Jobs and Income Growth of Top Earners and the Causes of Changing Income Inequality: Evidence from U.S. Tax Return Data

Jon Bakija	Adam Cole	Bradley T. Heim
Williams College	Office of Tax Analysis	Indiana University
Williamstown,	U.S. Department of	School of Public and
MA 01267	Treasury	Environmental Affairs
jbakija@williams.edu	Washington, DC 20220	Bloomington, IN 47405
	Adam.Cole@do.treas.gov	heimb@indiana.edu

April, 2012

Abstract:

This paper presents summary statistics on the occupations of taxpayers in the top percentile of the national income distribution and fractiles thereof, as well as the patterns of real income growth between 1979 and 2005 for top earners in each occupation, based on information reported on U.S. individual income tax returns. The data demonstrate that executives, managers, supervisors, and financial professionals account for about 60 percent of the top 0.1 percent of income earners in recent years, and can account for 70 percent of the increase in the share of national income going to the top 0.1 percent of the income distribution between 1979 and 2005. During 1979-2005 there was substantial heterogeneity in growth rates of income for top earners across occupations, and significant divergence in incomes within occupations among people in the top 1 percent. We consider the implications for various competing explanations for the substantial changes in income inequality that have occurred in the U.S. in recent times.

It is well known that the share of the nation's income going to the top percentiles of the income distribution in the United States has increased dramatically over the past three decades. Data from individual income tax returns tabulated by Piketty and Saez (2003, updated 2008) and shown in Figure 1 demonstrates that the percentage of all pre-tax income (excluding capital gains) in the United States that was received by the top 0.1 percent of income earners rose strikingly from 2.2 percent to 8.0 percent between 1981 and 2006. But until now, there has been little hard data available to the public on what these people typically do for a living, which is an economically important question. Kaplan and Rauh (2010) estimate what share of tax returns at the top of the income distribution can be accounted for through publicly-available information on top executives of publicly-traded firms, financial professionals, law partners, and professional athletes and celebrities. Despite making various extrapolations beyond what is directly available in publicly-available data sources, for the year 2004 they are only able to identify the occupations of 17.4 percent of the top 0.1 percent of income earners. As Kaplan and Rauh, among others (e.g., Gordon and Dew-Becker, 2008) have emphasized, the questions of what proportion of people in the top income percentiles are in different occupations, and how these proportions have been changing over time, have important implications for evaluating competing explanations for the rapid rise in incomes at the top. Yet until now we have had very incomplete information on these questions. The main contribution of our paper is to present summary statistics tabulated from cross-sectional individual income tax return data at the U.S. Treasury Department on what share of top income earners work in each type of occupation, the shares of top incomes that are accounted for by the various occupations, mean incomes of top earners in each occupation, and how all of these have changed over selected years between 1979 and 2005. Through this method we are able to account for the occupations of almost all top earners – for example, for over 99 percent of primary taxpayers in the top 0.1 percent of the income distribution in 2004.

The behavior and incomes of very-high income people are of extreme quantitative importance for government revenue and for the economy, which is one motivation for our focus on their incomes in this paper. Mudry and Bryan (2009) report that the top one percent of taxpayers ranked by income paid 40 percent of federal personal income taxes in 2006, and the

1

top 5 percent of taxpayers paid 60 percent of federal personal income taxes. This is explained by a combination of the effective progressivity of the personal income tax, and the large share of national income earned by people at the top of the distribution.[1]

We find that executives, managers, supervisors, and financial professionals account for about 60 percent of the top 0.1 percent of income earners in recent years, and can account for 70 percent of the increase in the share of national income going to the top 0.1 percent of the income distribution between 1979 and 2005. During 1979-2005 there was substantial heterogeneity in growth rates of income for top earners across occupations, and significant divergence in incomes within occupations among people in the top 1 percent.

The paper proceeds as follows. In the following section, we review the literature on the causes of changing income inequality and rising top income shares. We then describe the tax data that we use in the empirical work. The final section outlines results tabulating occupations and incomes of high income taxpayers, and considers the implications for competing explanations for increasing income inequality and directions for future research.

Theories and Prior Evidence on the Causes of Rising Top Income Shares

The literature on the causes of rising income inequality over the past few decades has identified many factors that may contribute to rising top income shares. First, it is important to note that Piketty and Saez (2003, updated 2010), among others, have shown salary income and business income (including self-employment income, S-corporation, and partnership income), both of which largely reflect labor compensation, now account for the majority of the incomes of top income earners, and have been growing substantially as a share of that income in recent decades. As a result, salary income and business income account for about 63 percent of the increase in the share of national income (including capital gains) going to the top 0.1 percent of

---

[1] In fiscal year 2007 federal personal income tax revenues were $1.16 trillion, or 45 percent of federal revenues. Source: Economic Report of the President (2009).

the income distribution between 1971-1980 and 2001-2010. [2] So theories to explain the rising top income shares shown in Figure 1 must largely be about compensation for labor.

One explanation for rising income inequality emphasizes that it coincided with advancing globalization, as indicated for example by increasing shares of imports and exports in GDP. This may increase the demand for the labor of high-skill workers in the U.S., because they can now sell their skills to a wider market, and highly-skilled workers are scarcer in the rest of the world than in the U.S. Globalization may similarly depress wages for lower-skilled workers, because they now have to compete with abundant low-skill workers from the rest of the world (Stolper and Samuelson, 1941; Krugman 2008). A second hypothesis is skill-biased technical change (Katz and Murphy, 1992; Bound and Johnson, 2002; Card and DiNardo, 2002; Garicano and Rossi-Hansberg 2006; Garicano and Hubbard 2007). Technology has arguably changed over time in ways that complement the skills of highly-skilled workers, and substitute for the skills of low-skilled workers. A third hypothesis, closely related to the previous two, is the "superstar" theory suggested by Sherwin Rosen (1981). In this theory, compensation for the very best performers in each field rises over time relative to compensation for others, because both globalization and technology are enabling the best to sell their skills to a wider and wider market over time, which displaces demand for those who are less-than-the best. This is easiest to see for entertainers, but could easily apply to other professions as well.

