating 1989 and 2004 median earnings by the ratio of (Supplements to Wages and Salaries/Wage and Salary Disbursements) from the National Income and Product Accounts. This adjustment increases 1989-2004 growth from .1percent to 2.5 percent.

Among tax returns that report positive wage and salary income, the share of wages and salaries claimed by top 1 percent rose from 7.2 percent in 1985 to 11.2 percent in 2004.⁵

The precise time path of this increasing concentration was shaped in part by changing tax laws (Feenberg and Poterba, 1993, Gordon and Slemrod, 1998).⁶ But the Piketty-Saez series combined with other data⁷ indicate that the largest share of recent labor productivity gains are accruing to the top of the income distribution leaving most workers at every education level with “stagnant wages.”⁸ Since labor productivity measures the average value of output produced per hour of work, these trends are equivalent to saying that most workers are claiming a declining share of average output per worker as their compensation.

To formalize this idea and place it in historical context, we construct ratios of the following form:

- (1)
$$\frac{\text{Median Annual Compensation of 35-44 Yr.-Old Males with a Bachelors Degree}_T}{\text{Annual Labor Productivity}_T}$$

⁵ See Piketty and Saez (2003) and the updating of their figures to 2004 on Saez’ website <http://elsa.berkeley.edu/~saez/> (URL).

⁶ Reynolds (2006) argues that the growth in income concentration was entirely an artifact of 1980s tax law changes. In reality, the concentration of top incomes is being driven by a concentration of an increase in top *wage* incomes that began the 1970s, accelerated briefly around the time of the 1986 tax changes, but continued through the 1990s even after top bracket rates were increased in 1993. See Saez (2004) for a detailed exposition of these trends.

⁷ For example, Frydman and Saks’ historical estimates of a sample of corporate executive compensation (including the value of stock options.) shows real median growth of 10 percent in the 1960s, 13 percent in the 1970s, 49 percent in the 1980s and 83 percent in the 1990s. Frydman and Saks (2005), table 4.

⁸ Stagnant wages pose raise problems for economic mobility and flexibility that we detail in Section IV.

where Bachelors Degree_T (hereafter BA_T) refers to college graduates with no post-graduate training in year T.⁹

In (1), the numerator measures median annual earnings and fringe benefits of the group in question – in this case 35-44 year-old male BA's - while the denominator measures the value of output produced in a year by the average full-time, full-year worker in the economy. (Details of the calculations are explained below). We can think of (1) as an index of a group's bargaining power – the share of output per worker that a representative group member captures in compensation.

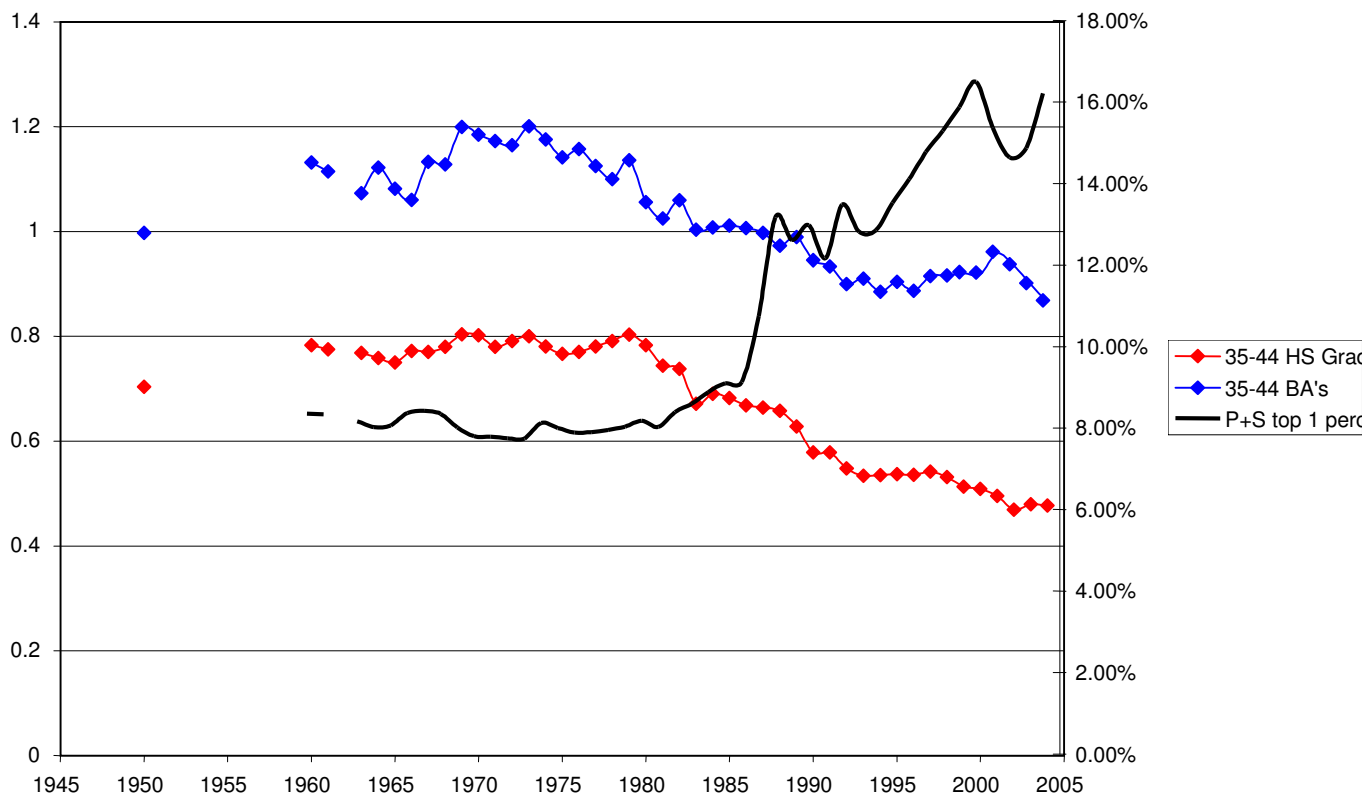
Figure 1 displays this bargaining power ratio (BPR) for 35-44 year-old male BA's and male high school graduates and the Piketty-Saez estimate of the top 1 percent personal income share for the past 50 years.¹⁰ Since the late 1970s, the median compensation of both the high school and college graduates have represented falling shares of output per worker. Since the mid-1980s, the share of all personal income reported by the top 1 percent of taxpayers has grown dramatically. The opposing movements of the two kinds of series since around 1980 reveal an American “scissors crisis.”¹¹

⁹ The reader may question whether (1) should be adjusted for differences in inflation between consumer prices and GDP prices. Such differences can be important over short periods, but over the 55 years we examine, *total* GDP inflation exceeded total PCE (consumer) inflation by 2.3 percent.

¹⁰ High school graduates include persons with GED's in these data. Th

¹¹ Soviet Russia had the original Scissors Crisis in the early 1920s when industrial and agricultural prices diverged. See Gregory 1994, pp. 92-94.

Figure 1
Bargaining Power Ratios for 35-44 Male BA's and HS Graduates
and Piketty and Saez Top 1 Percent Share (right axis)



We argue in this paper that a significant part of these trends in inequality is explained by changes in economic institutions. Following the literature on economic growth that emphasizes the role of institutions in economic outcomes, we argue that institutions and norms affect the distribution of economic rewards as well as their aggregate size. Our argument leads to an explanation of earnings levels and earnings inequality in which skill-biased technical change, trade and related factors function within an institutional framework. Unlike some critiques of skill-biased technical change (e.g. Card and DiNardo, 2002), we do not challenge the existence of technology's effects on

labor demand. Rather, we argue that technology and trade's impacts are embedded in a larger institutional story.

Previous studies have examined relationships between inequality and measurable institutional variables including the rate of unionization and the minimum wage (Bound and Johnson, 1992; DiNardo, Fortin and Lemieux, 1996; Autor, Katz and Kearny, 2005, Lee 1999). Other authors have focused on historical narrative (e.g. Katz and Lipsky, 1998; Osterman, 1999). In this paper, we combine data and history in a way that permits telling a more complete story including the likely origins of institutional shifts. By emphasizing the interplay among productivity, inequality, and the earnings growth of average workers we are also better able to describe the impact of current trends on economic life.

During the economic "Golden Age" of 1947-73 both labor productivity and median family income roughly doubled as productivity gains were distributed throughout the income distribution. Descriptions of this period often assume the equal distribution of productivity gains was a free-market outcome. When that assumption serves as context for today's inequality, it suggests that restoring a proper balance of skilled and unskilled workers in the labor market will reduce inequality and reestablish a broad distribution of productivity gains.

We argue instead that the Golden Age was based on market outcomes strongly moderated by unions, government tax policy, corporate wage-setting norms and other institutional factors. In our interpretation, the recent impacts of technology and trade have been amplified by the collapse of these institutions, a collapse resulting in which economic forces led to a shift in the political environment. If our interpretation is correct,

no rebalancing of the labor force can restore a more equal distribution of productivity gains without government intervention and changes in private sector behavior.

We call the post-World War II institutional arrangements the *Treaty of Detroit* policies, after the most famous agreement of that period. This agreement was replaced in the 1980s and surrounding years by another set of institutional arrangements we call the *Washington Consensus*. As we will describe, the decisions to strengthen or to abandon these institutions were made by many people in complex economic and political settings.

We develop this argument in the sections that follow. Section II reviews the data that frame our argument. Section III describes the institutional arrangements that originated in the Great Depression and helped to distribute productivity gains broadly from 1947 to 1973. Section IV describes the way in which the post-1973 productivity slowdown and associated stagflation ultimately led to the arrangements' collapse, to be replaced by institutions that made the labor market particularly vulnerable to extreme effects of technical change and trade – a vulnerability that is not as evident in most other industrialized countries. Our description focuses more on the earlier institutions than the later ones as they are less familiar. Section V concludes by considering the implications of our story for policy.

II. Looking at the Numbers

For over a decade, the economist's primary explanation for income inequality has been skill-biased technical change.¹² While the explanation has been refined over time¹³ its core is unchanged. Technology, perhaps augmented by international trade, is shifting demand toward more skilled workers faster than labor supply can adjust. In fact, it is often unclear how the best compensated workers acquire their skills¹⁴ but with greater skill equated to increased education, this explanation of earnings inequality has resonated strongly with the public as well as government policy. Educational improvement has been a central policy focus at all levels of government. Equally important, many government officials describe educational differences as the central driver of inequality, as in the August 1, 2006 remarks of Treasury Secretary Henry M. Paulson:

.... we must also recognize that, as our economy grows, market forces work to provide the greatest rewards to those with the needed skills in the growth areas. This means that those workers with less education and fewer skills will realize fewer rewards and have fewer opportunities to advance. In 2004, workers with a bachelor's degree earned almost \$23,000 more per year, on average, than workers with a high school degree only. This gap has grown more than 60 percent since 1975.¹⁵

As is clear from Figure 1, growing compensation differences between high-school and bachelor degree holders provide only a partial explanation of rising income inequality. (Only graduate degree holders, not shown in the figure, keep even with productivity.) A full explanation requires a more complete exposition of skill-biased

¹² See Levy and Murnane (1992) for a history of how earnings inequality became a prominent issue in labor economics.

