

**The Pay of Corporate Executives and Financial Professionals as
Evidence of Rents in Top 1 Percent Incomes
By Josh Bivens and Lawrence Mishel**

The debate over the extent and causes of rising inequality of American incomes and wages had raged for almost two decades even before the groundbreaking work of Piketty and Saez (2003) exploded onto the scene. This work reinforced the startling degree to which income growth had been concentrated overwhelmingly at the very top. The P&S data indicate, for instance, that between 1979 and 2007, the top 1 percent of American tax units accounted for 59.8 percent of average growth in cash, market-based incomes, compared to just 9 percent of average growth in this period accounted for by the bottom 90 percent. While including transfers and non-cash incomes reduces the share of growth received by the top 1 percent significantly, they *still* account for 38.3 percent of growth, more than the 31.0 percent share received by the bottom 80 percent¹.

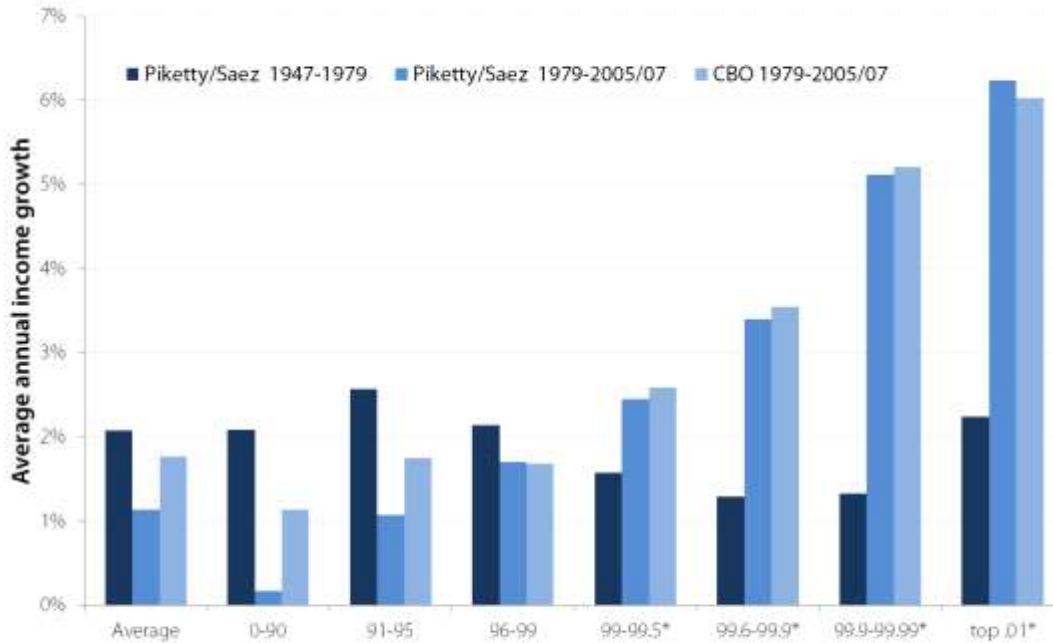
In this article we will argue the following. First, this increase in the incomes and wages of the top 1 percent over in the last three decades should largely be interpreted as a redistribution of economic rents, and not simply as the outcome of well-functioning competitive markets rewarding skills or productivity based on marginal differences. Second, this rise in incomes at the very top has been the primary impediment to living standards growth for low and moderate-income households approaching the growth rate of economy-wide productivity. Third, because this rise in top incomes is largely due to a redistribution of rents, this rise can be checked (or even reversed) through policy measures with little to no adverse impact on economic growth. Lastly, this analysis suggests two complementary approaches for policymakers wishing to reverse the rise in the top 1 percent's share of income: dismantling the institutional sources of their increased ability to redistribute rents their way and reducing the return to this rent-seeking by significantly increasing marginal rates of taxation on very high incomes.

DATA BACKGROUND

The facts of this rise in top income shares are well-known by now, so the data background will be brief. **Figure A** below summarizes the main points. It shows average annual income growth using the Piketty and Saez (2003, updated) data-set of cash, market-based incomes in two time-periods, 1947-1979 and 1979-2007, and the CBO data on comprehensive incomes for the latter period.

¹ The CBO's definition of income is comprehensive, including non-cash benefits from employers and all government transfers. The bottom 90 percent in the CBO data account for 42.5 percent of average income growth over the period, a bit more than that accounted for by the top 1 percent. However, until the CBO changed their methodology to allow more of the value of employer- and publicly-provided health care benefits to be fully reflected in household incomes near the bottom of the distribution, and to allow a greater share of corporate tax incidence to fall on households in the bottom and middle of the distribution, the top 1 percent in the CBO data accounted for more of the growth in average incomes than the bottom 90 percent.

Figure A Average annual income growth by fractiles, by time-period and data-set



* Indicates data goes from 1979 to 2005
 Source: Authors' analysis of data from Piketty and Saez (2003, updated) and CBO (2012)

First, the P&S data indicate strongly that the rise in inequality is only a feature of the latter period. Second, while it is true that there are some shortcomings to the cash, market-based incomes examined in the P&S data, movements in these incomes do actually overwhelmingly drive trends in inequality even in the comprehensive income data set tracked by the CBO. This should hardly be a shock, as cash, market-based incomes account for roughly 80 percent of all incomes even in the CBO data. Lastly, in both the P&S and CBO data, income growth by fractile does not equal or exceed *overall average* growth below the 96th to 99th percentile average.

Table 1 below provides an overview of the *sources* of income growth for the top 1 percent in the three decades before the Great Recession, using the CBO data. The punchline is that rising top shares have been driven by concentration *within* all forms of market income as well as a shift from less-concentrated sources of income (particularly labor compensation) and towards more-concentrated sources of income (particularly capital gains and business income). The CBO data also indicates that the direct, arithmetic influence of taxes and transfers has been minimal, with rising inequality of market incomes explaining more than 100 percent of the rise in the after-tax income share of the top 1 percent.² In later sections, however, we argue that the significant cut in the highest marginal tax rates has provided a large incentive for those in the top 1 percent to redistribute rents their way and strongly influenced the pre-tax distribution of income.