A fourth hypothesis is that the increasing inequality may be explained to some extent by executive compensation practices (Bebchuk and Walker, 2002; Bebchuk and Grinstein, 2005; Eissa and Giertz, 2009; Friedman and Saks, 2010; Gabaix and Landier, 2008; Gordon and Dew-Becker, 2008; Kaplan and Rauh 2010; Murphy 2002; Piketty and Saez 2006). A large share of

---

[2] Among taxpayers who were in the top 0.1 percent of the income distribution ranked by income including capital gains, salary income and business income accounted for 34 percent of income including capital gains, on average 1971-1980, and 56 percent of income including capital gains, on average 2001-2010. The total share of national income including capital gains going to the top 0.1 percent increased from an average of 2.9 percent during 1971-1980 to an average of 9.6 percent during 2001-2010. The 63 percent figure noted in the text is (0.56*9.6 – 0.4*2.9) / (9.6 - 2.9). Capital gains accounted for 34 percent of the incomes of people in the top 0.1 percent on average 1971-1980, and 30 percent 2001-2010. Other capital income such as dividends and interest declined from 26 percent of income to 14 percent of income for the top 0.1 percent of income earners over this period. (Source: authors' calculations based on data posted by Emanuel Saez at <http://elsa.berkeley.edu/~saez/TabFig2010.xls>).

executive pay comes in the form of stock options, and almost all stock options are treated as wage and salary compensation on tax returns when they are exercised (Goolsbee 2000).[3] Because of this, the values of stock options exercised by employees are generally counted in the measures of income used in the income inequality literature. [4] It is clear that executive compensation has increased greatly over time, but there is a raging debate over why this has happened, and whether there are enough executives for this to explain much of the rise in top income shares. Bebchuk and Walker (2002) and Bebchuk and Grinstein (2005), among others, have argued that high and rising executive pay reflect the fact that the pay of executives is set by their peers on the board of directors, that free rider problems prevent shareholders from doing sufficient monitoring of executive compensation practices, and that the problems have been getting worse over time. Bertrand and Mullainathan (2001) argue that optimal executive compensation practices would reward executives for their own efforts but not for luck. So for example, executives would optimally be rewarded for an increase in their firm's share price relative to the share prices of other firms in the economy, but would not be rewarded for increases in the firm's share price that are driven by an overall increase in economy-wide equity prices (for example due to bubble psychology or a reduction in the risk premium demanded by investors). They present empirical evidence indicating that executive pay is in fact equally influenced by effort and luck, and that luck has less of influence on executive pay in firms that various observable indicators suggest are better governed. This supports the notion that executive compensation practices are not entirely efficient. Many others (for example, Murphy

---

[3] Federal income tax law classifies compensation in the form of stock options into two categories. "Non-qualified" stock options are treated as wage and salary income when exercised. "Incentive" stock options are taxed as capital gains a the personal level when exercised, but are denied a deduction for labor compensation from the corporate income tax. Under current law, the non-qualified options are generally much preferable from a tax standpoint compared to incentive stock options and Goolsbee (2000) indicates that almost all stock options used in executive compensation are of the non-qualified type. However, before 1986 incentive stock options were less tax disadvantaged.

[4] The taxable income elasticity and inequality literatures usually focus on income excluding capital gains, because we usually only have data on gains realizations (rather than accruals) reported on tax returns, because capital gains realizations fluctuate wildly over time, because capital gains receive different tax treatment than other income, and because capital gains have obvious alternative explanations (e.g., stock market booms and busts).

2002) argue that executive pay reflects economically efficient compensation necessary to align executive incentives with those of shareholders. Gabaix and Landier (2008) argue that the increasing scale of firms has been critical to explaining rising executive pay; however, Friedman and Saks (2010) show that real executive pay grew very little between World War II and the mid-1970s despite large increases in firm size during that period, casting doubt on the Gabaix and Landier hypothesis.

A fifth hypothesis is that technological change and compensation practices in financial professions play a critical role. Philippon and Reshef (2009) show that the skill-intensity of financial sector jobs has grown dramatically since the early 1980s. Moreover, they estimate that since the mid-1990s, financial sector workers have been capturing rents that account for between 30 and 50 percent of the difference between financial sector wages and wages in other jobs. Of course, compensation of executives, financial professionals, and perhaps top earners in other fields (such as high technology) can be expected to be heavily influenced by financial market asset prices, particularly stock prices, which went up dramatically at the same time as the increase in inequality. So part of the rising inequality may simply reflect that people in these professions have compensation that is strongly tied to the stock market, and got lucky when the stock market went way up. This might be counted as a separate hypothesis or a subset of the previous two.

Another hypothesis related to the past few is that social norms and institutions in the United States may be changing over time in a way that reduces opposition to high pay (see, e.g., Piketty and Saez 2006). For example, perhaps the "outrage constraint" once played and important role in preventing executives and their peers on the board from colluding to grant excessively high pay, but social norms against high pay have weakened over time so this constraint no longer binds. Alternatively, perhaps the social norms of old were harming efficiency by preventing corporate boards from granting stock options that were sufficiently large to align the incentives of the executive with those of the shareholders.

Other explanations for the changes in pre-tax income inequality consider the influence of tax changes that occurred in the past few decades. This is explored in the now voluminous literature on the "taxable income elasticity," recently and comprehensively reviewed by Saez,

Slemrod, and Giertz (2012). Early and influential papers by Feldstein (1995, 1999) argued that the responsiveness of taxable income to changes in marginal tax rates provides information on nearly all of the margins along which individual taxpayers may adjust their behavior to avoid taxes – not only changes in hours worked, but also changes in work effort per hour, form of compensation, choice of tax-deductible consumption versus non-deductible consumption, risk taking and entrepreneurship, and so forth. Feldstein went on to argue that under certain assumptions, the elasticity of taxable income with respect to the net-of-tax-share can be a sufficient statistic to calculate the deadweight loss caused by income tax.[5] It turns out that seemingly small differences in this elasticity have dramatically different implications for the amount of deadweight loss caused by taxation. Giertz (2009) performs simulations using published tax return data, and his analysis suggests that given the current structure of taxation in the U.S., if the taxable income elasticity is 0.2, the marginal deadweight loss per additional dollar of revenue raised in the top tax bracket is $0.31 and the peak of the Laffer Curve occurs at a tax rate of 78 percent. If the elasticity is 0.8, the deadweight loss caused by raising one additional dollar of revenue from a top-bracket taxpayer is $6.57, and the peak of the Laffer curve occurs at a tax rate of 41 percent, which is only slightly above the top marginal income tax rate that is scheduled to apply when the federal tax cut enacted in 2001 (EGTRRA) expires.