¹³ In one refinement, technology is now assumed to substitute for mid-skilled workers rather than the lowest skilled workers (Autor, Levy and Murnane 2003, Autor Katz and Kearny, 2006). In a second refinement, the steady growth of earnings inequality among observationally similar workers in the Current Population Survey was first described as measuring returns to unobserved dimensions of skill (Juhn, Murphy and Pierce, 1993). It is now identified with increasing year-to-year earnings volatility (Gottschalk and Moffitt, 1994) or as an artifact of particular data sets (Lemieux, 2006)

¹⁴ For example, many of the skills of a successful bond-trader may well be learned outside the classroom.

¹⁵ <http://www.treasury.gov/press/releases/hp41.htm>. The remarks were delivered at Columbia University.

technical change and its interaction with changing institutions and norms. It also requires two modifications to the standard earnings inequality framework:¹⁶

- The normal focus on the median earnings of high school and college graduates is usefully expanded to include income received by persons in the top 1 percent of the income distribution, a group that likely includes both college and high school graduates and is the group for whom income concentration has been growing.
- Rather than examine trends in the relative earnings of more and less educated workers, it is useful to focus on ratios of the kind previously described in (1):

$$\frac{\text{Median Annual Compensation of 35-44 Yr.-Old Male BA's}_T}{\text{Annual Labor Productivity}_T}$$

where this ratio is calculated over time for various age/education/gender groups.¹⁷

The logic of this ratio – our Bargaining Power Ratio - begins in the frequently stated proposition that rising productivity is the determinant of rising living standards. (e.g. Whitehouse and Aeppel, 2006). As we noted earlier, rising labor productivity is the determinant of rising *aggregate* living standards. The distribution of the aggregate is determined by supply and demand for different types of workers as well as labor market institutions, societal norms and so on – factors we subsume under the heading of a group’s

¹⁶ One can argue that skill-biased technical change remains a valid explanation with people in the top 1 percent of the distribution being “extremely skilled”. For the most part, this statement is merely conjecture. By contrast, most empirical studies of skill-biased technical change in broad middle of the earnings distribution use an individual’s years of schooling as a proxy for skill and so are on firmer ground.

¹⁷ In this paper, we will focus on male earnings. In part, this reflects the fact that we used published annual CPS data for some early years. Women’s annual income data is hard to interpret because of the large fraction of part-time workers.

bargaining power. Thus the ratio (1) serves as a measure of this bargaining power for various groups of workers.¹⁸

We construct the BPR's numerator –the group's median compensation - by first tabulating the group's median income, including self-employment income in the 1950 Decennial Census and the Current Population Survey from 1961 on.¹⁹ To move from earnings to total compensation (the relevant concept to compare to productivity), we increase each year's median income by a percentage equal to:

$$(2) \quad \frac{\text{Supplements to Wages and Salaries}_T}{\text{Wage and Salary Disbursements}_T}$$

where Supplements to Wages and Salaries measure the value of fringe benefits and both series in (2) are taken from the National Income and Product Accounts (NIPA). By applying the same ratio (2) to all workers, we ignore the facts that the self-employed typically do receive supplementary benefits and high income workers are relatively more likely than lower wage workers to receive fringe benefits (e.g. Pierce , 1999). We are currently preparing adjustments for these factors but we do not anticipate the adjustments will change our conclusions. .²⁰

The BPR's denominator for year T is calculated using the ratio:

$$(3) \quad \frac{\text{Nominal Gross Domestic Product}_T}{\text{Persons Engaged in Production}_T}$$

¹⁸ Prior to 1992, these categories are defined by using 12 and 16 years of completed schooling respectively. The data does not allow us to distinguish actual high school graduates from GED holders.

¹⁹ We include the self-employed because we hope to expand this work to include those years in the 1950s when median income (but not earnings) by age and education were published in *Current Population Reports*. We note that our data set does not include information for 1962.

²⁰ For example, among 35-44 year old male BA's (including the self employed), who had median earnings +/- 20%, 90% reported receiving employer provided health insurance trending down to 80% in 2004. Among 35-44 year old male high school graduates, the comparable numbers were 89% trending to 66 %. Among similar aged women who work full time, the comparable trends were (BA) 72% trending to 71% and (high school) 70% trending to 58%.

where both series come from NIPA. Persons Engaged in Production is the NIIPA estimate of the U.S. workforce expressed in full-time equivalent workers.²¹

To understand Figure 1, begin by considering a standard analysis of earnings inequality that focuses on the relative earnings of college and high school graduates:

$$(4) \quad \frac{\text{Median Earnings of 35-44 Yr.-Old Male BA's}}{\text{Median Earnings of 35-44 Yr.-Old Male High School Graduates.}}$$

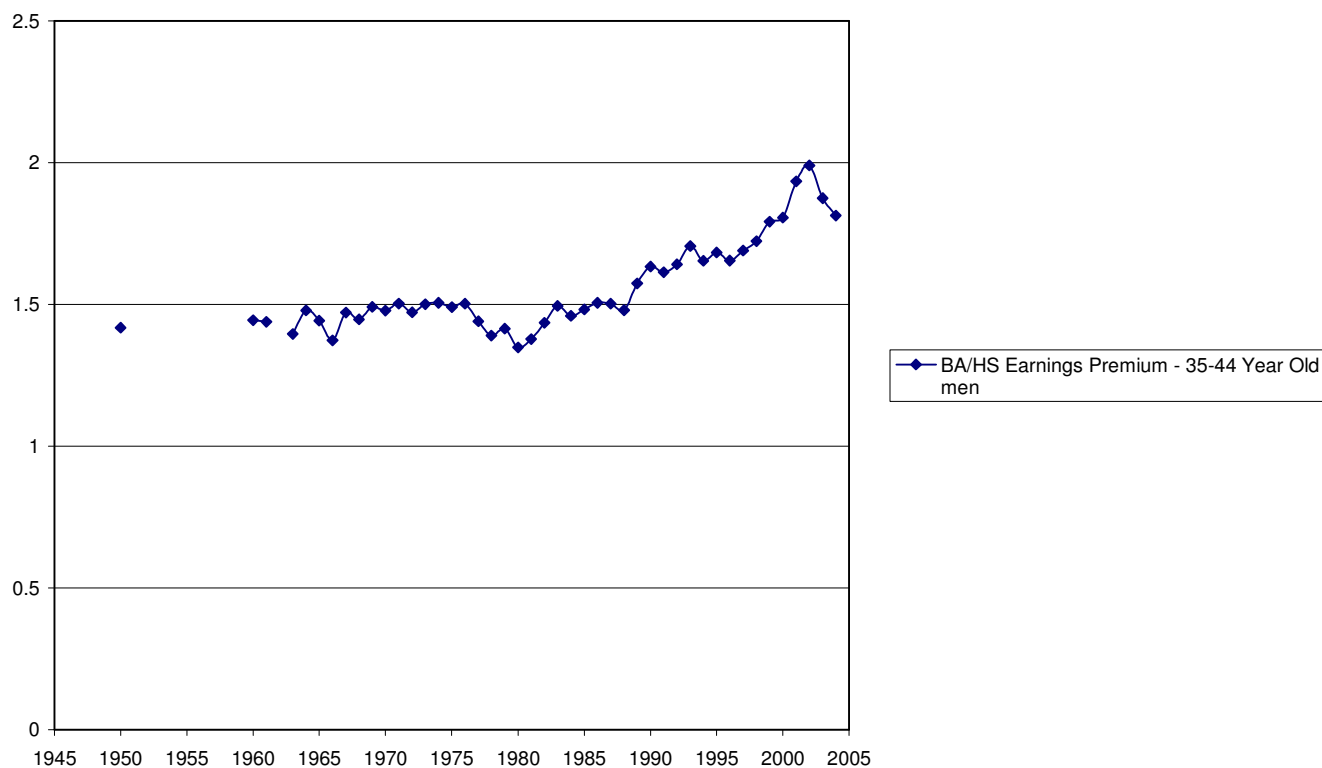
This ratio (4) is exactly equivalent to the ratio of the BPRs in Figure 1:

$$(5) \quad \frac{\text{BPI for 35-44 Yr.-Old Male BA's}}{\text{BPI for 35-44 Yr.-Old Male HS Graduates}}^{22}$$

²¹ This productivity measure differs from the measure of non-farm business productivity usually used in such studies and reflects the fact that we include the self-employed in our sample. From 1947-2004, our measure increases about 15 percent *less* than the standard measure and so is not driving our results.

²² The ratios (4) and (5) are equivalent because, as noted above, we construct the BPI's by multiplying both college and high school incomes by the same fringe benefit adjustment and dividing the resulting compensation by the same economy-wide average productivity figure.

Figure 2
BA/HS Earnings Premium based on Bargaining Power Indices



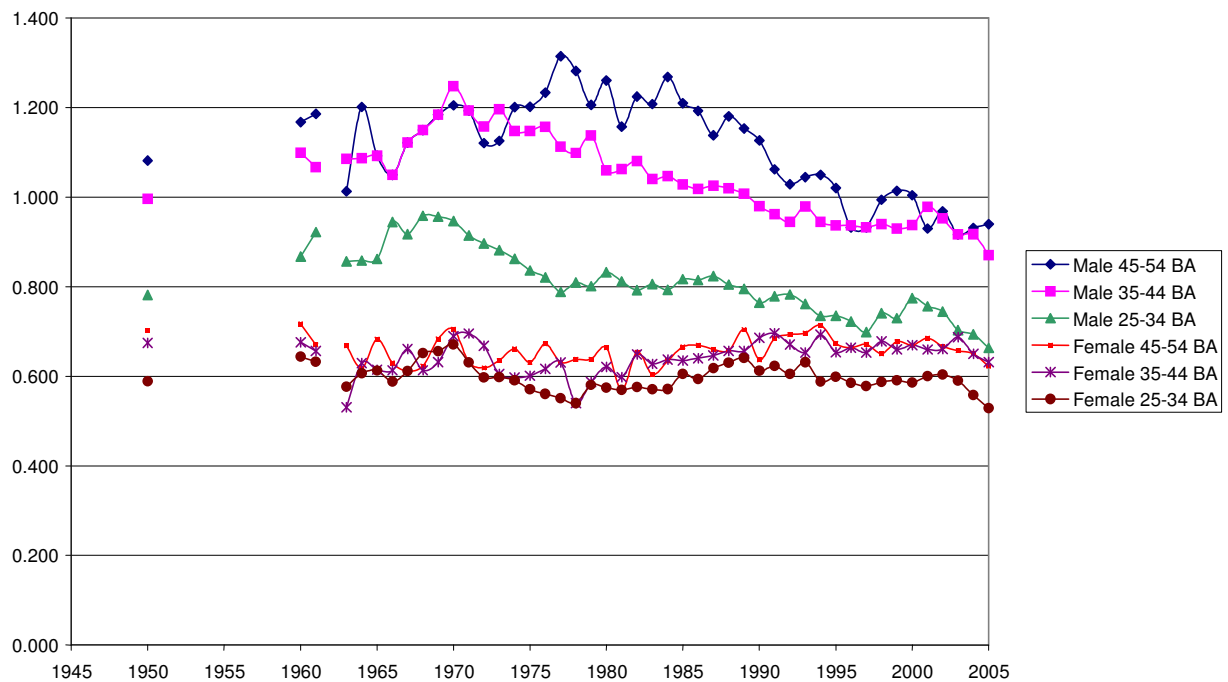
This ratio (5) is graphed in Figure 2 where it tells the familiar education/earnings inequality story – the ratio of college-to-high school earnings narrows in the 1970s and then increases substantially through the late 1990s before closing slightly in recent years.