² See Figure 2N in Mishel et al. (2012)

Table 1 Decomposition of Top 1 Percent Incomes and Their Change

Top 1 share	Total income	labor	Capital Income						
			Dividends*, interest and rent	Capital gains	S-corporation dividends and proprietors' income (business income)	Total Capital Income	other	transfers	
1979	8.9%	4.1%	26.9%	58.5%	21.3%	31.8%	5.0%	1.0%	
2007	18.7%	8.8%	43.8%	74.2%	50.6%	56.2%	7.1%	1.0%	
Income category share									
1979	100.0%	69.8%	10.2%	3.6%	4.5%	18.3%	3.2%	8.7%	
2007	100.0%	60.3%	8.7%	8.0%	6.1%	22.8%	6.3%	10.7%	
Rising top 1 percent share accounted for by:									
Rising concentration within income category									
1979-2007	7.2%	3.2%	1.5%	0.9%	1.5%	3.9%	0.1%	0.0%	
Shift of income towards more-concentrated income categories									
1979-2007	2.6%	-0.7%	-0.5%	2.9%	0.7%	3.1%	0.2%	0.0%	
Sum of within and between changes in income categories									
1979-2007	9.8%	2.5%	1.1%	3.8%	2.2%	7.0%	0.3%	0.0%	

Note: The change in the top 1 percent income share accounted for by rising concentration *within* income categories is calculated simply by multiplying the average overall income share category in 1979 and 2007 by the change in the share of that income category claimed by the top 1 percent between these years. The share accounted for by shifts *between* income categories is calculated by multiplying the average top 1 percent share of the income category in 1979 and 2007 by the change in the overall income category's share between those years.

Source: Authors' analysis of CBO (2012)

The first block of columns simply shows the top 1 percent income share in various years, both for overall income as well as for the various sources of income identified in CBO (2012). A clear finding is that the top 1 percent share of *every source of income except government transfers* rises significantly between 1979 and 2007. Particularly salient is that the top 1 percent's share of labor income doubled and the share of total capital income grew from 31.8 to 56.2 percent.

The next block of columns shows the share of overall income for the top 1 percent accounted for by each income source. The most striking finding here is the large decline in labor compensation's share of total income, falling from 69.8 percent in 1979 to 60.3 percent in 2007. Correspondingly, the share of (driven by capital gains and business income) rose substantially, from 18.3 to 22.8 percent.³ We have noted elsewhere (Mishel et al. (2012) that the rise in capital income's share is driven overwhelmingly by a higher profit *rate*, not a rise in capital-output ratios. Finally, both *other* income (mostly pension payments for past labor services) as well as transfer incomes rise as a share of total incomes, from 3.2 percent to 6.3 percent over the period and 8.7 percent to 10.7 percent, respectively.

The third block of columns calculates how much growing concentration *within* each income category contributed to the increasing top 1 percent share between 1979 and 2007. The concentration of particular income types contributed 7.2 of the total increase in top 1 percent incomes of 9.8 percentage points. Concentration of labor and capital incomes accounted for,

³ The 1.6 percentage point increase in business income between 1979 and 2007 is likely dominated by the growth of dividend payments to owners of S corporations, making this category of income a bit more "capital-like" than is often appreciated. Just between 1991 and 2007, dividends to S corporation owners rose by more than 2 percent of total U.S. gross domestic product.

respectively, 3.2 and 3.9 percentage points out of the total 7.2 percentage point concentration impact.

The fourth block of columns calculates how much the shift from less to more-concentrated income categories contributed to the increasing top 1 percent share over the same period. While the individual components are a bit hard to interpret, the total effect of shifts *between* income categories accounts for 2.6 out of the total 9.8 percentage point increase in the top 1 percent share. This reflects the greater importance of capital incomes in total income.

The last block of columns sums each income sources' between and within contribution to the rising top 1 percent share over the period. The largest of these combined contributions is made by capital gains, followed by labor compensation, and business income.

We end with one caution on interpreting the large contribution made by labor compensation to these trends: a large share of labor compensation of the highest income households is likely due to exercised stock options and bonuses, both of which are much more tied to developments in capital markets than in labor markets. Freeman, Blasi and Kruse (2011), for example, note that in 2006 roughly \$65.1 billion in labor compensation was actually the result of exercised stock options, while Jaquette, Knittel and Russo (2003) have estimated that total "spread income" (the exercise of non-qualified stock options) was \$126 billion in 2000, and was even \$78 billion in 2001, following the stock market decline.

THE RISE IN TOP 1 PERCENT INCOMES HAS BEEN DRIVEN SIGNIFICANTLY BY RENT-SHIFTING

We are obviously not the first to label much of the rise in top 1 percent incomes as likely stemming from a redistribution of economic rents (see Stiglitz (2012) and Baker (2011) for popular examples). Many other studies, while not focusing predominantly on the top 1 percent, are strongly consistent with the interpretation that institutional changes have shifted economic rents that can explain rising inequality in recent decades.⁴ In short, rent-based explanations are not particularly novel.

Further, we should be clear that we are making a positive, not a normative, argument about the redistribution of economic rents driving the rise in top 1 percent income and wage shares. Labeling any group's income growth as largely stemming from economic rents does not necessarily imply that they are ill-gotten gains. Instead, all it means is that this income growth

⁴ For example, DiNardo, Fortin, and Lemeiux (1992), Lee (1999) and Autor, Manning and Smith (2010) have identified strong effects of the minimum wage in driving "lower-tail" inequality, while numerous other studies (Card and Krueger (1995), Allegretto, Dube and Reich (2011), Manning (2003) have not found any of the employment losses predicted by competitive models following increases in the minimum wage. The combination of these results strongly suggest that the primary effect of minimum wage increases is to redistribute economic rents, rather than to affect employment levels, as would be the case in competitive labor market models. Levy and Temin (2006) have identified the breakdown of a range of rent-shifting institutions that they shorthand as the "Treaty of Detroit" as driving inequality between the top (roughly 90th percentile) and middle of the wage and income distribution.

was in excess of what was needed to induce them to supply labor and capital to these respective markets.

Rent-shifting is important in the key groups – non-financial executives and financial executives and professionals – that are driving top 1 percent pay

Table 2 draws on a study of tax returns (Bakija et al 2012) to show the trend in the shares of total income (which includes wages and other types of income) of U.S. households accruing to the top 1.0 and top 0.1 percent of households. It further breaks down these two top income groups into households headed by either an “executive” (including managers and supervisors and hereafter referred to as executives) in nonfinancial sectors and households headed by someone, including executives, working in the financial sector (where household head is defined as the “primary taxpayer”). Between 1979 and 2005 (the latest data available with these breakdowns) the share of total income held by the top 1.0 percent more than doubled, from 9.7 percent to 21.0 percent, while the top 0.1 percent more than tripled its income share, from 3.3 percent to 10.3 percent. This 7.0 percentage-point gain in income share for the top 0.1 percent accounted for more than 60 percent of the overall 11.2 percentage-point rise in the income share of the entire top 1.0 percent.