Clearly, a researcher wishing to distinguish the causal impact of marginal tax rates on income from all the other possible explanations for rising income inequality listed above faces a difficult task. Contributors to the taxable income elasticity literature have tried various clever but imperfect methods to try to control for the kinds of factors discussed above.

First is the use of the standard difference-in-differences identification strategy (or more generally the use of fixed effects or differencing together with year dummies). Feldstein analyzed the effect of the Tax Reform Act of 1986 (TRA86) on taxable income and gross pre-tax income. Feldstein applies a difference-in-differences approach, where people with high tax rates before the reform were the "treatment group" because they experienced a large cut in marginal tax rates (up to 50 percent before the reform and a maximum of 28 percent afterwards)

[5] See, however, Chetty (2008) and Saez, Slemrod, and Giertz (2012) for discussion of why these assumptions may not hold.

and those with lower tax rates before the reform, who experienced only small marginal tax rate cuts, were the "control group." As is apparent from Figure 1, in the years around TRA86, pre-tax incomes of high-income people grew much faster than those of other people. As a result, Feldstein estimated a very large elasticity of income with respect to the net-of-tax share, in some cases in excess of one.

Feldstein's study also illustrates some of the challenges involved in distinguishing the causal effect of taxes from the effects of other factors that also influence income. In Feldstein's simple difference-in-differences analysis, which did not control for other factors, the key identifying assumption was that there were no other factors besides taxes that influence income that were changing in different ways over time for people at different income levels, because whether someone experienced a change in tax rates was determined largely by the starting level of income before the reform. Therefore, the taxable income elasticity literature in public economics is inextricably intertwined with the literature on the causes of changing income inequality. As Figures 1 and 2 show, between 1981 and 2006 incomes of very high-income people rose sharply relative to the incomes of the rest of the population, while at the same time top marginal income tax rates were cut sharply, from 70 percent in 1980 to 35 percent as of 2006. Looked at over the period as a whole, the data appears consistent with the theory that high-income people respond to the improved incentives to earn income created by tax cuts, although there are some features of the data, such as the fact that the incomes at the top of the distribution continued to rise sharply after an increase in the to marginal tax rate from 31 percent to 39.6 percent starting in 1993, which do not seem particularly consistent with the theory. But of course, many other factors that might influence top incomes and income inequality were also changing over time.

Gruber and Saez (2002) supplemented the difference-in-differences approach by controlling for a ten-piece spline in log income from the first year of a three year difference. This effectively controls for unobservable influences on income that follow a different linear time trend at each point in the income distribution, allowing for the rate of change in the effect with respect to income to differ for each decile of the distribution. The use of the spline in income was also motivated by the apparently large degree of mean-reversion in income, which

makes it difficult to distinguish the effect of a change in taxes from the effects of transitory fluctuations in income over time, together with the observation that the degree of mean-reversion appears to be heterogeneous across the income spectrum. Gruber and Saez's preferred estimate of the taxable income elasticity was 0.4, which still implies considerable deadweight loss from progressive taxation, but far less than that suggested by Feldstein's estimates. Much of the subsequent literature has followed Gruber and Saez's approach of controlling for different linear time trends in income at each point in the income distribution. However, we demonstrate below that whatever unmeasured factors are driving the rise in top income shares, they cannot possibly be well-described by a linear time trend.

Another approach, used for example in Auten and Carroll (1999) and Auten, Carroll, and Gee (2008), has been to make use of internal government panel data on tax returns that includes information on occupation in selected years. These authors controlled for occupation dummies in specifications that differenced the data over time, which effectively controls for a different linear time trend in unmeasured influences affecting income for each occupation, but did not control for a spline in lagged income. There is abundant evidence from the labor economics literature that increases in earnings inequality have been "fractal" in nature – almost regardless of how you define a group, including by occupation, earnings inequality has been increasing within that group (see, for example, the survey by Levy and Murnane, 1992). We demonstrate below that there has been substantial divergence in incomes within the same occupation even among people who are in the top one percent of the income distribution (which to our knowledge has not previously been demonstrated in the labor literature, due to top coding of publicly available earnings data). For these reasons, the approach used in prior taxable income elasticity papers that had information on occupation was very likely insufficient to effectively control for unmeasured time-varying influences on income. Those papers also used short panels that each spanned only a single federal tax reform that moved tax rates in one direction (1985 and 1999 in Auten and Carroll, 1999 through 2005 in Auten, Carroll, and Gee), which makes it difficult to distinguish the effects of tax changes from mean reversion in income and from unmeasured time-varying influences.

8

There is another tax-based explanation for rising income inequality that suggests very different policy implications. Prior to TRA86, top personal income tax rates exceeded the top corporate income rate by a wide margin, so there was a strong incentive to organize one's business as a C-corporation, because it enabled one to defer paying high personal tax rates on one's income as long as it was retained within the corporation, at the cost of paying the lower corporate rate right away. After TRA86, the top personal rate was reduced below the top corporate rate, which created an incentive to change one's business to a pass-through-entity such as an S-corporation, the income of which is taxed only once at the personal level. This has important implications for the income inequality and taxable income elasticity literatures, because it suggests that part of the difference in top incomes before and after 1986 does not reflect the creation of new income, but rather income that was previously not reported in the data (which is derived from personal income tax returns) and now is. Slemrod (1996) and Gordon and Slemrod (2000) demonstrate that this factor must explain a substantial portion of the increase in top incomes around 1986. Yet, looking back at Figure 1, even if one restricts attention to the period from 1988 forward, the income share of the top 0.1% still increased from 5 percent of national income to 8 percent. Taxable income elasticity researchers studying periods spanning 1986 try imperfect methods for dealing with this such as omitting returns with any S-corporation income.

One particularly promising development for the prospects of distinguishing which explanations for increasing income inequality are correct has been the collection of long historical time-series on top income shares in a variety of nations. Atkinson, Piketty, and Saez (2011) have recently reviewed the lessons from this data collection effort. Figure 1 shows the share of income going to the top 0.1 percent of the income distribution in the U.S., France, and Japan, based on data from Piketty and Saez (2006, updated in 2008), Moriguchi and Saez (2008), Piketty (2003), and Landais (2008). It shows that while the share going to top earners increased dramatically between 1981 and 2006 in the U.S., it was basically flat in these other countries until very recently. There is evidence of some increase in top income shares in Japan and France since the late 1990s, but the changes are far less pronounced than what has occurred in the U.S. Various authors (Atkinson, 2007; Atkinson and Salverda, 2005; Saez and Veall, 2005;

and many other studies cited in Atkinson and Piketty, 2007, Saez 2006 and Roine, Vlachos, and Waldenstrom 2008) have constructed top income shares for other countries as well, and have shown that top income shares have grown sharply only in English speaking countries. Like France, other continental European countries have had flat top income shares in recent decades, with moderate upward trends beginning to emerge only after the late 1990s in countries such as France and Spain where very recent data is available.