Taken together, Figures 1 and 2 demonstrate that the earnings inequality between male high school and college graduates is one part of a two-part story. In the story's second part, the median compensation of male high school *and* college graduates have both been losing ground vis-à-vis productivity for a number of years. The BPR for 35-44 year-old male HS graduates was relatively stable from 1950 through 1980 but then began a steady decline. The BPR for 35-44 year-old male BA's actually began to decline earlier, starting in 1975. It is this second decline that standard analyses often miss.

One can ask whether the experience of 35-44 year old men is typical of most workers. For example, the partial convergence of women's and men's earnings over the last quarter-century might reflect the average women's increased ability to capture productivity gains - in our terms, a rising BPI - offsetting the declines for men.

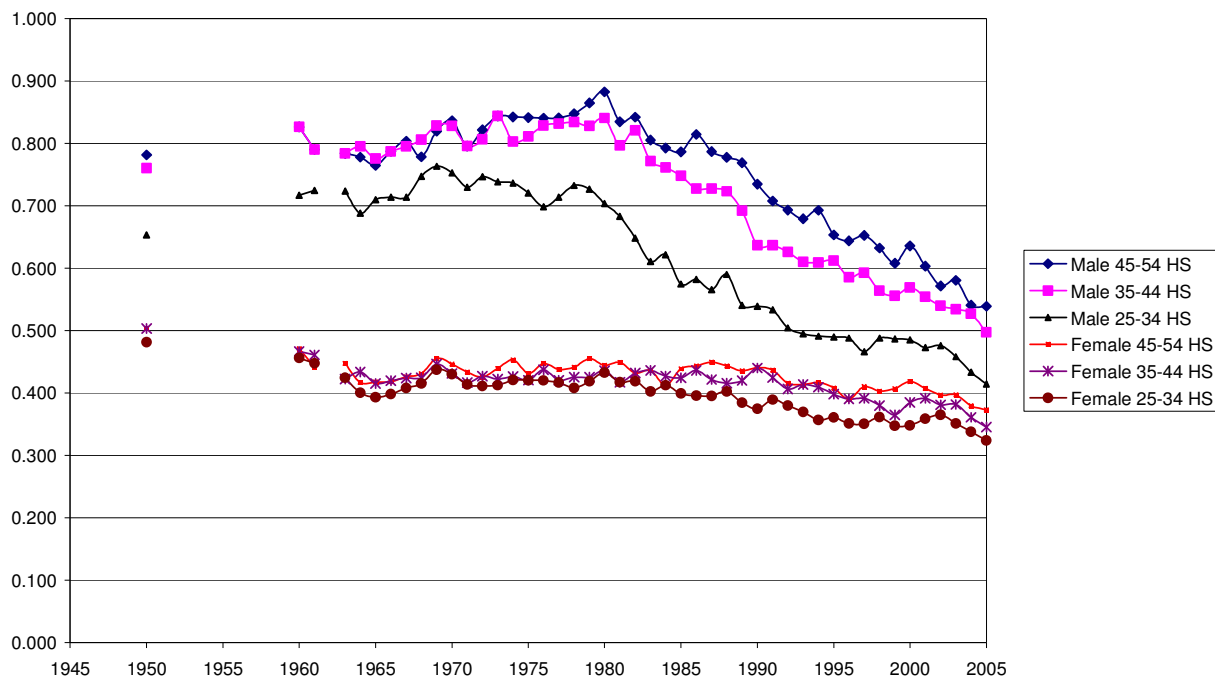
We address this possibility in Figures 3 and 4. Figure 3 displays the BPR for six groups of workers: male and female BA's, ages 25-34, 35-44 and 45-54. Since statistics on women's earnings can confound rising wages and increased hours, we construct women's BPR's based on median weekly income of women who work full time (35 hours per more). For comparability, we construct the BPI for men in the same way²³. Figure 4 displays comparable data for men and women whose education stopped at high school.

Figure 3
BPR based on FT Weekly Earnings for Men and Women BA's,
ages 25-34, 35-44, and 45-54



²³ To keep the analysis in annual terms, we multiply these median weekly earnings by 52 weeks.

Figure 4
BPI Based on FT Weekly Earnings for Men and Women HS Graduates,
ages 25-34, 35-44 and 45-54



Figures 3 and 4 illustrate separate patterns for men and women. For all groups of men, the median worker's compensation grows in line with productivity until some date between 1970 and 1980. In most years after that date, the median worker's compensation lags increasingly behind productivity growth (a declining BPI). For all groups of women, the median worker's compensation grows in line with productivity throughout the early 1990s at which point the compensation of high school graduates (but not BA's) lags productivity modestly. In our terms then, the post-1980 convergence of men's and women's compensation arose because the average woman's compensation claimed a roughly constant share of output per worker while the average man's compensation claimed a declining share.

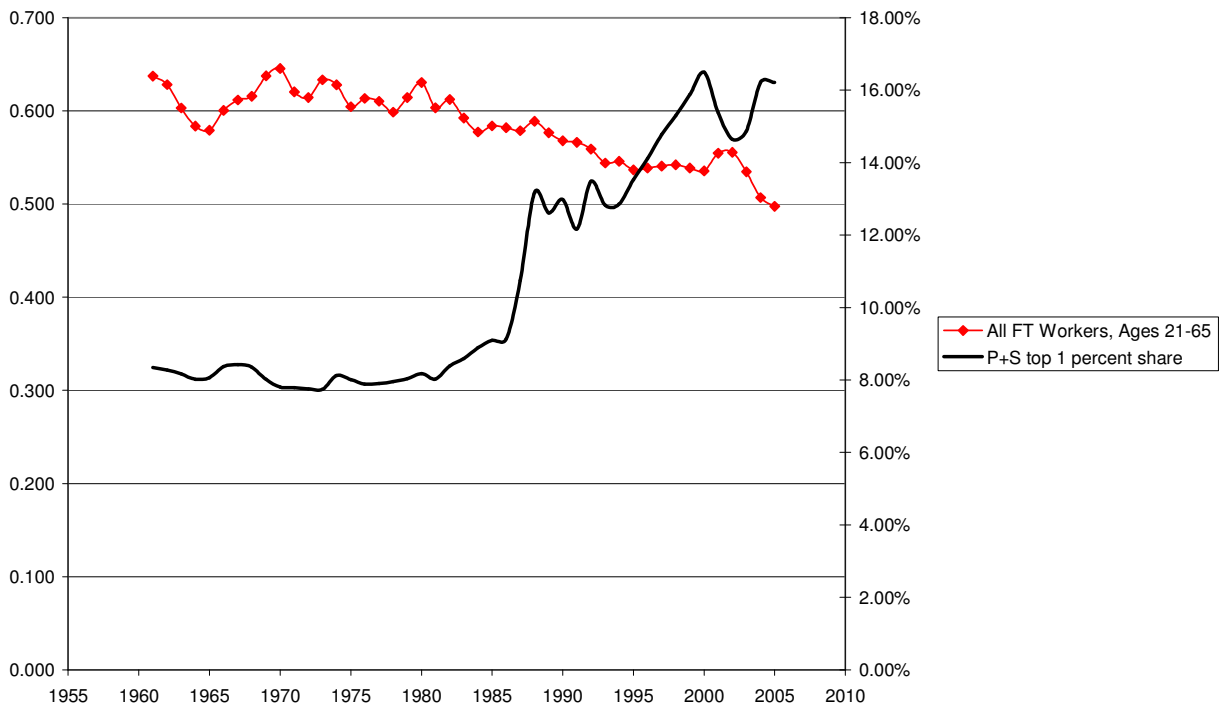
A closer look at the data for men shows that median compensation begins to lag productivity first among BA's and then among high school graduates. Among male BA's, the first declines appear in the early 1970s among 25-34 year olds. In subsequent years, declines appear in older age ranges as the young cohorts age. By contrast, the compensation of all three age groups of male high school graduates begins to lag productivity at the same time, roughly 1980, suggesting a structural shift.

In subsequent sections, we argue that institutional factors truncated the upper and lower tails of the earnings distribution but the college graduate earnings reflected largely free market outcomes. In particular, the 25-34 year old college graduates of the early 1970s were the leading edge of the baby-boom and their lagging compensation reflects the depressing impact of their large numbers on entry level wages. In an early analysis of this group, Freeman (1976) argued that the earnings gap between college and high school graduates had narrowed to the point where a college education was no longer a good financial investment. By the mid-1980s, earnings of male high school graduates had fallen sharply and the earnings gap was reopened (e.g. Figure 2). Freeman's concern was forgotten, but it may have been forgotten too soon. While the median college graduate has restored their position vis-à-vis high school graduates, their ability to capture productivity gains continued to decline through the present with a brief exception in the late 1990s (Figure 3). We discuss these patterns in the sections that follow.

Returning to our earlier question, in *no* significant group of men or women did median compensation rise significantly faster than productivity. We summarize this point in Figure 5 which plots the BPI based on the median earnings of all full-time workers

between the ages of 21 and 65, regardless of gender and educational level. As shown in the figure, this BPI moves cyclically until 1980 at which point it begins a steady decline falling from .63 to .49 in 2004.

Figure 5
BPI based on all FT Workers + PS Top 1 percent share



The declining claim of the typical worker on output raises the obvious question: What happened to the remaining productivity gains? Part of the answer is contained in Figure 5 which displays the Piketty-Saez estimate of the share of personal income reported by the top 1 percent of tax returns. The two series in Figure 5 rely on different income definitions that are not directly comparable.²⁴ Nonetheless a rough calculation (detailed in Appendix A) indicates that between 1980 and 2004, the increased income of

²⁴ As noted earlier, the BPI uses individual earnings data from the Current Population Survey and fringe benefit and productivity data from the National Income and Product Accounts. The Piketty-Saez series uses income data reported on federal income tax returns which may be individual or joint returns.

the top 1 percent of taxpayers is equivalent to about one-third of the income lost by the bottom 99 percent of workers because their compensation has grown more slowly than productivity. This rough equivalence underlines the point made earlier – that for a number of years, the lion’s share of productivity gains have been captured by persons in the top of the income distribution.

The question is why? In their widely cited article, Piketty and Saez (2003) point to a decline in income inequality that was concentrated during World War II but continued for at least another quarter-century.

The compression of wages during the war can be explained by the wage controls of the war economy, but how can we explain the fact that high wage earners did not recover after the wage controls were removed? This evidence cannot be immediately reconciled with explanations of the reduction of inequality based solely on technical change as in the famous Kuznets process. We think that this pattern or evolution of inequality is additional indirect evidence that nonmarket mechanisms such as labor market institutions and social norms regarding inequality may play a role in setting compensation at the top. (pp. 33-34)

We agree and believe these non-market mechanisms limited productivity gains going to very high incomes and increased productivity gains to people with lower incomes—at least until the mechanisms broke down.

III– Norms, Institutions and the Golden Age.