Table 2 Role of executives and financial sector in income growth of top 1.0% and top 0.1%, 1979–2005

	Share of total income*					Change 1979–2005	Share of change 1979–2005
	1979	1993	1999	2001	2005		
A. Occupation of primary taxpayer							
<i>Top 1.0%</i>	9.7	14.0	19.3	17.5	21.0	11.2	100%
Executives, managers, and supervisors (non-finance)	3.8	5.6	7.8	6.5	7.9	4.0	36%
Finance workers, including executives	0.9	1.8	3.1	3.0	3.4	2.5	23%
Total, executives and finance workers	4.8	7.4	10.9	9.4	11.3	6.5	58%
<i>Top 0.1%</i>	3.3	5.5	9.3	7.9	10.3	7.0	100%
Executives, managers, and supervisors (non-finance)	1.6	2.8	4.5	3.5	4.7	3.1	44%
Finance, including executives	0.4	0.9	1.8	1.7	2.1	1.6	23%
Total, executives and finance	2.0	3.7	6.3	5.2	6.7	4.7	67%
B. Share of spouses employed as executives or in finance							
Top 1%	10.0	14.2	16.1	15.9	15.7	5.7	n/a
Top 0.1%	11.6	15.3	16.0	15.0	15.5	3.9	n/a

* Household income including capital gains

Source: Mishel et al (2012) analysis of Bakija, Cole, and Heim (2012, Tables 4, 5, 6a, and 7a)

Table 2 establishes that increases in income at the top were largely driven by households headed by someone who was either an executive or in the financial sector as an executive or other worker. Households headed by a non-finance executive were associated with 44 percent of the growth of the top 0.1 percent’s income share and 36 percent in the growth among the top 1.0 percent. Those in the financial sector were associated with nearly a fourth (23 percent) of the expansion of the income shares of both the top 1.0 and top 0.1 percent. Together, finance and executives accounted for 58 percent of the expansion of income for the top 1.0

percent of households and an even greater two-thirds share (67 percent) of the income growth of the top 0.1 percent of households.⁵

This estimate of the impact of executives and finance on the growing incomes at the top does not include the role of earnings from spouses, which understates the role of executives and financial professionals in driving top 1 percent pay. We argue in the next two sub-sections that ample evidence argues that the extraordinarily high incomes of these two groups – executives and financial sector professionals – are likely due in large part to rent-extraction.

CEOs and corporate executives

The 1980s, 1990s, and 2000s have been prosperous times for top U.S. executives, especially relative to other wage earners.⁶ **Table 3** uses two measures of compensation to show trends in CEO pay since 1965. The measures differ only in their treatment of stock options: one incorporates stock options according to how much the CEO realized in that particular year, and the other incorporates the Black Scholes value of stock options granted that year. Besides stock options, each measure includes the sum of salary, bonus, restricted stock grants, and long-term incentive payouts. We use a historical CEO compensation series (for 1965 to 1992) to extend the two measures back to 1965.⁷

Table 3 CEO and production/nonsupervisory worker average annual pay, 1965–2011 (2011 dollars)

Year	CEO annual compensation (000s)*		Worker annual compensation (000s)		Stock market indices		CEO-to-worker	
	Options realized	Options granted	Private-sector production/ nonsupervisory workers	Firms' industry**	S&P 500	Dow Jones	Options realized	Options granted
1965	791	750	38.5	n/a	511	5,278	20.1	18.3
1973	1,033	980	45.8	n/a	451	3,881	22.1	20.1
1978	1,413	1,341	47.6	n/a	282	2,411	29.0	26.5
1989	2,631	2,496	44.0	n/a	525	4,081	58.5	53.3
1995	5,570	6,177	43.6	49.8	737	6,120	122.6	136.8
2000	19,482	19,977	45.9	52.0	1,730	13,006	383.4	411.3
2007	17,919	12,484	48.2	52.2	1,487	13,268	351.7	244.1
2008	17,491	11,648	48.4	53.0	1,183	10,902	314.9	225.7
2009	10,036	9,639	50.5	55.4	923	8,648	193.1	181.5
2010	12,042	11,003	50.9	56.0	1,092	10,215	228.0	205.9
2011	12,141	11,082	50.3	55.4	1,268	11,958	231.0	209.4
Percent change							Percentage-point change	
1965–1978	78.7%	78.7%	23.7%	n/a	-44.7%	-54.3%	8.9	8.1
1978–2000	1,278.8%	1,390.3%	-3.6%	n/a	513.0%	439.3%	354.4	384.9
2000–2011	-37.7%	-44.5%	9.7%	6.6%	-26.7%	-8.1%	-152.4	-201.9
1978–2011	759.3%	726.7%	5.7%	n/a	349.1%	395.9%	202.0	182.9

* "Options realized" compensation series includes salary, bonus, restricted stock grants, options exercised, and long-term incentive payouts for CEOs at the top 350

** Annual compensation of production and nonsupervisory workers in the key industry of the firms in the sample.

*** Based on averaging specific firm CEO-to-worker compensation ratios and not the ratio of averages of CEO and worker compensation.

Sources: Mishel and Sabadish (2012) analysis of Compustat ExecuComp database, Federal Reserve Economic Data (FRED) from Federal Reserve Bank of St. Louis, Bureau of Labor Statistics Current Employment Statistics program, and Bureau of Economic Analysis National Income and Product Account Tables

⁵ Relative to other top 1 percent households those headed by executives had roughly average income growth, those headed by someone in the financial sector has above average income growth and the remaining households (non-executive, non-finance) had slower than average income growth.

⁶ The enormous pay increases received by chief executive officers of large firms has spillover effects (the pay of other executives and managers rises in tandem with CEO pay), but unfortunately no studies have established the scale of this impact.

⁷ This explains why the growth from 1965 to 1978 is the same for both measures.

CEO compensation in Table 3 is the average of the annual compensation of the CEOs in the 350 publicly owned firms with the largest revenue each year. For comparison, Table 3 also presents the annual compensation of a private-sector production/nonsupervisory worker (covering more than 80 percent of payroll employment), a figure that allows us to compare CEO compensation to that of a “typical” worker. Last, from 1995 onward we can identify the average annual compensation of the production/nonsupervisory workers in the key industry of the firms included in the sample. We take this compensation as a proxy for the pay of workers in these particular firms.

CEO compensation grew 78.7 percent between 1965 and 1978, three times the growth of the compensation of private-sector workers. The stock market (as measured by the Dow Jones and S&P indices) fell by about half during this same time that CEO compensation tripled. Average CEO compensation grew strongly over the 1980s but exploded in the 1990s and peaked in 2000 at more than \$19 million, a growth of 1,279 or 1,390 percent since 1978, respectively, with the options-realized and the options-granted measures. This growth in CEO compensation far exceeded even the substantial rise in the stock market, which grew 439 or 513 percent in value over the 1980s and 1990s. In stark contrast to both the stock market and CEO compensation growth was the 3.6 percent decline in the compensation of private-sector workers over the same period.