The international data on top income shares seems inconsistent with some of the theories for rising income inequality cited above, and only partly consistent with others (Piketty and Saez 2006). For example, it is not immediately clear why globalization and skill-biased technological change would raise top income shares sharply in English speaking countries but not in Continental Europe or Japan where the degree of globalization and technological advancement is presumably similar, although as we discuss later in the paper, there are some plausible explanations for this which deserve further investigation. Regarding the tax hypotheses, Figure 2 shows that there were much larger and earlier cuts in top marginal income tax rates in the U.S. than in France, and in general English speaking countries had much larger reductions in top marginal income tax rates than did Continental European countries. So the fact that top income shares went way up in the English speaking countries but not in Continental Europe seems to support the theory that marginal income tax rates are an important part of the explanation for surging top income shares in English speaking countries. However, Figure 2 also shows that Japan had similarly large reductions in top marginal income tax rates to the U.S. since 1981, yet no increase in top income shares happened there, which is highly inconsistent with the tax-based theories.

Initial efforts to use cross-country data to econometrically estimate the relationship between marginal tax rates and top income shares do find a correlation. Roine, Vlachos, and Waldenstrom (2008), estimate regressions using cross-country data from most of the 20th century, find that countries which experienced larger reductions in top marginal personal income tax rates had modestly larger increases in top income shares over time. A 10-percentage point reduction in the top marginal personal income tax rate is associated with a 0.4 percentage point increase in the percent of national income going to the top one percent of the income

distribution. Using data on 18 OECD countries from 1975 through 2008, Piketty, Saez, and Stantcheva (2011) find that countries that reduced top marginal personal income tax rates by larger amounts over time also experienced larger increases in the share of national income going to the top one percent of the income distribution, compared to countries that had smaller reductions in to marginal tax rates over time. Based on this relationship, they estimate that elasticity of income to the net-of-marginal-tax-rate share is 0.44 among income earners in the top one percent of the income distribution. If that represented a causal effect of improved incentives on productive economic behavior, it would imply that the revenue-maximizing marginal tax rate in the top bracket of the U.S. personal income tax would be about 60 percent, and the marginal deadweight loss per dollar of additional revenue raised from a top bracket taxpayer in the U.S. would be about $0.95.[6] However, Piketty, Saez, and Stantcheva argue that in fact a large share of the response of reported top incomes to marginal tax rates represents rent-seeking – that is, top income earners are to some extent redistributing income from others to themselves rather than creating new income. As an example, they suggest that reduced top marginal income tax rates give executives an enhanced incentive to bargain in order to exploit market failures in the executive compensation pay-setting process of the sort discussed above, redistributing income from shareholders to themselves. Piketty, Saez, and Stantcheva show that there is no evidence across countries or in the U.S. time series of a correlation between top marginal tax rates and economic growth, and present this as evidence that some of the rise in top income shares may have represented rent-seeking as opposed to new productive income-earning efforts. They do acknowledge that this is at best circumstantial evidence, since so many other factors that they are not controlling for also affect economic growth. Based on this, they conclude that the elasticity of real productive income earning efforts to the net-of-tax-share is probably closer to 0.2, which would imply a revenue-maximizing top tax rate of 79 percent and

---

[6] Saez, Slemrod, and Giertz (2012) show that the revenue maximizing top bracket rate = $1/(1+a*e)$, and the marginal deadweight loss per dollar of revenue raised from a top bracket taxpayer is $(e*a*\tau)/(1-\tau-e*a*\tau)$, where a is the "Pareto parameter" which characterizes the Pareto distribution of income (estimated to be 1.5 for the U.S.), e is the elasticity of income with respect to net-of-tax-share, and τ is the marginal tax rate in the top bracket, which they set at 0.425 (including the federal top marginal personal tax rate, the Medicare tax rate, and average state personal income tax and sales tax rates).

a marginal deadweight loss per dollar of additional revenue collected from a top bracket taxpayer of $0.28.

Theories about executive compensation, financial market asset prices, social norms, and institutions could be important contributing factors to rising top income shares, but estimating their influence is complicated by the fact that we lack good observable indicators of social norms and executive compensation practices that are comparable across countries. Roine, Vlachos, and Waldenstrom's analysis of cross-country panel data does finds that top income shares are strongly positively correlated with stock market capitalization. A corroborating piece of evidence for the role of executive compensation, pay-setting institutions, and stock market prices is that while Japan and the U.S. had similar changes in top marginal tax rates, in Japan it was illegal to compensate executives with stock options until 1997 (Bremner 1999), and stock prices in Japan crashed in the early 1990s and remained relatively flat thereafter (Figure 3). This might help explain the lack of rising top income shares in Japan. Executive stock options are legal in France, and stock prices rose even more in France than in the U.S. since the early 1980s; but average executive compensation in France is less than half of what it is in the U.S., which might be explained by social norms (*The Economist*, 2008, and Alcouffe and Alcouffe 2000). This could explain why top income shares seem largely unaffected by stock prices in France. Kaplan and Rauh (2010), on the other hand, have argued that executives of publicly-traded firms represent too small of a share of top income earners in the U.S. to be able to explain much of the rise in top income shares. Part of the motivation of our present study, therefore, is to see whether more complete information on the occupations of high earners might corroborate what seems to be happening in the international data.

Data

This paper makes use of repeated cross-sections of federal income tax returns. The dataset was created by merging annual cross-sectional files produced by the Statistics of Income (SOI) division of the Internal Revenue Service. Each year, a stratified random sample of tax returns is drawn, where the probability of being selected increases with income, and the highest

income returns are selected with certainty.[7] As a result, these cross-sections contain complete tax return information from the highest income taxpayers in each year. Variables are collected from Form 1040 and many of the supporting schedules, and include wages and salaries, dividends and interest, capital gains, and income from closely held businesses.