The non-market mechanisms that shaped the postwar Golden Age had roots in the Great Depression and the New Deal. At first glance, it is surprising that norms and institutions – microeconomic policies – grew out of a macroeconomic crisis. But macroeconomic policy, as we now understand it did not exist in the Great Depression.

Keynes' *General Theory* was not published until 1936, although isolated economists advocated an expansion of government spending.

In 1933, Roosevelt's first year in office, unemployment stood at nearly 25% and microeconomic policies were apparently the only tools at hand. Lacking a theory of aggregate demand, Roosevelt's New Deal policies revolved around something closer to "individual demand"—a theory that if wages and prices could be raised to reasonable levels, workers and producers would earn enough money to stimulate the economy.

This theory was implicit in the first major piece of New Deal legislation, the 1933 National Industrial Recovery Act (NIRA) that gave the government control over employer contracts, and encouraged labor and industry to negotiate wages, work hours, and other employment issues (Atleson, 1998). The resulting contracts shortened work hours, increased wages significantly, and raised prices. With the support of the Roosevelt administration, unions and collective bargaining began to flourish as employers were hampered in attempts to obstruct organizational efforts (Temin, 2000). Applying the same logic, NIRA also created the nation's first minimum wage set at \$.25 cents per hour.

The Supreme Court outlawed the NIRA in 1935, citing it as an overreach of federal power into state interests. Congress responded quickly passing the National Labor Relations Act (NLRA)—the "Wagner Act"—in the same year, endorsing the rights of labor and limiting the means employers could use to combat unions, while reestablishing the \$.25 minimum wage. The legislative record is clear in hindsight, but it was murky at the time as workers feared that the NLRA would be ruled unconstitutional like its predecessor. Unions grew dramatically under the NLRA, but the post-war system of

collective bargaining may have had its origins in the unemployment of the Depression rather than Roosevelt's reaction to that unemployment condition (Freeman 1998).

Unemployment remained very high: 21.7% in 1934, 20.1% in 1935. Worker grievances were leading to frequent work stoppages and violence. Economic conditions demanded that something be done, and unions enjoyed strong public support.²⁵

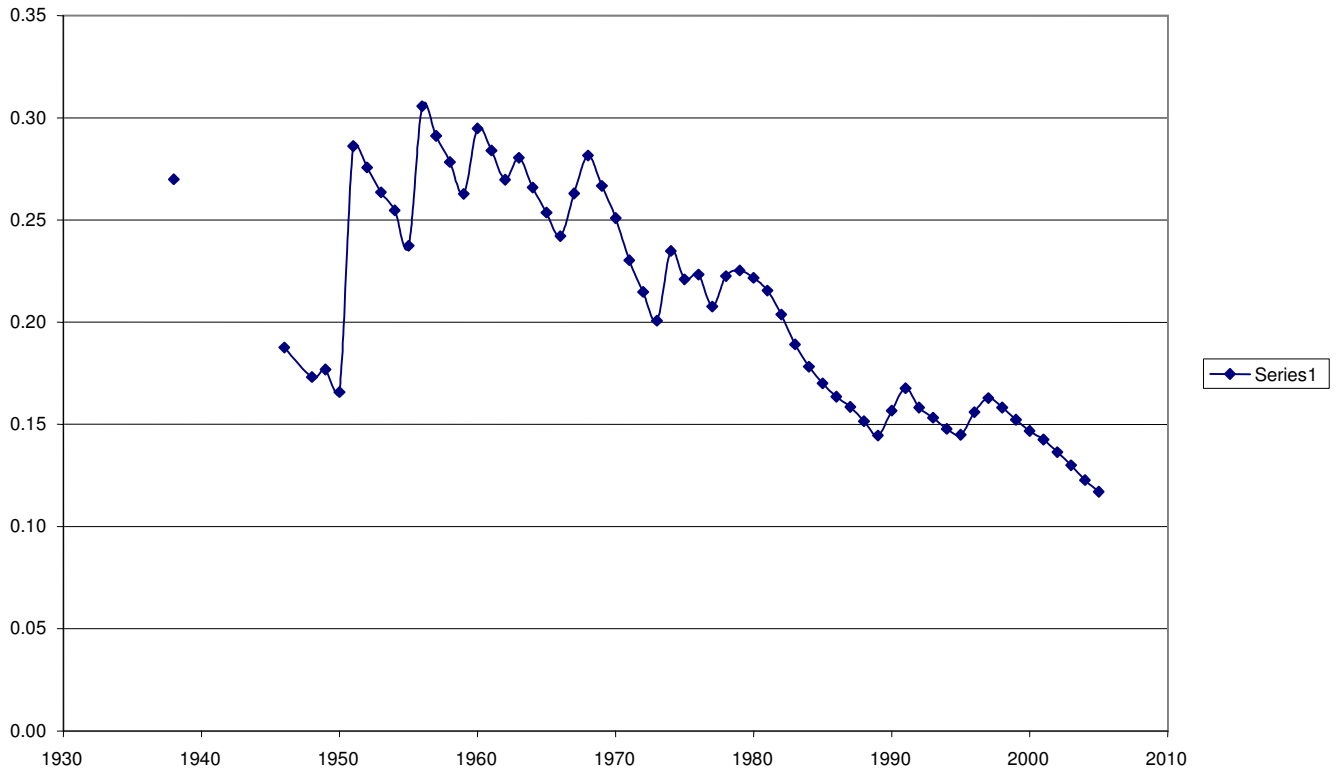
The NLRA's minimum wage, like its support of unions and collective bargaining was set so as to raise wages significantly. As with our treatment of earnings and fringes (eq. 1) we can put the first minimum wage - \$.25/hour – in perspective by comparing it to average output per worker in the economy:

$$(5) \quad \frac{\text{Annual Earnings at the Minimum Wage}_T}{\text{Average Economy-Wide Labor Productivity}_T}$$

In 1938, annual earnings at the first minimum wage represented 27 percent of the economy's average output per worker. Between 1947 and 2005, the value of the minimum wage would exceed that percentage in only four other years (Figure 6) and stands at something less than half that percentage in today.

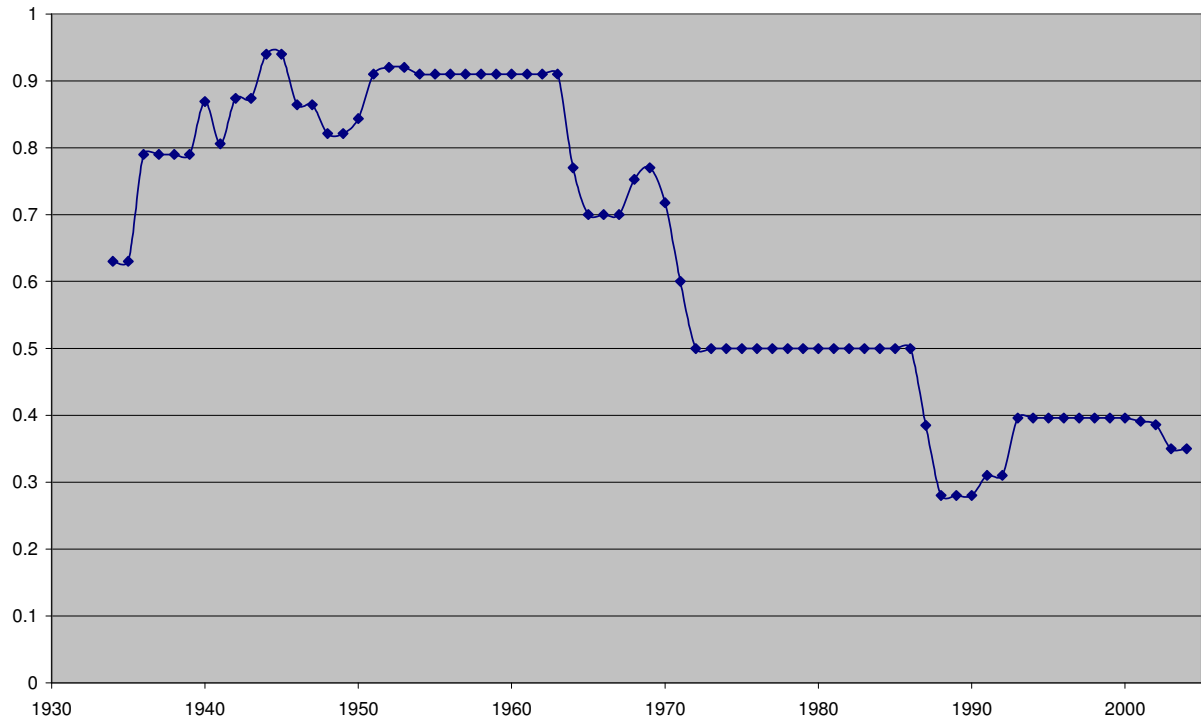
²⁵ In 1936, 76 percent of respondents to a Gallup Poll question said they were in favor of labor unions. Result reported as Roper Center Accession Number 0174236.

Figure 6
Ratio of Annual Earnings at the Minimum Wage/Economy-Wide Productivity



New Deal policy also raised the top income tax bracket rate. On the eve of Roosevelt’s election, the top bracket rate had been raised sharply from 25% to 63%. In 1936, after the economy began to recover, Roosevelt raised the top bracket rate further to 79% (Figure 7). This additional increment was part of a general tax rise that included a tax on undistributed profits, based on the presumption that the economy had progressed into a normal recovery—a presumption speedily abandoned in the recession that followed hard on the heels of the higher taxes (Rosen, 2005). Nonetheless, Roosevelt’s clear goal was to compress the earnings distribution using unions and the minimum wage to raise low incomes while using tax rates and moral suasion to hold down incomes at the top.

Figure 7
Top Federal Tax Rate on Labor income



While New Deal policies were strongly pro-organized labor, the policies could not provide the outcome labor wanted most – an economy growing rapidly enough to bring back full employment. In 1937, five years into the New Deal, the unemployment rate had fallen only to 14.3 percent. Labor-business relations remained contentious and marked by continued frequent strikes. When the economy reentered recession in 1938, part of the public blamed unions, and public support of unions weakened moderately.²⁶

When the United States entered World War II, mobilization and production became the focus of the economy. The war induced a labor shortage, ending Great Depression

²⁶ In 1938, 58 percent of respondents to a Gallup Poll question said they were in favor of labor unions, down from 76 percent in 1936 and 1937. Result reported as Roper Center Accession Number 0274556. The 1938 result is not strictly comparable to earlier years because the 1938 question permitted a response of No Opinion (14 percent) while earlier years did not.

unemployment, and the principles of efficient manufacturing became ingrained into America's economic philosophy. Stability became the goal of the government, and bargaining solidity was critical to achieving uninterrupted production. Having woken the sleeping giant of the work force, industry was forced to deal with it.

Although policies of arbitration and dispute resolution through administrative means demonstrated the principles of uninterrupted production, workers feared being left out of wartime prosperity and threats of labor action remained high. AFL-CIO action from 1939 to 1941 and wildcat strikes during 1943 and 1944 interrupted wartime production and impacted munitions production. Actual wartime strikes were brief and uncommon, but they damaged the public perception of unions.²⁷ The military in fact saw unions as detrimental to the war effort, and they took several initiatives to undercut union power (Koistinen, 2004).