The fall in the stock market in the early 2000s led to a substantial paring back of CEO compensation, but by 2007 (when the stock market had substantially recovered) CEO compensation returned close to its 2000 levels, at least for the options-realized measure. The financial crisis in 2008 and the accompanying stock market tumble knocked CEO compensation down again. By 2011 the stock market had recouped a lot of ground lost in the 2008 financial crisis and CEO compensation had returned to either \$11.1 million measured with options granted or \$12.1 million measured with options realized. CEO compensation in 2011 is high by any metric, except when compared with its own peak in 2000, after the 1990s stock bubble. From 1978 to 2011, even with the setbacks provided by the 2001 and 2008 stock market crashes, CEO compensation grew more than 725 percent, substantially more than the stock market and remarkably more than worker compensation, which grew a meager 5.7 percent.

Table 3 also presents the trend in the ratio of CEO-to-worker compensation to illustrate the increased divergence between CEO pay and a typical worker’s pay over time.⁸ Though lower than in other years in the last decade, the CEO-to-worker compensation ratio in 2011 (231.0-to-1 or 209.4-to-1) is far above the ratio in 1989 (58.5 or 53.3-to-1), 1978 (29.0 or 26.5-to-1), or 1965 (20.1 or 18.3-to-1). This illustrates that CEOs have fared far better than the typical worker, the stock market, or the U.S. economy over the last several decades.

⁸ This overall ratio is computed in two steps. The first step is to compute the ratio of the CEOs compensation to the annual compensation of workers in the key industry of their firm (data on the pay of workers in any particular firm are not available) for each of the 350 largest firms. The second step is to average that ratio across all the firms. The data in Table CEO2 are the resulting ratios in every year. The trends prior to 1992 are based on the changes in average CEO and private-sector worker compensation.

Bebchuk and Fried (2004) compile ample evidence in favor of the claim that top executive pay is largely the result of rent-extraction. Perhaps their most persuasive evidence is simply the extent to which real-world compensation arrangements for CEOs are “camouflaged” to look like they are the result of contractual arrangements that should reward CEOs based on relative performance, but because of opaque details generally do not.

One example of this camouflage is the employ of compensation consultants and the construction of “peer groups” to benchmark top executive salaries. While at first glance this may seem like good corporate practice (benchmarking to insure that shareholders are not overpaying for managers), these consultants and peer-group constructions can often be used to justify inflated corporate pay. Bizjack, Lemmon and Nguyen (2011), for example, find evidence that “peer groups are constructed in a manner that biases compensation upward”.

Another example of such camouflage is construction of stock options – an instrument that *could* be consistent with aligning manager and shareholder interests – that largely reward luck rather than CEO performance. (Bertrand and Mullainathan (2001), for example, have found that CEO pay for luck is actually as large as pay for performance, and they interpret this finding as evidence in support of the rent-extraction hypothesis for CEO pay.

Finally, Bebchuk and Fried (2010) note that, “standard pay arrangements have commonly failed to restrict the use of financial instruments that can weaken or eliminate entirely the incentive effects of equity-based instruments awarded as part of compensation arrangements”. They note that in a study by Schwab and Thomas (2006) of 375 employment contracts governing CEO pay, not a single one restricted the CEO from hedging away the CEO’s option grants.

Some analysts have disagreed, and argue that CEO pay is set competitively through optimal contracting. As evidence they point to comparisons that suggest CEO pay grew in line with that of other highly skilled workers and can be explained by growth in market capitalization.

Kaplan (2012b), for instance, claims CEO pay has risen in line with that of other highly-paid workers and that this is evidence against managerial power and rent-seeking driving CEO pay trends. We are not sure that this actually would be evidence against the managerial power theory of high CEO pay and, more importantly, our reading of Kaplan’s own data yields an opposite conclusion. **Table 4** presents the ratio of the average CEO compensation of large firms, the series developed by Kaplan, to two benchmarks. The first is the one Kaplan uses, the average household income of those in the top 0.1 percent which Kaplan incorrectly labels as ‘pay’. The second is the average annual earnings of the top 0.1 of wage earners based on a series developed by Kopczuk et al (2007) and updated in Mishel et al (2012). The wage benchmark seems the most appropriate one since it avoids issues of household demographics—changes in two-earner couples, for instance—and limits the income to labor

income and excludes capital income. Both of these ratios underestimate the premium enjoyed by CEOs since executive pay is a nontrivial share of the denominator.⁹

Table 4 Comparison of CEO compensation to top 0.1% incomes and wages

Year	Ratio CEO compensation to:	
	(1) Top 0.1% Household Income	(2) Top 0.1% Wage Earners
1979	1.18	3.16
1989	1.14	2.55
1993	1.56	2.95
2000	2.90	7.53
2007	1.49	4.23
2010	2.06	4.70
Change		
1979-2007	0.31	1.07
1979-2010	0.89	1.54

Source: Top 0.1% household income data from Piketty and Saez (2012), CEO compensation from Kaplan (2012b), top 0.1% wage data from Mishel et al (2012, Table 4.8)

The ratio of CEO compensation to top 0.1 percent household incomes (column (1)) rose between 1979 and 1993 and rose especially during the stock market boom until 2000 when the ratio had grown to 2.90 from just 1.18 in 1979. The fall in CEO compensation in the 2000s still left the ratio at 2.06 in 2010, 81 percent greater than its 1989 value. The ratio of CEO compensation to that of other high earners is much greater but shows a similar (84 percent) growth from 1989 to 2010. Given the continued recovery of the stock market since 2010 it is reasonable to expect that the distance between CEOs and other highly-paid wage earners will grow further post-2010. Using Kaplan's logic, given that CEO pay has moved far faster than the pay of the top 0.1 percent we conclude that executive pay has not been set competitively.

⁹ In 2007, according to the Capital IQ database (tabulations kindly provided by Temple University professor Steve Balsam), there were 38,824 executives in publicly-held firms. There were 9,692 in the top 0.1 of wage earners, a group whose average W-2 earnings were \$4,400,028. Using Mishel et al (2012) estimates of top 0.1 wages the executive wages comprised 13.3 of total top 0.1 percent wages. One can gauge the bias of including executives in the denominator by noting: the ratio of executive wages to all top 0.1 percent wages in 2007 was 2.14 but the ratio of executive wages to non-executive wages was 2.32. Unfortunately, we do not have data that permit an assessment of the bias in 1979 or 1989. We also do not have information on the number and wages of executives in privately-held firms: their inclusion would clearly indicate an even larger bias. The IRS reports there were nearly 15,000 corporate tax returns in 2007 of firms with assets exceeding \$250 million indicating there are many more executives of large firms than just those in publicly-held firms.