Occupation and industry data were then merged together with these datasets.[8] Each year since 1916, taxpayers have been asked to identify their occupation on their federal tax form, with the current single line entry format beginning in 1933.[9] In 1979, SOI began a pilot project to convert the text entries from the tax forms to standard occupation codes (SOC's). Following the pilot project, they attempted to code occupations for the entire 1979 cross-sectional file (both primary and secondary filers, if applicable) according to the 1972 SOC classification system. To aid in this, information on the industry of the taxpayer's employer was merged into the dataset by matching the employer identification number (EIN) from the taxpayer's W-2 form to industry codes from the Social Security Administration's Employer Information File, allowing identification of the taxpayer's industry of employment as well.

Occupations and industries were coded intermittently in the subsequent years, with an occupation file created for the 1993, 1997, and 1999 tax years. Starting in 2001, occupations and industries have been coded every year, with the most recent data coming from 2005. Most of our analysis focuses on the occupations reported by the "primary filers," which in the case of married couples filing jointly represent whoever listed their social security number first on the return; we also present some information on the occupations of spouses ("secondary filers") whose social security numbers are listed second on the return. Across all years, occupations

---

[7] In 2004, for example, 100 percent of returns with incomes above $5 million are included in our cross-sectional sample. In order to avoid disclosure, the publicly-available versions of the cross-sectional tax return data sample even the highest income returns, and some variables from these returns are withheld or blurred. For example, in the 2004 public-use data, 33 percent of returns with incomes above $5 million are included (Weber 2007).

[8] The creation of the occupation datasets is described in Crabbe, Sailer, and Kilss (1983); Sailer, Orcutt, and Clark (1980); Clark, Riley, and Sailer (1989); and Sailer and Nuriddin (2000).

[9] This history is described in Sailer, Orcutt, and Clark (1980). As noted by Sailer and Nuriddin (2000), essentially no guidance is given to taxpayers on how to describe their occupation, and no categories are given from which taxpayers can choose.

were coded for 90 percent of working primary filers and 84 percent of working secondary filers, and industries were coded for 87 percent of working primary filers and 77 percent of working secondary filers. Because the occupation and industry classification systems changed a number of times,[10] to make the codes comparable across time we converted occupation codes in each year to the equivalent 2000 SOC code, and industry codes to the equivalent 1997 NAICS code. To make the occupation and industry data more amenable to studying occupations and industries that have been the focus of previous studies, we then aggregated these occupation codes into 22 occupation groups and industry codes into 11 industry groups. The occupation groupings are detailed in Appendix Table A.1. Aggregating the data in this manner also helps reduce noise that might come from taxpayers changing the description of their occupation from year to year. When looking at the very highest income groups we further aggregate occupations to prevent any cell from becoming so small that disclosure of sensitive private information about individuals would become an issue.

We consider three different measures of income in the analysis: gross income, and gross income excluding capital gains, and labor and business income. To construct our measure of "gross income," we start with adjusted gross income (AGI) as reported on the tax form. To maintain consistency across years, we then subtract from AGI any social security income or unemployment included in AGI, subtract state tax refunds, and add back total adjustments less half of self-employment taxes, because these items were not available in the data on a consistent basis over time. In 1979, we also add any capital gains, dividends, and interest that were excluded by law from AGI in that year but not in later years of our sample. We also create a measure of "gross income excluding capital gains," and following the previous literature focus mainly on that. Our measure of "labor and business income" adds together wages and salaries, income from sole proprietorships, and income from partnerships and S-corporations. Finally, wage and salary income comes from the relevant line from Form 1040.

---

[10] The 1980 SOC codes were used for the 1979 through 1997 files, and 2000 SOC codes were used for the 1999 through 2005 files. The 1972 SIC codes were used for the 1979 file, 1980 SIC codes were used for the 1993 and 1997 files, 1997 NAICS codes were used for the 1999 and 2001 files, and 2002 NAICS codes were used for the 2002 through 2005 files.

We then assign tax returns to percentiles of the national income distribution (including non-taxpayers) in the following manner. For each year we sort returns in the internal Treasury cross-sectional data set in descending order by income and count down to compute the number of returns that represent a particular percentage of the total number of tax units in the United States for that year. We then determine the minimum income for that group and use it to assign people to percentiles.[11] The minimum income levels to qualify for the top quantiles of the distribution of income (excluding capital gains) in 2005 (measured in constant year 2007 dollars and rounded to the nearest thousand) were: $94,000 for the top 10 percent; $129,000 for the top 5 percent, $295,000 for the top 1 percent, $450,000 for the top 0.5 percent, and $1,246,000 for the top 0.1 percent.

What Are the Occupations of Top Income Earners?

Table 1 reports the percentages of primary taxpayers that are in each occupation among the top 0.1 percent of income earners, from the 2004 cross-sectional tax data, and compares it to estimates of the same thing by Kaplan and Rauh (2010) that were based on extrapolations from publicly-available data. For comparability with Kaplan and Rauh, in this table we rank taxpayers by income including capital gains. In the tax data, occupation is known for all but 0.7 percent of these taxpayers. In comparison, Kaplan and Rauh, using data from a variety of different sources, are able to identify occupations for about 17.4 percent of this income group. It also appears that the shares of occupations that Kaplan and Rauh study comprise a greater share in the tax data than was found in their paper. In the tax data, 18.4 percent of people in the top 0.1 percent of the income distribution were in finance-related occupations or were executives, managers, and supervisors of financial firms. Another 6.2 percent were lawyers,

---

[11] A "tax unit" is defined as a married couple or a single adult aged 20 or over, whether or not they file an income tax return. Data on total number of tax units is taken from Piketty and Saez (2003, updated 2008). Our thresholds for percentiles of the income distribution match up fairly closely to those reported in Piketty and Saez. Their estimates are based on public-use micro datasets of tax returns up through 2001 and interpolations from published tables thereafter. In this preliminary version of our paper we use the thresholds reported in Piketty and Saez to assign returns in the *panel* to percentiles, because we have not yet computed thresholds from cross-sectional data for all years included in the panel.

and 3.1 percent were in the arts, media or sports. In their data sources, Kaplan and Rauh were able to identify 10.3 percent of the top 0.1 percent of the income distribution as working financial professions, 2.4 percent as being employed in law firms, and 0.9 percent as having an occupation in arts, media or sports.