The government created the National Defense Mediation Board in 1941 to settle labor disputes and replaced it a year later with the National War Labor Board (NWLB). These initiatives achieved no-strike and no-lockout pledges from unions and companies and effectively froze wages for the duration of the war. The agreement created an uneasy peace and was a source of tension between unions, the government, and industry throughout the war.

Unions gained a victory with the Revenue Act in 1942 which taxed significant wartime earnings. The government did not include workers' pensions and health

²⁷ In 1942, the National Opinion Research Center asked: "After the war, do you think the Federal government should regulate...**labor unions** more or less than it did before the war started (say 1938)?" More = 60 percent, Same = 13 percent, Less = 6 percent, Depends or Don't Know = 15 percent. Roper Center Accession Number 0362578.

insurance as profits, providing employers with an incentive to avoid the tax by supplementing labor benefits. The NLRB also decided that employer contributions to benefit plans should not be included as wages, further assisting labor. Industry reluctantly supported these benefits, mostly as an attempt to discourage union membership. The legacy of the NLRB included both the procedures forced on businesses to promote unions, such as checking off union dues, and the formative experience of many people involved with the NLRB who went on to become labor-relations experts after the war (Harris, 1982, Chap. 2; Edelstein, 2000).

As the war drew to a close, many feared that the end of wartime strike controls would bring labor market disruption and the potential for a second Great Depression. Hoping to avoid this outcome, President Truman convened a three-week National Labor-Management Conference in November 1945 to discuss post-war labor relations (Harris, 1982, Chap. 4). From today's perspective, two features of the conference stand out. The first noteworthy feature was the small guest list – 36 business, labor and public officials. The short list was commentary on both the oligopolistic, regulated structure of industry and the concentration of union power. As Katz and Lipsky (1998) write:

Truman's notion that an elite tri-partite group could 'furnish a broad and permanent foundation for industrial peace and progress' apparently was widely shared by the press and general public. (p. 147)

The second important feature was the implication that even in peacetime, business-labor relations would remain a tri-partite process with government as the third man in the

ring.²⁸ Truman did not expect business-labor tranquility—strikes were the reaffirmation of unions’ power. But Truman believed the government had to keep business-labor conflict within bounds for the economy to prosper. His authority on this matter was enhanced by the heavily regulation of interstate transportation, telecommunication and some other industries. While the conference did not reach agreement on many specific proposals, Truman’s position received board support. An example is a statement made by Eric Johnston, president of the U.S. Chamber of Commerce:

Labor unions are woven into our economic pattern of American life, and collective bargaining is a part of the democratic process. I say recognize this fact not only with our lips but with our hearts.²⁹

These two characteristics would be codified in the Treaty of Detroit, to be described shortly. This apparently private treaty was the codification and extension of institutions for labor relations that had begun in the Depression and enlarged in the very different environment of the war. The continuity of institutions suggests strongly that they were not the result of individual historical accidents, but rather the outcome of complex negotiations and bargaining between the government, big business, and unions.

For example, Truman retained a high top bracket income tax rate on labor income in another extension of Depression-era policy. As Frydman and Saks (2005) and others noted, tax rates are endogenous, reflecting in part the social norms of the time. The high top-bracket rate on labor income, together with an active government presence in the

²⁸ The phrase refers to the referee in a boxing match. See, for example, Goldstein 1959.

²⁹ Erik Johnston, President’s National Labor-Management Conference, 1946, General Committee, 52. quoted in Katz and David B. Lipsky (1988) See also, Harris (1982)..

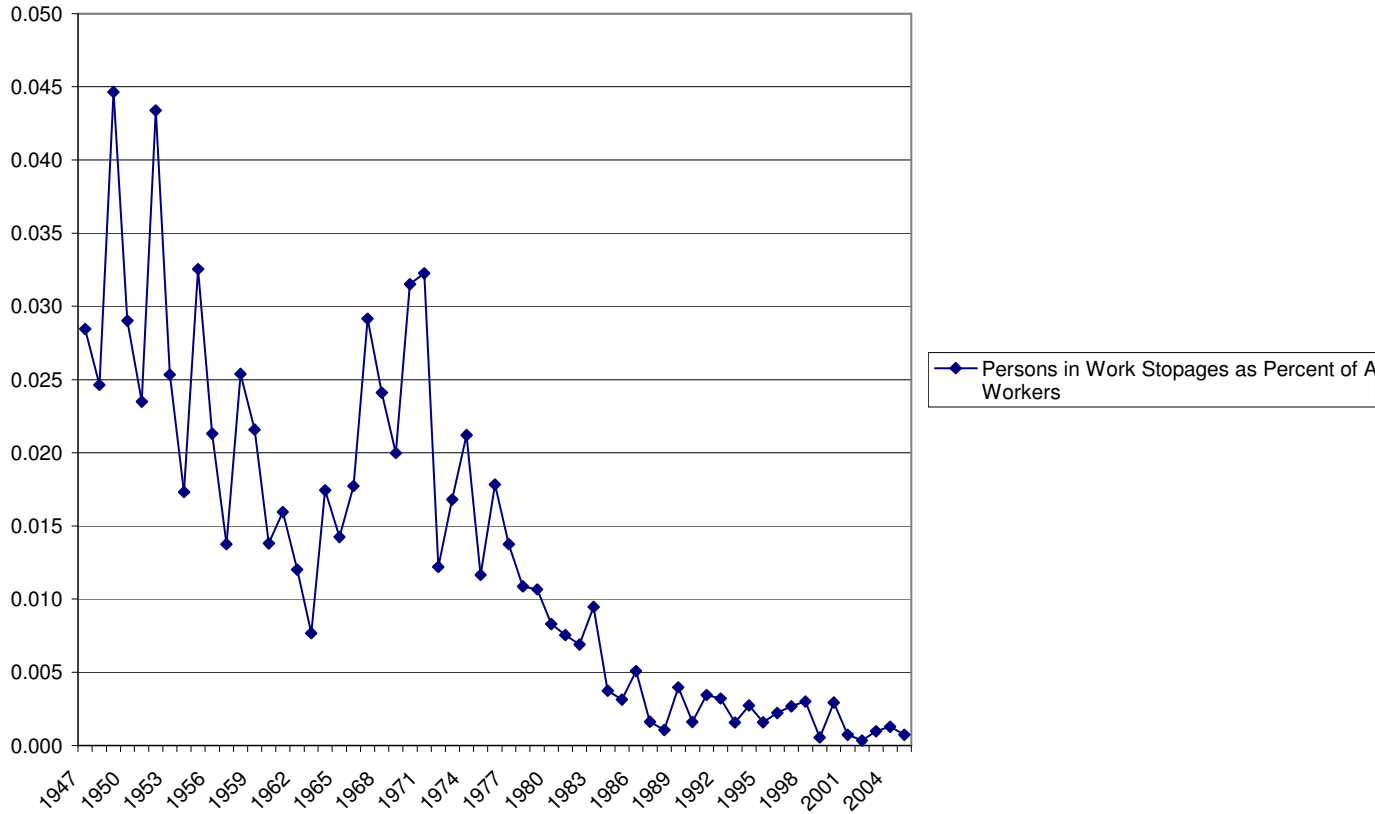
market were clear signals to limit high salaries. In their historical study of executive compensation (including the value of options, etc.) Frydman and Saks (2005) write:

[Our econometric] results suggest that, had tax rates been at their year 2000 level for the entire sample period, the level of executive compensation would have been 35 percent higher in the 1950s and 1960s. (p. 31, brackets added)

Despite Truman's best efforts, however, the postwar transition was difficult. At the war's end, organized labor erupted with an average 3.1% of the workforce involved each year in work stoppages between 1947 and 1949 (Figure 8). The conflict only modestly diluted public support for unions.³⁰ Business, for its part, supported the Taft-Hartley Act of 1947 which defined restrictive administrative policies to constrain unions. Although the Taft-Hartley Act clearly rolled back some union gains from the Depression and war, it fell far short of dismantling them entirely.

³⁰ People remained strongly supportive of unions per se but a significant proportion favored restraining their power. In 1949, the Gallup Poll asked: "As things stand today, do you think the laws governing labor unions are too strict or not strict enough?" Too Strict- 17%; About Right- 24%, Not Strict Enough 46%, No Opinion – 13%. Roper Accession Number 0170069

Figure 8
Persons Engaged in Work Stoppages as Proportion of All Workers



It was in this context, in late 1948, that Walter Reuther and his advocates had assumed control over the United Auto Workers (UAW). The relationship between the UAW and the “Big Three” automakers (Ford, GM, and Chrysler), previously plagued by turmoil, entered a new phase of negotiation. Reuther, a progressive and experienced leader, hoped to overhaul industrial relations in favor of labor interests, but the postwar setting created significant obstacles for his social vision. Workers faced dramatic inflation, wages remained inert, and the government’s cold-war spending policy indicated the situation would not improve.

Charles Wilson, the CEO of GM, was aware that inflationary pressures generated by cold war military spending promised to be a permanent feature of the economic scene. GM had recently begun a \$3.5 billion expansion program that depended on production stability, and stress created by inflation could instigate the unions to interrupt production with a devastating strike. Reuther had also recently survived an assassination attempt, indicating to GM the UAW's internal fissures. For Wilson, a long-term wage concession would be a profitable exchange for guaranteed production stability (Lichtenstein, 1995).

GM's two-year proposal to the UAW included an increase in wages and two concepts intended to keep wages up over time. The first, a cost-of-living adjustment (COLA), would allow wages to be influenced by changes in the CPI, adjusting for rising inflation. Second, a two-percent annual improvement factor (AIF) was introduced, which would increase wages every year in an attempt to allow workers to benefit from productivity gains. The UAW, in exchange, would allow management control over production and investment decisions, surrendering job assignment seniority and the right to protest reassignments. Reuther and his advisors initially opposed the plan, believing the AIF formula to be too low and the deal to be a profiteer's bribe signaling the end of overall reform. Workers needed assistance, however, and Reuther agreed to the plan and wage formulas, but "only because most of those in control of government and industry show no signs of acting in the public interest. They are enforcing a system of private planning for private profit at public expense" (Lichtenstein, 1995). The contract was signed in May, 1948.

For the next two years, labor saw wage increases and gains from productivity. GM enjoyed smooth, increasing production, and established a net income record for a US corporation in 1949 (Amberg, 1994). When the time period for the contract ended, the UAW and GM readily agreed to a similar plan that included several changes. A pension plan was initiated, initially through Ford in 1949, which had an older workforce and progressive managers (Lichtenstein, 1987). The resulting plan was presented to GM as a precedent to create industrial conformity in a process known as pattern bargaining. GM agreed readily, and the last of the “Big Three,” Chrysler, agreed after an expensive strike. Agreements to the pension plan ultimately spread to other industries, including rubber, Bethlehem Steel, and then U.S. Steel (Amberg, 1994). In addition to the pension plan, GM increased the COLA/AIF formulas and paid for half of a new health insurance program. The final, five-year UAW-GM agreement was named the “Treaty of Detroit” by *Fortune* magazine: “GM may have paid a billion for peace but it got a bargain. General Motors has regained control over one of the crucial management functions... long range scheduling of production, model changes, and tool and plant investment.” Wage adjustments and productivity gains became recognized as necessary and just, union membership increased, and industry reaped the profits from the Treaty of Detroit’s stability (Lichtenstein, 1995).