Drawing on Gabaix and Landier (2008) Kaplan (2012a, 2012b) suggests that CEO pay grew on par with firm size in the last few decades and this is evidence of market-determined pay.¹⁰ As Gordon and Dew-Becker (2007) point out the available evidence does not support a unitary elasticity between firm size and CEO pay, either historically back to 1936 (Frydman and Saks (2007) or in annual cross-sections from 1990-2004. Fernandes et al (2012) report an elasticity of 0.4 which they report is in line with prior studies.

A last bit of evidence that flawed corporate governance has allowed U.S. corporate executives to receive inefficiently high pay is the high ratio of U.S. CEO pay relative to international peers. Fernandes et al (2012) show U.S. CEO compensation in 2006 to be twice that of other advanced nations at both the median and mean. A survey by Towers Perrin, a consulting firm, shows U.S. CEO compensation was triple that of other advanced nations in 2003, up from 2.1 times foreign CEO compensation in 1988 (Mishel et al 2004, Table 2.47). Tower Perrin also reports that U.S. CEO compensation was 44 times that of the average worker whereas the non-U.S. ratio was 19.9.¹¹

Fernandes et al (2012) challenge the claim that U.S. CEOs are paid significantly more than their foreign counterparts. As noted above, they find U.S. CEOs to be paid double that of their counterparts. However, even after controlling for firm-level characteristics (size, leverage, stock return, stock volatility and Tobin's Q they find a U.S. pay premium of 88 percent. It is only when they control for 'inside and institutional ownership' that they knock the pay premium down to a still substantial 31 percent. It is not clear to us that U.S. institutional board arrangements are reflective of CEO skill and should be included as control when estimating the pay premium. One could, in fact argue simply that U.S.-style governance features are associated with excessive CEO pay both here and abroad.

Financial professionals

The case for rents driving much of the increase in top salaries in the financial sector is a debate that is largely inseparable from the broader question of the social value of finance, and whether or not the large expansion of the sector between the 1970s and 2007 was of benefit or detriment to the larger economy. This question has been interestingly addressed in a previous symposium in this very journal.

We're convinced that the wider economy has not benefited from this expansion of finance and that it largely represents overpayment for financial intermediation services that competitive markets could have delivered more efficiently. We would go further and argue that this expansion of finance actually imposed large negative externalities on the wider economy

¹⁰ Frydman and Saks (2010) note "the strong correlation in more recent decades may be due to an upward trend in both variables instead of a causal effect of firm size on pay." They also note "the strong correlation between compensation and aggregate firm size was limited to the 1980s and 1990s. For all other decades in our sample, average market value accounts for less than 1 percent of the variation in executive pay.(footnote twenty-five)"

¹¹ These ratios differ from that reported in Table tk because of a differing sample of firms.

through the increase in systemic risk that has accompanied the rise in large, complex financial institutions (LCFIs, in the jargon). The large rise in financial sector salaries (and profits) that did not benefit the rest of the economy suggests strongly that rent-extraction put a wedge between income claimed and economic value generated by finance.

The first suggestive bit of evidence that greater opportunities for rent-extraction in finance drove the expansions of this sector is simply that the rise in finance's share of overall economic activity and the steep rise in top incomes in this sector coincide with a range of identifiable legislative and regulatory changes that vastly expanded the range of activities that financial firms could engage in. Regulatory prohibitions from earlier eras were explicitly dismantled or made moot (for a good summary of many of these changes, see Sherman (2012)).

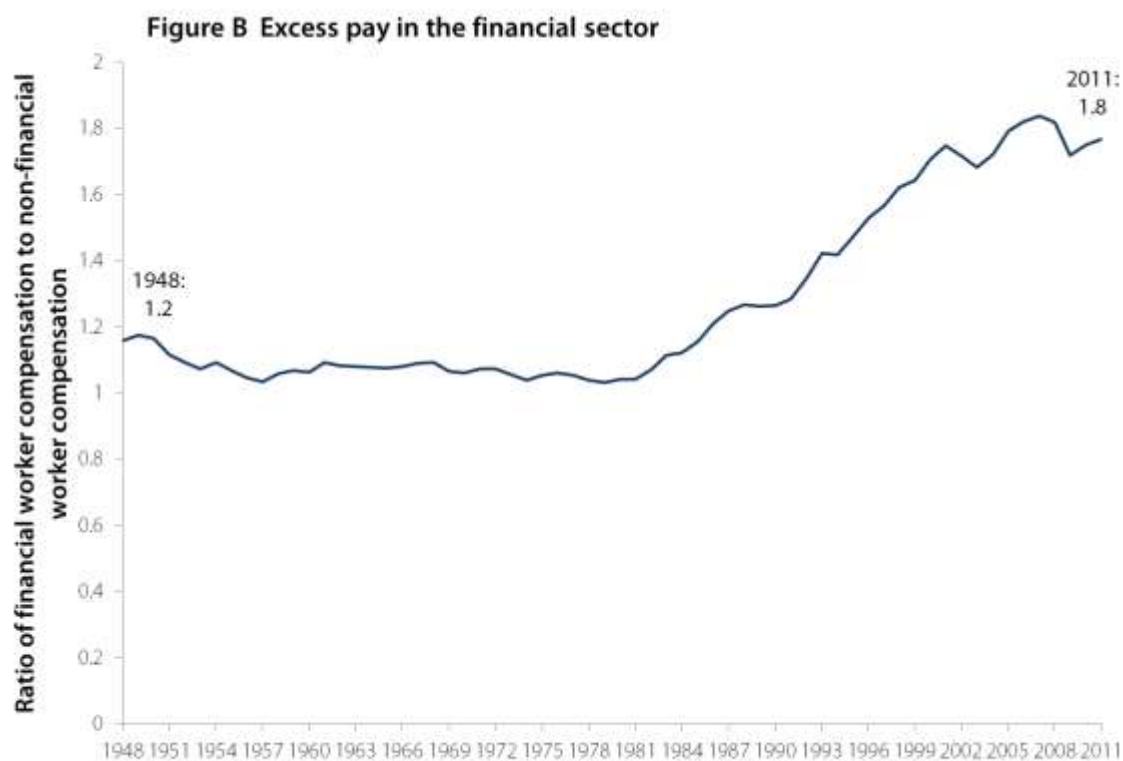
The result of these regulatory changes was a large rise in bank concentration, following a generation of economic history that saw concentration ratios roughly hold steady. Further, there is very little evidence that the large rise in bank concentration reflected economies of scale or scope that were passed onto consumers in lower prices of intermediation (see Haldane (2009a) for a review of this literature). All else equal, this rise in concentration implies the increased possibility for earning monopoly profits. A standard economic finding is that income received and income produced by a sector only need be equal when the price of the sector's good or service equals its marginal cost. In imperfectly competitive sectors, however, this equalization between marginal costs and prices need not occur.