Kaplan and Rauh were able to identify 3.8 percent of the top 0.1 percent of income as top non-financial executives in publicly traded firms. Based on this, they argued that executives represent too small of a share of top income earners for corporate governance issues and stock options to be a good explanation for rising top income shares. Our tax data does not contain information about the ownership structure of the firm for which the taxpayer works, but over 40.8 percent of the top 0.1 percent report their occupation as being an executive, manager, or supervisor of a firm in a non-financial industry, and 28.6 percent report being an executive. Undoubtedly, many of these executives work for closely-held businesses rather than large publicly traded firms. To investigate this issue, we attempt an approximate division of executives, managers, and supervisors into "salaried" versus "closely held business" categories. An executive, manager or supervisor is assigned to the "closely held business" category if the sum of primary earner self-employment income, and partnership and S-corporation income for the return as a whole, exceeds wage and salary income on the return. Otherwise, the executive is assigned to the "salaried" category. Among managers and supervisors in the "salaried" category, wages and salaries represent 94 percent of combined labor and business income reported on the tax return; the corresponding figure for those in the "closely held business" category is only 12 percent, so this method of division appears to work well. We would expect that those in the "salaried" category are likely to be working for publicly-traded corporations, or at least large closely-held corporations. This decomposition suggests that about half of the executives, managers, and supervisors in the top 0.1 percent of the income distribution received more salary income than business income. Salaried non-financial executives account for 15 percent of the top 0.1 percent, and salaried managers represent another 4.7 percent, for a total of about 20 percent. The vast difference between this and Kaplan and Rauh's 3.8 percent figure might be explained partly by non-publicly-traded firms, to the extent that executives and managers of these firms receive most of their income from wages and salaries. Some of the

16

difference must also be due to the fact that publicly available data only allows Kaplan and Rauh to identify the 5 most highly-paid executives at each firm, and some may be due to other income of executives and managers that is not disclosed in public documents but which is included on their tax returns. This suggests that corporate governance issues and stock options may be more important for explaining top income shares than Kaplan and Rauh suggested. Moreover, while principal-agent problems may be smaller in closely-held firms, they are not always absent, and executives and managers of closely held firms are sometimes compensated with stock options, so that financial market asset prices may be important for explaining their pay.[12] Later in the paper, we demonstrate that the incomes of executives, managers, and supervisors in the top 0.1 percent of the income distribution are correlated with movements in stock prices over time (this has also been demonstrated econometrically for top executives at publicly traded firms by Eissa and Giertz, 2009). Together, executives, managers, and supervisors, and financial professionals account for 59.2 percent of primary taxpayers in the top 0.1 percent of the distribution of income (including capital gains) in 2004. Therefore, it seems that corporate governance issues, stock price movements, and developments in the financial industry may indeed play a large role in explaining the movement of top income shares, at least for the top 0.1 percent.

To examine the distribution of occupations across years, Table 2 presents the percentage of primary taxpayers in the top one percent of income distribution that report each occupation in the years for which we have occupation data, and Table 3 repeats this exercise for the top 0.1 percent of primary taxpayers. This table and most of our discussion in the rest of the paper focus on statistics using a measure of income that excludes capital gains, but for comparison purposes we also provide alternative versions of the most tables that use measures of income including capital gains. For many occupations, the share of the top percentile of taxpayers in each occupation remained relatively stable between 1979 and 2005, but for executives, financial professions, and real estate these shares changed noticeably. The fraction of the top 1 percent that are non-financial executives, managers, and supervisors gradually declined, starting at 36 percent in 1979 and dropping to 31 percent by the end of the sample period. Salaried executives

---

[12] Koll (2003) discusses executive compensation problems in closely-held businesses.

declined sharply from 21 percent of the top percentile in 1979 to 11.3 percent by 2005, while executives of closely held businesses rose from 1.8 percent to 4.8 percent of the top percentile. Both changes were sharpest between 1979 and 1993, which is consistent with the observation that TRA86 created an incentive to switch firms from C-corporation to S-corporation status. The share of the top one percent of income earners that are in financial professions almost doubled from 7.7 percent in 1979 to 13.9 percent by 2005. The share of the top one percent of income earners who are in real estate related professions was stable between 1979 and 1997, and then grew from 1.8 percent in 1997 to 3.2 percent by 2005, no doubt reflecting the effect of increased housing prices on the incomes of these taxpayers. Table 2a demonstrates that these patterns are very similar when we use a measure of income that includes capital gains.

Among taxpayers in the top 0.1 percent of the distribution of income, the share in executive, managerial and supervisory occupations drops from 48.1 percent in 1979 to 42.5 percent in 2005, which is similar to the decline for the top one percent as a whole. But the share in financial professions increases even more dramatically, from 11.0 percent to 18.0 percent, and the share in real estate increases from 1.8 percent in 1997 to 3.7 percent in 2005. By 2005, executives, managers, supervisors, and financial professionals accounted for 60.5 percent of primary taxpayers in the top 0.1 percent of the distribution of income excluding capital gains. Other occupations particularly well-represented in the top 0.1 percent as of 2005 include: lawyers (7.3 percent); medical professionals (5.9 percent); entrepreneurs not already counted elsewhere (3.0 percent); arts, media, and sports (3.0 percent); business operations, which includes professions such as management consultant and accountant (2.9 percent); and computer, mathematical, engineering and other technical professions (2.9 percent). Again, the basic message is similar when we use a measure of income including capital gains in Table 3a.

Tables 4 and 5 examine the occupations of spouses (those whose social security numbers are listed second on joint returns) among those in the top 1 percent or top 0.1 percent. Keep in mind that in some cases the higher-paid spouse could be listed as the secondary taxpayer. Comparisons of spousal occupations over time that involve the 1979 data should be interpreted with caution, because the IRS was evidently less successful at matching spouses to occupations in 1979 (when it was unable to do so for 30.7 percent of returns) than in later years (for instance,

only 7 percent were unknown in 1993). Among those for whom an occupation was identified for the spouse, the largest occupation group is non-financial executives, managers, and supervisors; 12.0 percent of taxpayers in the top one percent had a spouse in this category in 2005. The share in this group increased over time, perhaps reflecting increased assortative mating. The share of spouses reporting their occupation being in a medical profession also increased, from 3.5 percent in 1979 to 7.6 percent in 1993, and then further to 8.2 percent in 2005.