The Korean War’s outbreak in 1950 immediately threatened the agreement as the UAW and GM had to intervene to prevent the government from freezing wages. Inflationary adjustments during Korea were not fully reflected by the COLA formula, causing disappointment in the UAW. Other issues created by the Treaty of Detroit also

caused friction, specifically the emphasis on debating national policy over local factory floor issues. The UAW shifted its focus, fighting for standardized monetary and fringe benefits while workers became frustrated over shop terms and job assignments. The problem was exacerbated by the bureaucratization of grievance disputes, which created a backlog of complaints about daily working conditions.

Despite these problems, the Treaty of Detroit initiated a stable period of industrial relations. The use of collective bargaining spread throughout industry, and even non-union firms approximated the conditions achieved by unions in an extension of pattern bargaining. Although the strict application of this term refers to the dynamics of union negotiations in large firms, a looser version was pervasive (Chamberlain and Kuhn, 1986). The NLRA provided a regulatory framework for labor to organize a significant part of the industrial labor force.

This framework was administered by the National Labor Relations Board (NLRB), set up in 1935 under the NLRA. Congress explicitly rejected a partisan board composed of labor and management representatives and opted instead for “impartial government members.” This concept lasted only two decades, however, and President Eisenhower, the first Republican president after Roosevelt, appointed management people to the NLRB. This violation of the original intent of the board was controversial; the neutrality of the board was more or less preserved, but the seeds of future controversy had been planted (Flynn, 2000).

Unions acknowledged the exclusive right of management to determine the direction of production in return for the right to negotiate the impact of managerial decisions.

Unions were able to craft an elaborate set of local rules that constrained management in its allocation of jobs and bolstered the power of unions over jobs (Kochan, 1980; Weinstein and Kochan, 1995). Simultaneously, managers used the framework of the Treaty of Detroit to tighten their grasp on production decisions. The inclusion of supplementary unemployment benefits in 1955 gave managers even more control over job descriptions and workplace decisions, as unions conceded these rights in exchange for direct welfare. Any complaints by labor had to go through paperwork, and the burden to oppose or modify change was placed on the workers (Brody, 1980).

The impact of this framework is clear in the pattern of relative wages. Eckstein and Wilson found in a study of nominal wages in the 1950s that,

“Wages in a group of heavy industries, which we call the key group, move virtually identically because of the economic, political and institutional interdependence among the companies and the unions in these industries.... Wages in some other industries outside this group are largely determined by spillover effects of the key group wages and economic variables applicable to the industry” (Eckstein and Wilson, 1962).

Changes in these pattern wages were determined by economic variables, according to Eckstein and Wilson, but the same forces that kept industrial wages in a stable pattern likely affected the extent of overall wage changes as well. Erickson (1996) extended the concept of pattern bargaining to include specific contract provisions. He found that they like wages were remarkably similar at both inter- and intra-industry levels in the 1970s, although not in the 1980s as we will see.

Steadily rising wages did not eliminate labor-management conflict (Figure 8). As we have suggested, the causality ran in the opposite direction with the threat of strike activity

motivating wage growth. By the late 1950s, American business was facing increased global competition and a need to minimize labor costs, particularly as the economy was entering recession. Business also sensed that union momentum might be weakening.³¹ In response to these circumstances, business increased their demands and rigidity to create “the Hard Line” in 1958, sparking a series of strikes (Jacoby, 1997).

Work stoppages eased modestly in the early 1960s as a new Democratic administration stimulated the economy through a pair of tax cuts on investment and incomes respectively. Because the tax cuts were a first application of Keynesian policy, government economists were particularly concerned about the potential for inflation. To address this possibility, the Kennedy Council of Economic Advisors announced as a set of wage-price guideposts explicitly suggesting how productivity gains should translate into wage and price decisions. 1966, Walter Heller, the first chairman of John Kennedy’s Council of Economic Advisors, wrote about the policy:

One cannot say exactly how much of the moderation in wages and prices in 1961-65 should be attributed to the guideposts. But one can say that their educational impact has been impressive. They have significantly advanced the rationality of the wage-price dialogue.

In *business*, the guideposts have contributed, first, to a growing recognition that rising wages are not synonymous with rising costs *per unit* of output. As long as the pay for an hour’s work does not rise faster than the product of an hour’s work, rising wages are consistent with stable or falling unit-labor costs. Second, they are helping lay to rest the old fallacy that “if productivity rises 3 percent and wages rise 3 percent, labor is harvesting all the fruits of productivity” Guideposts thinking makes it clear that a 3-percent rise in labor’s total compensation, which is about three fifths of private GNP, still leaves a 3-percent gain on the remaining two fifths –

³¹ Though the public, on balance was still supportive. In 1958, 64 percent of respondents to a Gallup Poll question said they were in favor of labor unions, 21 percent disapproved, 13 percent had no opinion 1 percent gave no answer. Result reported as Roper Center Accession Number 0036121

enough to provide ample rewards to capital, as is vividly demonstrated by the double of corporate profits after taxes in the five years between the first quarters of 1961 and 1966. (Heller, 1967, p. 44, italics in the original).

The wage-price guideposts together with other episodes - in particular Kennedy's 1962 confrontation with U.S. Steel over price increases³² - were evidence of the government's continued interest in promoting economic norms. While Kennedy's income tax cut (ultimately passed under Lyndon Johnson) included a sharp reduction on the top rate for labor income (Figure 7), there was no surge in either high incomes per se or executive compensation (Saez 2004, Frydman and Saks, 2005).

Despite their apparent initial success, the Kennedy-Johnson policies were soon overwhelmed by events. In 1965, the government began deficit-financing the Vietnam War in an economy that was already near full employment. By 1969, unemployment had fallen to 3.5 percent and consumer prices were rising at a then high 5.4 percent. In a tight labor market, debates over automation became increasingly common, as new technology fueled the power struggle between unions and management for control of decision making and the right to adapt to change (Lichtenstein, 2002). Strike activity surged (Figure 8).

IV – 1970- 2005 –Institutional Change at the End of the Golden Age

Depression-era norms and institutions largely stayed in place for the first three decades after World War II because the economy was producing rising incomes for most groups and in particular for the average worker. Figure 9 displays three measures of the

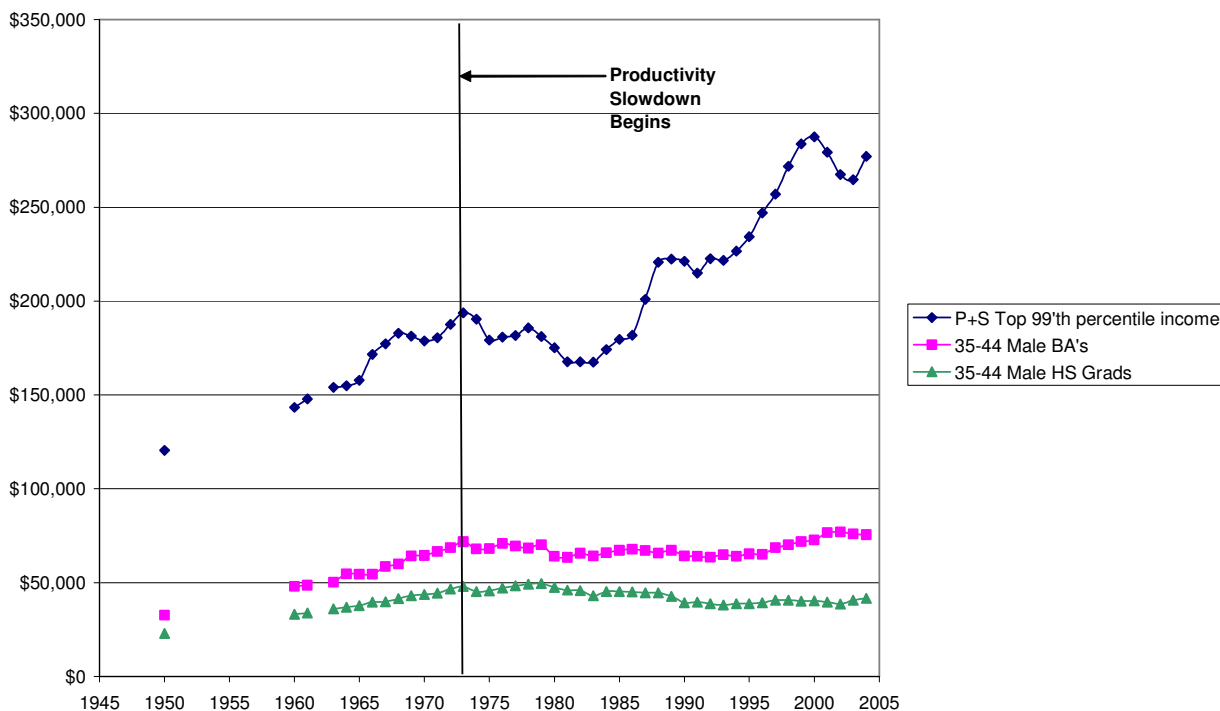
³² See the transcript of Kennedy's press conference on April 11, 1962:
http://www.jfklibrary.org/Historical+Resources/Archives/Reference+Desk/Press+Conferences/003POF05Pressconference30_04111962.htm

economy's performance measured in 2004 dollars (rather than normalized by productivity) – the median compensation of 35-44 year old male high school graduates and of 35-44 year-old male BA's, and the Piketty-Saez estimate of the 99th percentile of personal income (excluding capital gains) reported on tax returns.

The median compensation of male high school graduates – the group most affected by unions and the minimum wage – increased from \$22,955 in 1950 to \$47,835 in 1973 (+108%). Consistent with the Frydman-Saks analysis of tax rates' (and norms') effects on executive compensation, the 99th percentile income was the slowest growing of the three measures increasing from \$120,335 to \$193,634 (+ 61%). The median compensation of the male high school graduates - a group operating in a relatively free market - rose from

\$32,549 to \$71,773 (+ 121%).³³

Figure 9
Median Compensation for 35-44 Male BA and HS Graduates
and P+S 99'th Percentile Income Threshold



This broad-based income growth benefited daily economic life in three main dimensions:

- *Expanding the Middle Class.* By 1964, 44 percent of the population reported itself as middle class, up from 37 percent in 1952. The expanding middle class did not reflect significantly more equal incomes,³⁴ but rather rapid income growth in which more families could afford a single family home, one or more cars, and the other elements of a middle class lifestyle.
- *Enhancing Upward Mobility.* A number of studies have shown that intergenerational mobility *within* the U.S. income distribution is relatively limited (e.g. Solon 2002). But rapidly rising incomes created a mass upward mobility such that a blue collar machine operator in the early 1970s earned more than most managers had earned in 1950. Much of a generation could live better than its

³³ Applying our adjustment for fringe benefits to the Piketty-Saez number would have raised 99'th percentile growth from 61 percent to 72 percent.

³⁴ While the 99'th percentile income had grown slowly, the 95'th and 90'th percentile incomes grew in line with incomes of the middle of the distribution. See Piketty and Saez, op. cit.

parents had lived even though their relative positions in the income distribution were similar.³⁵

- *A Safety Net for Industrial Change*. In any period, losing a job and finding another can result in an immediate pay cut reflecting the lost value of firm-specific human capital. When wages were rising rapidly, a person could take a pay cut and “grow back” into their old pay level in a reasonably short time. When wages are “stagnant” recovery can take much longer strengthening perceptions of a lack of good jobs (Uchitelle, 2006).