Another wedge between economic value produced and income claimed in this sector is the implicit (if it can still be called "implicit" in the post-TARP era) insurance that the financial sector receives from the government. These subsidies can be economically significant, both in fiscal costs from clean-ups after crises happen (see Laeven and Valencia (2008)), as well as reduced financing costs for firms perceived to be too big (or too interconnected or just too politically influential) to fail (Baker and McCarthur (2009)). Further, the value of this implicit insurance rises with the risk of the underlying activities, and given that deregulation in this sector allowed a wider range of (often quite risky) activities, this insurance wedge surely got larger as well.

A last wedge comes from the severe information asymmetries implicit in modern finance. This allows financial firms to extract large rents through financial intermediation largely by hiding, rather than managing, financial risk. Haldane (2009b) has highlighted many of the means through which financial firms have in recent decades assumed risk in a search for high returns, while also managing to hide this risk from their sources of finance.

"...because banks are in the risk business, it should be no surprise that run-up to crisis was hallmarked by imaginative ways of manufacturing this commodity, with a view to boosting returns to [financial sector] labour and capital. Risk illusion is no accident, it is there by design...Regulatory measures are being put in place to block off last time's risk strategies, including through recalibrated leverage and capital ratios"

Biais, Rochet, and Wooley (2010) note that asymmetric information and inability to fully punish moral hazard (because of limited liability) provide the opportunity for financial managers to earn rents by failing to provide due diligence in assessing the true underlying risks of new financial innovations when they manage principals' money. Their theoretical setup is given empirical support in the findings of Philippon and Reshef (2009), which charts a rapid rise in the pay of financial sector workers. Their empirical work constructs a long-enough time-series to chart the tight correlation between above-average pay in finance and the historical ebb and flow of financial regulation and de-regulation. Below in **Figure B** we show the unadjusted ratio of financial sector pay (annual compensation per full-time employee) since 1948. Between 1952 and 1982 this ratio never exceeded 1.1. By 2007, after decades of steady growth, it had reached 1.83. The rise in financial sector pay persists in the data even when standard wage-equation controls are introduced, and Philippon and Reshef (2009) estimate that roughly a third to one-half of the rise in financial sector pay is due strictly to rents.



Source: Authors' analysis of Bureau of Economic Analysis National Income and Product Accounts data.

Bebchuck, Cohen and Spamann (2009) provide the starkest example of the large gap between value produced by financial sector institutions and value claimed by their managers in examining the compensation provided to executives at Bear Sterns and Lehman Brothers – two of the most spectacular failures in American finance during the crisis. They show that even net of the losses suffered by top management from the loss of value of their holdings at the time of each banks' respective crash, that managers at these firms were able to obtain staggering payoffs over the entire 2000-2008 period: \$650 million for Bear Sterns' top executive team and \$400 million for Lehmann's team. To be clear, recounting this history of compensation at these

banks is not simply to generate outrage, but to make clear that in one of the most important markets to drive top 1 percent incomes in recent years there was an extraordinary divergence between what top managers took home and even what shareholders (surely a privileged group compared to the wider U.S. economy) gained. This type of divergence seems like powerful evidence to us that the extraordinary rise of top 1 percent incomes is not the outcomes of well-functioning markets allocating pay according to value generated.

Objection: But it's other professions, too

An objection to this analysis is that while executive and financial sector pay explains most of the rise in top 1 percent incomes, there remains well over a third of this growth left unexplained. While we cannot go into every last occupation that has contributed to top 1 percent pay, we will note that rents seem extraordinarily important to many of the other occupations (especially those represented outside of executives and finance professionals in the very top – say the top 0.1 or 0.01 percent).

Lawyers, for example, are often hired *strictly* to redistribute returns to productive activity (Murphy, Shleifer and Vishny (1991, explicitly use pre-law college majors as a proxy for rent-seeking). The health care sector is one of the few that has actually outpaced finance in terms of claiming an ever-larger share of overall economic activity, yet much analysis finds not only that a large fraction of provided (and billed-for) care does not measurably improve health outcomes, but that prices in the American system are vastly higher than in the health systems of our advanced country peers (see Anderson et al. (2003) and Cutler and Skinner (1999)). Further, the growth of spending on pharmaceuticals and medical devices constitute a significant share of overall health spending over the last generation, and these are sectors within health care given explicit government protection in the form of patents (see Davis et al (2007).