Interestingly, the second largest occupation group for spouses in the top one percent of income in 1979 consisted of workers in blue collar or miscellaneous service occupations, at 7.9 percent, though this share declined to 6.4 percent by 2005, perhaps also reflecting increased assortative mating. Finally, the share of spouses in financial, real estate, and law professions increases through the period, from 3.5 percent in 1979 to 8.8 percent in 2005. Looking at the top 0.1 percent of taxpayers, similar patterns are found, though the share in medical professions does not appear to increase among this group. The most notable difference is that a much smaller share of spouses are working in paid employment in the top 0.1 percent than in the top one percent. In 2005, 27.6 of taxpayers in the top 0.1 percent had a spouse working in an identified occupation, compared to 38.4 percent for the top one percent as a whole. Finally, as of 2005, 16.1 percent of taxpayers in the top 0.1 percent of the income distribution have a spouse who is an executive, manager, supervisor, or financial professional, suggesting that if anything, looking just at the occupation of the primary taxpayer may understate the importance of corporate governance issues and the stock market in explaining rising top income shares.

Shares of National Income Going to Top Earners in Each Occupation

Tables 6, 6a, 7, and 7a and Figures 4 and 5 examine the share of national of income received by taxpayers who were in the top 1 percent (or top 0.1 percent) of the income distribution for each primary taxpayer occupation. Over the 1979 to 2005 period, the share of national income (excluding capital gains) going to the top 1 percent increased from 9.2 percent to 17.0 percent. Looking within occupations, although the share of people in the top one percent who are employed as executives, managers, and supervisors declined, the share of

national income going to members of this group increased substantially, from 3.7 percent to 6.4 percent between 1979 and 2005. The share of income received by financial professionals in the top 1 percent also increased dramatically, from 0.8 percent to 2.8 percent. The bottom panel of the table demonstrates that these two occupation groups alone explain a majority of the increase in the income share of the top 1 percent, explaining 60 percent of the increase between 1979 and 2005, and 61 percent of the increase between 1993 and 2005. Table 6a shows that the basic message is similar when the measure of income includes capital gains – the percentage of income going to the top one percent and each occupation within it is larger when we include capital gains, but the basic message about how much income is going to each occupation and how this has changed over time is similar. Figure 4 illustrates the large share of income (excluding capital gains) in the top 1 percent that goes to executives, managers, supervisors, entrepreneurs, and financial professionals, and how much of the increase between 1979 and 2005 for which they can account.

Table 7 shows that the share of national income (excluding capital gains) received by the top 0.1 percent of income recipients increased from 2.8 percent in 1979 to 7.3 percent in 2005. Again, the shares received by executives, managers, supervisors, and financial professionals increased markedly, with the increase in the share of income among these occupations accounting for 70 percent of the increase in the share of national income going to the top 0.1 percent of the income distribution between 1979 and 2005. The pattern is similar in Table 7a when we include capital gains. Figure 6 illustrates the data from Table 7, with the most striking feature again being the large share of income going to the top 0.1 percent group and its growth over time that can be accounted for by executives, managers, supervisors, entrepreneurs, and financial professionals.

How Did the Rate of Income Growth Differ Across Occupations Within the Top One Percent?

In this section, we consider evidence on which occupations within the top of the income distribution experienced the fastest income growth. We first present evidence on how mean real incomes of top earners in each occupation changed over time, holding the occupational

compositions of the top quantiles of the income distribution constant at their 1979 levels. The mean income of people within each occupation within a given quantile of the income distribution in a given year is affected by two factors: the mean incomes of people at a given rank of the pay scale within that income; and the number of people within that occupation who rise above the income threshold to qualify for that top quantile. Our approach here aims to isolate something that is closer to the former, while removing the effects of the latter. For example, as shown above, the share of the top 0.1 percent of income earners that were financial professionals rose from 11 percent to 18 percent between 1979 and 2005. The mean income of all financial professionals within the top 0.1 percent of all income earners in 2005 will not be that much higher than the mean income of financial professionals who were in the top 0.1 percent of all income earners in 1979, because many lower-ranked financial professionals moved up above the threshold to qualify for the top 0.1 percent between 1979 and 2005. But this would obscure the fact that the real incomes of people at a given rank of the pay distribution of financial professionals increased dramatically over time. So we instead examine how the mean real income in each occupation in a given top quantile of the income distribution would have evolved over the sample period if the occupational composition in the top quantiles had remained constant. This is done for three income groups – taxpayers in the top 1 percent but outside of the top 0.5 percent, taxpayers in the top 0.5 percent but outside the top 0.1 percent, and taxpayers within the top 0.1 percent. To do this, we calculate each occupation's share of each top quantile in 1979. We then identify, in subsequent years, the taxpayers of a given occupation that would have fallen within a particular quantile if that occupation's share of the quantile was the same in the subsequent year as it was in 1979. For example, lawyers represented 7.3 percent of tax units in the top 0.1 percent of the income distribution in 1979. In each subsequent year t, we calculate the number of lawyers that would be in the top 0.1 percent of the income distribution holding occupation composition constant as $0.001 * 0.073 * N$, where N is the total number of tax units in the nation in year t, taken from Piketty and Saez (2003, updated 2008). We then sort all lawyers in descending order by income and count down until we get that number of lawyers. We repeat this procedure for each occupation and quantile.

Tables 8, 9 and 10 examine the annual real growth rate of income (excluding capital gains) between selected years for tax units inside the top 1 percent but below the top 0.5 percent (p99 – p99.5), inside the top 0.5 percent but outside the top 0.1 percent (p99.5 – p99.9), and within the top one percent (p99.9), respectively. The key lessons of these tables are: (1) real income growth was high in almost all top-earning professions in all three income groupings; (2) despite that, there was substantial heterogeneity in income growth rates across professions; (3) there is substantial heterogeneity across occupations in the apparent degree of sensitivity of income to the business cycle and asset prices; and (4) there was major divergence over time between the incomes of the highest paid people within each profession and others in that profession, even when we restrict our attention to people in the top one percent of the national income distribution.

The first three lessons are highlighted in Figures 4, 5, and 6. They graph, for each income quantile, mean real income between 1979 and 2005 for selected occupations (finance, real estate, executives, lawyers, medical professionals, and managers), again holding the occupational shares of the quantiles constant at their 1979 levels. The heterogeneity of income growth and sensitivity to the business cycle and asset prices across occupations is visible in all three figures, but most apparent in the top 0.1 percent.