In periods of stagnant wages, these virtues are much harder to come by.³⁶ And by 1970-71, the economy’s declining ability to produce such benefits was becoming clear. The excessive stimulation of late 1960s – the Vietnam War deficits – had led to inflationary expectations that were impervious to normal recessions – what would become known as stagflation. Additional problems followed in quick succession: an inflationary supply shock in food (1972-3), a second supply shock in oil (1973-4) and, most important, the collapse of productivity growth after 1973. By 1975, the unemployment rate had reached 8.5 percent, and inflation was increasing at 8.2 percent. Most incomes had stopped rising while the 99th percentile income fell sharply (Figure 9), a result in part of a sharply lower stock market. Economic problems topped the Gallup Poll’s list of the nation’s biggest problem for the first time since 1946.³⁷

As with the Great Depression, policy makers faced stagflation with little relevant history to serve as a guide. Economic theory had followed Keynes in focusing on demand shifts, and there was no theory of the supply side that related to economic policy. Only in

³⁵ In the golden age, perceptions of upward mobility were enhanced because the expectations of many people had been formed in the Great Depression.

³⁶ “Stagnant Wages” describes a period in which the economy’s average wage level does not rise – e.g. today’s 40 year old BA earns no more than a 40 year-old BA earned ten or twenty years ago (Figure 9). Even in such periods, the 40 year old BA will earn more than he or she did at age 25 or 30, reflecting promotions and moves to better jobs. .

³⁷ See, for example, Roper Center Accession Number 0026306, May 16, 1976.

the mid-1970s was the concept of Aggregate Supply developed to extend the standard IS-LM model. And as with the Great Depression, the resulting policy agenda was heavily microeconomic. To combat slow productivity growth, some economists began to argue for economic restructuring including removing what they saw as the rigidities of New Deal institutions: unions imposing work rules; a regulatory regime covering most of the nation's utilities, telecommunications and interstate transportation; and high marginal tax rates that they assumed reduced work effort.

Jimmy Carter argued in 1978 that, "The two most important measures the Congress can pass to prevent inflation ... (are) the airline deregulation bill ... (and) hospital cost containment legislation." He appointed Alfred E. Kahn, chairman of the Civil Aeronautics Board, to head the administration's anti-inflation program. Kahn was a student of regulation, and his plans were to reduce regulations that supported monopoly pricing (Carter, 1978; Cowan, 1978). We do not want to equate Carter and Roosevelt or even economic theory in the 1970s and 1930s. Instead, we want to note that unusual macroeconomic events sometimes transcend existing macroeconomic theory. Before macroeconomics could be expanded—to include the aggregate supply curve in the 1970s—public policy appears to have focused on perceived microeconomic problems.

In what is now known as the Washington Consensus on economic policy, deregulation plays a prominent role. The impact of deregulation on wages was not much discussed in the 1970s because blue collar wages, in particular, continued to do fairly well. On the labor market's supply side, male high school graduates remained heavily unionized (~ 42 percent) with unionization among female high school graduates at 17

percent. On the labor market's demand side, the food and oil supply shocks had stimulated the energy and agricultural industries while a declining international value of the dollar was expanding global demand for U.S. manufacturing goods.³⁸ Strong manufacturing, energy and agricultural sectors created what economic geographers were calling a "Rural Renaissance" (Long and DeAre, 1988) in which the nation's heartland was doing well, with heavy demand for blue collar workers, while the east and west coasts were stagnant.³⁹

In reality the Rural Renaissance was a blue collar bubble. High demands for agriculture and domestic energy were temporary while the falling dollar was masking manufacturing's competitive weakness. As labor force composition shifted toward women and college graduates, union membership fell to about 27 percent of all wage and salary workers (private and public), down from 35 percent at the peak of their post-war strength (Osterman, 1999, Hirsch and Macpherson, 2004).

The failure of a bill to reform labor law in 1978 reveals the change in opinion that was underway. The bill proposed a large set of small, technical changes in labor law that could have preserved the legal framework in which the *Treaty of Detroit* labor system had operated. Despite the small scale of the bill, business mounted a large, inflammatory public campaign against it. The bill nevertheless passed the House by a vote of 257 to

³⁸ In 1971, Richard Nixon had abandoned fixed exchange rates as part of his program to deal with inflation, a recognition of the fact that continuing trade deficits were diminishing the country's exchange reserves.

³⁹ Even at the time it was clear that some of this success was unsustainable. In the early 1970s' both the auto workers and steel workers unions had signed new contracts in which full cost-of-living adjustments were exchanged for promises of labor peace. At that time, no one anticipated consumer prices doubling over the next ten years. As a result, auto makers and big steel firms became an island in the economy with real wages far higher than even most other unionized occupations. Had exchange rates fallen far enough to bring overall trade flows into balance, auto and big steel would still have been overpriced on world markets.

163, and it would have passed the Senate as well. Employers took a hard line against the bill and arranged to have it stopped by a filibuster. After a 19-day filibuster, the bill's supporters failed in their sixth try to muster 60 votes to stop it and sent the bill back to committee to die (Mills, 1979). The AFL-CIO's failure to pass this bill demonstrates that while labor still had the support of most political representatives, it no longer had enough support to offset the blocking actions in the federal government. In particular, employers no longer felt the need to share the accommodating views expressed by the president of the US Chamber of Commerce during Truman's 1945 conference.

The economy continued to limp along through the rest of the decade. Unemployment fell slowly but weak productivity growth translated economic expansion into additional inflation. By 1979, consumer prices were increasing at 12 percent annually. Shaken financial markets forced Carter to appoint Paul Volcker, an inflation hawk, as Chairman of the Federal Reserve. Volcker quickly instituted a strong tight money policy to break inflation quickly. When, in 1980, Carter was defeated by Ronald Reagan, Volcker's and Reagan's policies combined to help dismantle much of what remained of New Deal institutions and norms.

In Reagan's first year in office, he made three decisions that proved central to wage determination. He gave Volcker's anti-inflation policy his full backing. He introduced a set of supply-side tax cuts including lowering the top income tax on non-labor income from 70 to 50 percent to align it with the top rate on labor income. And when the air traffic controllers union, one of the few unions to support Reagan, went out on strike, he

gave them 48 hours to return to work or be fired. His stance ultimately led to the union's decertification.

The firing of the air traffic controllers, combined with the 1978 defeat of labor law reform, indicated that the third man - government - was leaving the ring. From that point on, business and would fight over rewards in free market with most workers in an increasingly weak position. Then, in an unanticipated development, Volker's tight money policy weakened blue collar workers' position further.

With Reagan's strong backing, Volker's policy reduced inflation far more rapidly than most economists had predicted - from 12.5 percent in 1980 to 3.8 percent in 1982. But by 1982, Reagan's tax cuts, combined with little expenditure reduction had led to projections of large future deficits. Financial markets, fearing the deficits would be monetized, kept interest rates high even as inflation fell.⁴⁰ High real interest rates increased global demand for U.S. securities and the dollars required to buy them. Between 1979 and 1984, the trade-weighted value of the dollar rose by 55 percent.

The result was perhaps fifteen years of normal change compressed into five years. U.S. manufacturing firms - a pillar of private sector unionization - were hit first by the deep recession and then by the high dollar that crippled export sales. The Rural Renaissance of the 1970s became the Rust Belt of the 1980s. The loss of old line manufacturing jobs combined with new employer boldness to put unions under siege. The fraction of all private sector wage and salary workers in unions fell from 23 percent in

⁴⁰ By 1982, the *real* interest on three year government securities exceeded 6 percent - three times its normal postwar value.

1979 to 16 percent in 1985 (Hirsh and Macpherson, 2004). The unionization rate among male high school graduates fell from 44 to 32 percent (authors' tabulations).

Equally dramatic changes were underway the nation's financial sector. Labor's weakened position suggested improved corporate profits and reduced tax rates on non-labor income further enhanced stocks' attractiveness. Between 1980 and 1990, the Dow Jones Industrial Index rose from 875 to 2,785, a boom to the brokerage industry. Simultaneously, the high interest rates and big federal deficits of the early 1980s stimulated government securities trading and the market for corporate takeovers, creating opportunities for financial traders, investment bankers and legal services.⁴¹

In discussions of income inequality, investment banking and the law are frequently cited as examples where skill-biased technical change tends toward superstar (e.g. winner-take-all) markets of the kind described by Marshall (1947), Rosen (1981) and Frank and Cook (1995). Equally important for our purposes is the two-way interaction between such markets and societal norms.

On the one hand, we have seen how societal norms, coupled with high marginal tax rates, appear to restrain superstar salaries. On the other hand, superstar markets are frequently invoked to justify high salaries that result from other factors – for example, CEO's who benefit from pliant compensation committees. Thus Gabaix and Landier (2007) argue that the rapid growth in CEO compensation since 1980 reflects a superstar market operating in a time of rising firm equity value where increasing amounts of money ride on each decision. Frydman and Saks (2005), analyzing a longer historical period,

⁴¹ Blair and Schary (1993) describe how high real interest rates became a hurdle that many weakened corporations could not meet thereby inviting takeover activity.

show that rising equity values translated into higher CEO salaries at a much lower rate prior to 1980 when norms were presumably different

Many of Reagan's supporters acknowledged his policies would lead to inequality, but they argued that inequality was the price of revived income growth. Most people would see rising incomes while the incomes of the rich would rise faster. Consistent with the booming stock market and rising CEO compensation,⁴² the 99'th percentile of reported taxpayer income increased from \$175,000 in 1980 to \$220,000 in 1988 (Figure 9).⁴³ At the same time, labor productivity continued its weak growth while earnings of male high school graduates, in particular, declined sharply- the sharp 1980 break in trend for high school graduates illustrated in Figure 4.

Because a rising tide was supposed to lift all boats, there was no thought given to ex-post redistribution. To the contrary, Reagan's administration allowed the minimum wage to reach an historical low relative to output per worker (Figure 6). In a similar way, the NLRB became more polarized, moving away from the impartial model that characterized the board's early years. The seeds planted under Eisenhower flowered under Reagan. He broke with tradition and appointed a management consultant who specialized in defeating unions to be the chairman of the NLRB. The result is that the NLRB increasingly reflected current political trends.

Lee (1999) among others has argued that the falling value of minimum wage was a significant determinant of inequality during this period. We take the broader position

⁴² See footnote 7.

⁴³ Figures in 2004 dollars. As we noted earlier, the precise timing of this increase reflected in part changing tax laws – in particular the 1986 TEFRA.

advanced by Autor, Katz and Kearny (2005) that increased inequality reflected a change in regime of which the falling minimum wage was part. One indicator of this new regime was the dramatic fall-off strike activity.⁴⁴

In the 1970s, an average 1.7 percent of the labor force was involved annually in work stoppages (Figure 8). In the 1980s, this rate fell by more than two-thirds to .5 percent. Even as the number of union complaints of unfair labor practices was rising, the politicization of the NLRB had sharply reduced the economic return to work stoppages and discouraged workers from attempting them (Flynn, 2000; Roomkin, 1981). The rapid fall underestimates the decline in work stoppages as expressions of union power as strikes increasingly became expressions of union despair – e.g. the strike against the Greyhound Corporation - rather than efforts to improve working conditions (Kochan, Katz and McKersie, 1994).