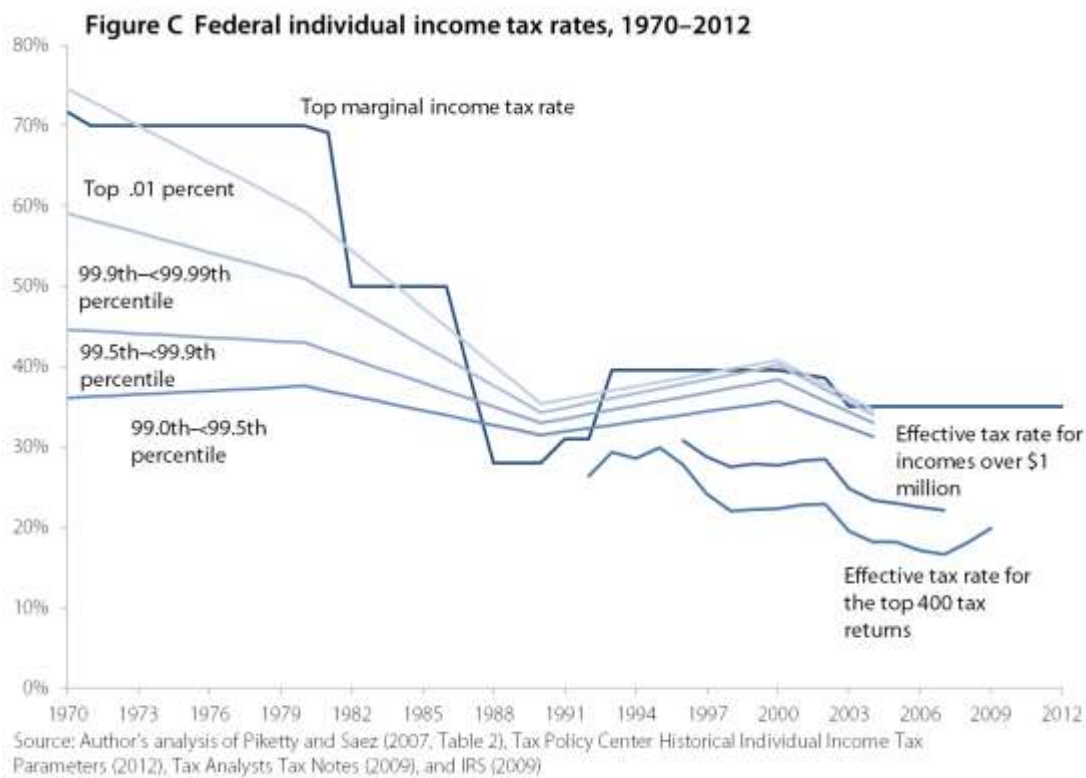
Further, even if some of the professions that have kept pace with others in the top 1 percent were generally characterized by relatively competitive labor markets, the existence (and growth) of rent-seeking sectors can still pull up wages and incomes there. For example, Laugesen and Glied (2011) have demonstrated that physician salaries (particularly specialists – orthopedists, in their study) are significantly higher in the United States than compared to even those in our rich industrial peers. The authors then make the astute point that, “One explanation for the higher incomes of U.S. physicians may lie in the broader U.S. income structure. The share of income received by people in the top 1 percent of the U.S. income distribution far exceeds the corresponding share in the comparison countries.” Empirical support for their point can be found in the work of Kedrosky and Stangler (2011) and Goldin and Katz (2008), both of which chart a large increase in the share of graduates from elite universities choosing to enter finance rather than other fields like medicine or hard sciences.

In short, just to keep a constant quality workforce in the face of rent-driven increases in CEO and financial sector pay, even competitive labor markets in other occupations near the top of the income distribution would have to see pay rise.

Not just rising *opportunity* for rent-shifting, but rising *incentive*

So far, we have argued that the evidence supports that case that a number of professions that dominate the rise in top 1 percent have seen increased opportunities for shifting rents to boost incomes and wages. This is important, because the case cannot just be that the opportunity for rent-shifting clearly exists within these industries (this is, we would argue, an exceedingly hard case to deny) but that these opportunities have *increased* in recent decades. It's this increase that, all else equal, is crucial for the argument.

But all else isn't equal. While the case for opportunities for rent-shifting increasing may be speculative (though again, we'd argue, consistent with lots of evidence), the case for increased *incentives* for rent-shifting is completely unambiguous. These increased incentives are dominated by significant declines in top marginal tax rates in recent years. **Figure C** below shows effective tax rates on high-income households over time. Since the 1960s there has been a steady downward drift in these effective tax rates. So long as well-placed individuals in rent-claiming occupations are balancing the costs and benefits of exerting more influence to boost their own incomes (see the balance of increased CEO pay versus the "outrage constraint" in the work of Bebchuk and Fried (2004), for example), then anything increases the benefits of exerting this influence will see a rise in their pre-tax incomes. Piketty, Saez and Stantcheva (2012) have shown (as we also discuss later) that the link between falling marginal rates and higher pre-tax top 1 percent shares is significant both in time-series data for the U.S. as well as across countries.



Policy and institutional changes not just about top 1 percent labor markets

We have been arguing so far mostly within a framework amenable to (granted, broad-minded and institutionalist) microeconomists, positing that developments within specific sectors and occupational labor markets have boosted the ability of well-placed groups to redistribute rents their way. However, the levers of rent-shifting do not just have to come within single labor markets, and could well include changes in public policy to either shift bargaining power to those at the top of income distribution generally, or (which is the equivalent) to subvert the bargaining power of those at the bottom and middle.

In previous work (Mishel et al. (2012), we have documented the ways in which a range of policy developments over the last generation have disproportionately damaged the wage prospects of low and moderate-wage workers, including the declining real value of the minimum wage and the failure to update labor law to provide a level playing field in the face of growing employer hostility to union organizing efforts (see Bronfenbrenner (2000) and Schmitt and Zipperer (2009) for evidence of this increased employer hostility. Hacker and Pierson (2012) have extensively documented that many of these policy changes were intentional and pursued with *much* greater vigor in the last generation than the previous one. Too often the assumption is that policy variables like the real value of the minimum wage cannot be relevant to top 1 percent incomes as it is, by definition, non-binding on high wages. Yet, one person's income is another person's cost. And if a declining value of the minimum wage (or, say, increased effectiveness in blocking union organizing) keeps wages in check at, say, Wal-Mart, then it is hardly a shock that this could well lead to higher pay for corporate managers and higher returns to Wal-Mart shareholders (see Draca, Machin and Van Reenen (2012) for evidence in the UK that higher minimum wages reduce firm profitability – but with no significant impact on employment).

Further, the role of globalization – a mixture of exogenous and policy-induced changes – also likely looms large. Textbook Stolper-Samuelson models (at least in the the old textbooks!) explicitly show that trade openness will increase capital incomes and reduce labor compensation. Others (Rodrik (1999 and Jayadev (2007) have note that capital account openness (largely a policy choice) could well tilt bargaining power away from workers and towards capital-owners, resulting in higher capital shares not just in developed countries - the standard Stolper-Samuelson result - but in developing countries as well -a non-standard result that has shown up strongly in the data.

WILL PUTTING A BRAKE ON TOP 1 PERCENT GROWTH HARM *OVERALL* GROWTH RATES?

Identifying the rise in top 1 percent incomes as largely accruing from shifting rents is important. If it is true, it means that any successful effort to redistribute these rents will cause no change in overall economic growth (or will even improve this overall growth) and will hence translate directly into increased living standards for low- and moderate-income households.

This last point is particularly important, as it is the rise in inequality in the last generation that has been the primary barrier to low- and moderate-income households from seeing living standards' growth since 1979 that comes close matching *overall* income growth rates. In

previous work we have shown that growth in middle-fifth comprehensive incomes in 2007 would have been more than twice as rapid if they had matched overall average rates (19.2 percent actual versus 51.5 percent overall growth).¹² Further, nearly 60 percent of the cumulative gap between growth of the middle-quintile and overall average growth (which we have labeled an implicit “inequality tax” on these middle-quintile incomes) between 1979 and 2007 can be accounted for *solely* by growth of the top 1 percent.