The sharp decline in male high school graduate earnings caused economists to focus the on the declining demand for less educated workers and the relationship between growing inequality and educational differences (Levy, 1988, 1989; Katz and Murphy 1992; Juhn Murphy and Pierce, 1993). But these analyses ignored the point that began this paper: Since in the mid-1970s, a growing fraction of male BA's also faced declining demand relative to persons at the top of the income distribution. The proof was the way the median compensation of male BA's increasingly lagged behind productivity growth (Figure 3).

⁴⁴ Osterman (1999) chapter 2 makes a similar point.

As we have argued, it appears that BA's, unlike high school graduates or top income earners operated in a relatively free market. Autor, Katz and Kearny (2004) have documented growing earnings inequality among college graduates, a factor they attribute to skill-biased technical change – particularly computerized work - interacting with growing skill heterogeneity as the number college graduates increases. For males, at least, it appears that the resulting demand for the average college graduate was not sufficiently strong to allow compensation to grow in line with productivity and there were no wage setting institutions to cushion this process. Women BA's received lower wages but their compensation did rise in line with productivity, a possible reflection of both women's rising job experience and widening occupational opportunities.

The outlines of our story have persisted through the present. Bill Clinton, the only Democratic president since 1980, encouraged the Washington Consensus in his centrist positions extending deregulation in the United States and—to the extent possible—in the world as a whole. He did undertake a measure of ex-post redistribution by expanding the Earned Income Tax Credit, increasing the minimum wage, and increasing the top income-tax rate. (President George W. Bush partially reversed the last two elements.)

Clinton's time in office was also marked by two macro developments – one transitory, the other permanent. Permanent was the growing potential to offshore service work, which, together with advances in computerized work, increased substitution possibilities for U.S. workers at all educational levels. Anecdotal evidence suggests that in recent years, both offshoring and the threat of offshoring serve to further weaken bargaining power and suppress wage demands.

The second macro development was the dot.com boom of the 1997-2000 in which the unemployment rate averaged 4.4 percent. During this period, very tight labor markets increased most groups' bargaining power. Median compensation for high school graduates and BA's briefly rose faster than productivity (Figures 3 and 4). While this period produced great benefits, it also provided a sobering lesson: In today's combination of skill-biased technical change, trade, and relatively weak labor market institutions, it requires a labor market boom – a relatively rare event – to produce a distribution of productivity gains that occurred routinely under the Treaty of Detroit.

V. Conclusions

We have argued in this paper that the current trend toward greater inequality in America is primarily the result of a change in economic policy that took place in the late 1970s and early 1980s. The stability in income shares where wages rose with national productivity for a generation after the Second World War was the result of policies that began in the Great Depression with the New Deal and were amplified by both public and private actions after the war. This stability was not merely the result of a natural economy; it was the result of policies designed to promote it. We have termed this set of policies the *Treaty of Detroit*.

The new policies, which we have grouped under the title of the *Washington Consensus*, also originated in a time of economic distress, albeit nowhere near the distress of the 1930s. In a process similar to the experience of the Great Depression, policy makers—unable to comprehend the macroeconomic causes of distress—instituted

microeconomic changes in an attempt to ameliorate the macroeconomic problems. In both cases, the measures taken were only partially successful, and recovery came from diverse influences. The microeconomic changes, however, had durable impacts on the distribution of economic production.

These microeconomic changes were not inevitable. Institutions are affected by technology, but they are not determined by it. We conventionally assume that technology is accessible world wide. Yet institutions differ from one country and region to another. Labor-market institutions in particular appear to have many national idiosyncrasies. Lindert (2004) showed that different labor-market institutions in Western Europe and America were compatible with similar rates of economic growth. Nickell (1997) demonstrated that different labor-market institutions within Western Europe were compatible with similar rates of unemployment. Saez (2004) shows how that rapidly rising incomes among the very rich appear in the U.S. , England and Canada (largely in response to the U.S.) but do not appear in most continental European countries or Japan.

We argue that American labor-market institutions changed dramatically in the few years around 1980. Technology was improving and even accelerating in the late twentieth century, but no one argues that there was a technological jump in 1980. Instead, computers and other information technologies spread throughout the economy. As Solow famously asserted, it took a long time for the new technology to affect aggregate productivity figures. The rapid change in institutions is not compatible with a smooth change in technology.

Globalization also does not determine institutions. Some economists and commentators have asserted that globalization has made more than one set of institutions not viable. Yet the variety of institutions that form the right-hand side of Lindert's and Nickell's regressions shows no sign of disappearing. Their work suggests further that it may not even be costly to preserve a preferred set of labor-market institutions, in contrast to the assertions of globalization enthusiasts.

Finally, economic shocks do not determine institutions. The Vietnam War and the oil shocks deranged the international economy. Yet countries responded to these shocks in idiosyncratic ways. The contrast between the US and Japan in the 1970s is only one example of the great diversity. Economic shocks can affect policy, and the shocks of the 1970s may have accelerated globalization, but there is no indication that it forced countries to adopt homogenous labor-market institutions. It did, however, create opportunities for institutional change, and we chronicle the results in the US.

Deregulation, floating exchange rates, international capital mobility, low minimum wages and taxes, and the destruction of labor unions, were not unique responses to the oil crisis or the productivity collapse. The effects of these policies have been amplified by skill biased technical change and, in the extreme, superstar markets.. But the technology did not fully determine who received the rents produced any more than technology fully determined who got the rents from the great postwar expansion. African-Americans, for example, were largely excluded from the GI Bill and other public policies by a series of political and bureaucratic actions (Katznelson, 2005).

We noted earlier how a rising income made fluctuations in the income of wage earners easier. The inability of workers to maintain this rising average standard of living now makes the uncertainty of working life harder to bear. This side effect of the trends in Figure 1 has been accentuated in two ways. The uncertainty of working life may well have increased under the new institutions. It is harder to measure second moments than first ones, and conclusions are not firm. They do however suggest strongly greater uncertainty (Gottschalk and Moffitt, 1994). The American dream of income mobility—the rags to riches story that made the United States an exceptional place to live and work—has become less likely as intergeneration income mobility has decreased (Ferrie, 2005). There now is no more mobility in the US than in Europe (Solon, 2002).

The elements of the Washington Consensus were adopted in the name of improving economic efficiency. But there is growing recognition that the current free-market income distribution – the combination of large inequalities and stagnant wages – creates its own “soft” inefficiencies as people become disenchanted with existing economic arrangements. As Stephen Pearlstein (2006) writes:

Up to now, Americans have put up with more income inequality than Europeans, Canadians or Japanese. But their tolerance is wearing thin as they see Wall Street sharpies and corporate executives getting fabulously rich by undercutting the economic security of the working poor and middle class. Not only are job security, private pensions and employer-provided health care coverage being cut back, but there is also a noticeable erosion in the public services that serve as a backstop—schools and colleges, transportation, health, recreation, job training, and food stamps. Many citizens feel they are now walking an economic tightrope, without a net, and it is this—more than mansion-envy—that animates their anxiety.

The *Washington Consensus* thus has come under fire recently as people suffering from stagnant incomes —both here and in some similar countries—have begun to protest. Our analysis suggests that the trends in the distribution derive in part from the shift from one complex of policies to another—from the *Treaty of Detroit* to the *Washington Consensus*. There is no single determinant, whether education, minimum wage, capital or labor mobility, that determines the path of income distribution. Any specific measure therefore can alleviate the distress of some people, but it cannot change the overall distributional trends shown in our graphs.

Only a reorientation of government policy can restore the general prosperity of the postwar boom, can recreate a more equitable distribution of productivity gains where a rising tide lifts all boats. The precise form of this reorientation is not yet clear. The preferred solution of the *Washington Consensus* is to let markets function and to redistribute *ex post* – the winners compensating the losers. Missing in this technical description is a discussion of the politics and leadership necessary for passage of *ex post* redistribution.

The last six years of federal tax history have involved an inhospitable politics in which winners have used their political power to expand their winnings. But political sentiment does shift. Economic distress like the 1930s can induce such a shift. Even the smaller economic distress of the 1970s was enough to redirect American economic policy. Only time will tell if more economic distress is needed to change policy yet again.

Appendix A

Comparing the Average Worker's Reduced Compensation Share with Top 1 Percent Income Gains

Figure 5 displays two time series: the compensation of the median full-time worker as a share of average output per worker (declining), and the share of all personal income reported by the top 1 percent of tax returns (increasing). We argue that these opposite patterns reflect the way the top ranges of the income distribution have captured the largest share of recent productivity gains.

The data in the two series come from different sources and measure different concepts of income.⁴⁵ Nonetheless, if our argument is correct, the income gains of the top one percent should represent a significant fraction of the income lost because the compensation of all other workers failed to keep up with productivity. What follows is a very rough calculation to demonstrate this relationship.

We begin by making a simplifying assumption that the labor force is divided into the top 1 percent of workers and the bottom 99 percent of workers. Let the income of the top 1 percent of workers be represented by the Piketty-Saez estimates of the income of the top 1 percent of taxpayers (excluding capital gains). Finally, let the remaining 99 percent

⁴⁵ For example, our compensation series measures labor earnings plus an estimate of fringe benefits. Personal income as reported in tax returns – the Piketty-Saez measure – includes labor earnings, interest, dividends, and rents but excludes the value of non-money compensation like employer provided health insurance. Our compensation series refers to the compensation of an individual worker while personal income as reported in tax returns can come from an individual or joint return, etc.

of the workforce all have compensation equal to the median compensation for all full-time workers (Figure 5).

Start with the income growth of the top one percent. Piketty and Saez report the following statistics:⁴⁶

- In 2004, there were 143,982,000 tax returns.
- The top 1 percent of this group had average income of \$721,722.
- Between 1980 and 2004, the share of all personal income reported by the top 1 percent increased from 8.18% to 16.21%.

Combining this information, we can calculate that that in 2004, the top 1 percent of tax returns received about \$515.8 billion more than they would have received had they maintained the 8.18% share of personal income that they received in 1980. In our stylized calculation, we view this as the income gained by the top one percent of workers.

With respect to the remaining 99 percent of workers we know the following facts:

- In 2004 there were 134,233,000 full-time equivalent workers⁴⁷
- The average full-time equivalent worker produced output valued at \$91,572.
- Between 1980 and 2004, the compensation of median full-time worker as a share of output per worker - our Bargaining Power Index – fell from .630 to .497 (Figure 5).

Combining this information, we can calculate that in 2004, the bottom 99 percent of workers had compensation \$1.64 trillion less than they would have had if their compensation had kept up with productivity growth.

⁴⁶ All information in this paragraph comes from the updated figures posted on Saez' website: <http://elsa.berkeley.edu/~saez/>

⁴⁷ The number refers to Persons Engaged in Production series from the National Income and Product Accounts. This series converts the number of actual workers, many of whom work part time or part year, into a full-time equivalent workforce.

In these rough calculations, then, the income gained by the top one percent due to their increasing share of all reported income is equivalent to one-third of the compensation lost by the other 99 percent of workers because their compensation did not grow as fast as productivity. While more refined calculations are clearly in order, this rough calculation is consistent with our major argument – that the lion’s share of recent productivity gains are going to the top ranges of the income distribution.

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