Of course, this exercise implicitly presupposes that one can assume that redistribution away from the top could have been (or could be) accomplished without damaging overall economic growth. Is this a safe assumption? We think the data bears this out. Besides the evidence assembled above indicating that the growth of these incomes are largely rents, a number of recent studies have looked directly at the issue of shifting top shares on overall economic growth. Piketty, Saez and Stantcheva (2012) and Andrews, Jencks and Leigh (2011) use international comparisons and data to see if there is stark evidence that top shares effect overall growth, while Thompson and Leight (2012) uses a panel of individual U.S. states to examine the impact of rising top income shares on income growth at the bottom and middle of the distribution.

Piketty et al. (2012) examine the relationship between top marginal tax rates, top income shares, and aggregate economic performance, both in U.S time-series as well as using an international panel of 18 OECD countries. They find strong evidence that falling top marginal tax rates are associated with higher pre-tax top income shares. However, they do not find a strong association either between falling top marginal rates and rising economic growth or (for the U.S. data) rising top income shares and faster economic growth. They also find significant evidence that falling top marginal tax rates are associated with slower income growth for the bottom 99 percent of households. They take this constellation of evidence as supporting a “bargaining model where gains at the top have come at the expense of the bottom”.

Andrews, Jencks and Leigh (2011) find slightly mixed evidence on the larger issue of top shares and subsequent growth, with increases in the share of income accruing to the top 10 percent positively (and generally statistically significant across regression specifications) related to subsequent overall growth in their preferred regression models. They note the modest economic impact implied by their results.

¹²In the latest edition of CBO’s comprehensive income data, they deflate nominal incomes by growth in the deflator for personal consumption expenditures. We are not convinced that this is the appropriate deflator, and maintain the CBO’s earlier practice of deflating with the CPI-U-RS. While there are some problems potentially addressed by the PCE deflator (the problem of substitution bias and the too-small share of health expenditure in the CPI consumption basket), it remains the case that the universe covered by the PCE deflator is larger than households, and contains non-profit institutions. This potentially introduces problems; for example the share of PCE expenditures on information communications technology and equipment is significantly larger than their share in the CPI consumption basket. This has real consequences as ICT prices have fallen extraordinarily fast in recent decades.

“But at the very least, the 95 percent confidence intervals for our preferred estimates appear to rule out the claim that a rise in top income shares causes a large short-term increase or decrease in economic growth. The claim that inequality at the top of the distribution either benefits or harms everyone therefore depends on long-term effects that we cannot estimate very precisely even with these data.”

Most importantly for the question at hand, the Andrews, Jencks and Leigh (2011) results seem driven by what is happening in the fractile between the 90th and 99th percentiles. They note that in their full sample that “The top 1 percent’s share is never both positively and significantly related to the growth rate”.

Thompson and Leigh (2012) have recently used a different sort of panel to examine the relationship between top income shares and growth – looking at the top 1 percent within individual U.S. states as the unit of analysis. Their analysis finds that rising top 1 percent income shares are associated with *falling* subsequent growth in incomes and earnings for households in the middle of the distribution, while having no significant effect on growth at the bottom of the distribution. Further, their finding on the statistical significance of the depressing effects of rising top shares on middle-incomes is fairly robust and survives the inclusion of a range of covariates (though its economic impact is relatively modest).

All in all, the empirical evidence that has directly examined the effect of rising top 1 percent shares on overall economic growth does not suggest that they are strongly and robustly associated. This *lack* of a robust finding is actually quite important. Some advocates for reversing the rise of the top 1 percent share occasionally make strong claims that the rise at the top has clearly harmed overall economic growth. However, this does not need to be true in order for rising top 1 percent shares to have hurt potential living standards growth at the bottom and middle of the wage and income distributions. Instead, so long as the shift to the top 1 percent is not associated with *improved* growth, then the rest of the distribution is harmed. The broad historical data sees a strong association between stable top income shares and faster overall growth in early post-World War II U.S. economic history followed by rising top income shares and notably slower growth in the three decades before the Great Recession. This broad association is clearly not reversed in more careful attempts to establish a link between rising top shares and aggregate economic performance.

WHAT TO DO ABOUT THE RISE OF THE TOP 1 PERCENT: ATTACK RENTS DIRECTLY OR RAISE TAXES...A LOT

We think the evidence that the rise in top 1 percent shares can be treated as a redistribution of rents, as well as the direct evidence that changing shares in the U.S. economy is not associated with worse aggregate outcomes, means that there is ample room for policymakers disturbed by the concentration of American incomes to act to stabilize or reverse top 1 percent shares without fear of inflicting collateral damage in the form of slower overall growth that harms living standards at the bottom and middle.

As we see it, there are two broad categories to describe what can be done about the rise of the top 1 percent: try to attack the source of their ability to shift rents directly and try to reduce the incentives for rent-shifting.

Attacking the source of the top 1 percent's ability to claim rents means acting on a long laundry list of policy changes. Baker (2011) provides a compelling argument behind many of these needed changes: Corporate governance reform that gives not just shareholders but other stakeholders as well (research has found, for example, not just that well-governed CEOs are less likely to see large payouts driven simply by "luck", as well as finding that unionized firms more successfully restrict managerial pay) real influence over executive pay decisions; financial sector reform that insures risks are not simply hidden and that information asymmetries are not exploited by financial firms; reconstituting labor standards that boost bargaining power at the low and middle-end of the wage-scale (higher minimum wages and labor law reform that allows willing workers to bargain collectively if they choose); the dedicated pursuit of genuinely full-employment; reform of intellectual property law that greatly reduces the legal monopoly granted to sectors like pharmaceuticals, software, medical devices, and entertainment.

Reducing the *incentives* for the top 1 percent to shift rents can be achieved with a much shorter list: significantly raising the marginal tax rates on high incomes, including a reduction in the current gap in taxation of earned versus unearned income. Raising these marginal rates would also address other problems in American political economy – closing long-run fiscal gaps and providing revenue needed (during times of full-employment) to undertake productive public investment and maintain social insurance programs valued by most Americans while stabilizing public debt ratios.

But directly attacking the sources of rent-shifting at the top may also provide just-as-valuable benefits, just not in the form of fiscal policy. But if corporate governance reforms finally allow the incentives of managers and important stakeholders to be better aligned, this could be efficiency enhancing. And if reform of intellectual property laws radically reduces the price of pharmaceuticals and medical devices while bringing their prices into line with marginal costs, money will be saved directly by health care consumers and health reform.

In short, there is much to recommend both courses of action, and there's no reason for those concerned about the rise of income concentration at the very top to choose only one route. What's most important is, again, that taking much more ambitious steps to halt or reverse the concentration of income at the very top will not kill any golden goose of economic growth. Instead, it will just lead to more income for those at the bottom and middle of the income distribution.

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