Focusing on Figure 6, which shows the top 0.1 percent, one sees that among the professions shown in the graph, income grew much more for financial professionals and real estate related professions. Table 6 indicates that financial professionals in the top 0.1 percent experienced a 6.3 percent annual compound growth rate in real income between 1979 through 2005; the figure was 6.1 percent in real estate. Other professions not shown in the graph that experienced the fastest income growth 1979-2005 were business operations professionals (6.3 percent annual real growth), and arts, media, and sports (5.1 percent). Real income growth for non-financial executives and managers was also very strong, at annual rates of 4.2 percent and 4.6 percent, respectively. Lawyers and medical professionals in the top 0.1 percent experienced very healthy annual real income growth rates over this period (3.9 percent and 3.1 percent, respectively), but these growth rates were lower than for the other professions mentioned above, and Figure 6 demonstrates that over the 1979 to 2005 period as a whole, this led to

massive divergence of average incomes across professions even among those within the top 0.1 percent.

Figure 6 also illustrates the heterogeneity in apparent responsiveness to business cycles, the stock market, and other asset prices among different professions in the top 0.1 percent. Not surprisingly, incomes of financial professionals increase particularly dramatically during the stock market boom between 1993 and 2001, drop precipitously in 2002 and 2003, and then recover along with the stock market and the economy to new heights in 2004 and 2005. Also unsurprisingly, people in real estate experienced an extremely sharp increase in incomes between 2003 and 2005 as the housing market bubble took off. Executives and managers also exhibit substantial sensitivity to the business cycle and stock market, while the incomes of lawyers and especially medical professionals appear to be relatively insensitive to those factors.

The remaining lesson is that even within the top one percent of income earners, there has been a large amount of divergence in the incomes of people within the same profession. This point is highlighted in Table 11, which reports the ratio of the annual real growth rate among people in each profession in the top 0.1 percent of the national income distribution to the growth rate for taxpayers in the same profession in the 99th to 99.5th percentile range, again holding the occupational composition of the top quantiles constant. Most notably, the real income growth rate for non-financial executives in the top 0.1 percent was 7 times as large as for non-financial executives in the 99th to 99.5th percentile range. Farmers and ranchers were the only profession with convergence, and among the other professions aside from executives, the range of ratios went from 1.7 (for financial professionals) to 4.2 (for non-financial supervisors). The mean ratio was 2.4.

Figures 9 and 10 present an alternative, simpler way to illustrate how real income growth varied across top earners in different occupations between 1979 and 2005, which largely corroborates the basic lessons of Tables 8 through 11 and Figures 6 through 8. Figure 9 reports the ratio of the share of national income (excluding capital gains) going to people who are in the top one percent of the national income distribution in each occupation in each year, to that same share in 1979. So for example, people in the top 0.1 percent of the income distribution who were in real estate received a 3.4 times larger share of national income in 2005 than they did in 1979,

which represented the fastest growth of any occupation. The analogous figure for financial professionals was 3.38, and for business operations it was 2.65, and they represented the occupations with the second and third fastest-growing income shares. The figure again illustrates the tremendous diversity of growth rates in income across occupations within the top one percent, and the apparent sensitivity to asset prices and/or business cycles for certain occupations. So for example, the share of national income going to lawyers who were in the top one percent of the income distribution grew by a factor of 1.44 between 1979 and 2005, which is impressive but lower than most other occupations that are well-represented at the top of the income distribution.

Figure 10 shows analogous information to that in Figure 9, but for the top 0.1 percent of the income distribution. The fastest income growth within the top 0.1 percent was is in business operations, real estate, and financial professionals, which in 2005 had shares of national income 5.79, 5.32, and 4.23 times as large, respectively, as they did in 1979. Within the top 0.1 percent, the slowest growth occurred among medical professionals, who had a share of national income 1.61 times as large in 2005 as in 1979. In both Figure 9 and Figure 10, executives, managers, supervisors, and entrepreneurs are near the middle of the pack in terms of the rate of growth of their share of the national income. As demonstrated above, this group accounts for a large portion of the rise on top income shares because they represent such a large share of top income earners; but they did not experience unusually fast income growth relative to other occupations within the top income quantiles.

Discussion and Directions for Future Research

What does all this imply for which explanations of increasing income inequality work best, and what does it imply for the taxable income elasticity literature? First, the heterogeneity in income growth rates across professions within the top one percent, and the divergence in incomes within professions in the top one percent, both suggest that the causes of rising top income shares cannot *just*, or even primarily, be things that are changing in similar ways over time for everyone within the top one percent, such as federal marginal income tax rates. There

is some variation in time paths of federal marginal income tax rates within the top one percent, especially before 1986, but since then most of the independent variation within the top one percent has come from factors, such as the alternative minimum tax and state of residence, which are not simple increasing functions of income, and so can't explain why income grew so much faster at the top of the top 1 percent than at the bottom.

Second, the fact that executives, managers, supervisors, and financial professionals can account for 70 percent of the increase in income going to the top 0.1 percent of the income distribution, the fact that financial professionals in the top 0.1 percent had substantially faster income growth than almost all other professions, and the fact that incomes of financial professionals, executives, and managers move in tandem with stock market prices during the period, suggest that some combination of corporate governance issues, the stock market, and entrepreneurship are probably very important parts of the explanation for rising top income shares since 1979. The large and increasing share of executives, managers, and supervisors of closely-held businesses in the top 1 percent and top 0.1 percent of the income distribution also corroborates prior evidence suggesting that that shifting of income between the corporate and personal income tax bases is likely to be a particularly important part of the explanation for rising top income shares since 1979.

The fact that top income shares have been rising rapidly in English-speaking countries, but not in Continental Europe and Japan *might* suggest that skill-biased technical change, globalization, and the closely related "superstar" theory are not very good explanations for rising top income shares in the U.S. One might expect that these factors would have similar effects on top income shares in all rich countries, since they all have access to similar technologies and all have experienced major expansions of global trade since the late 1970s. However, it could be that globalization and technical change have been enabling "superstars" in the U.S. and other English-speaking countries to expand their markets at the expense of highly-skilled individuals in other rich countries – think for example of U.S. and British pop stars displacing demand for local pop stars in Europe and Japan. In addition, the effects of globalization, technology, and superstar effects on top income shares might be moderated by cultural attitudes and social institutions which influence the pay-setting process, and these

attitudes and institutions differ markedly between the English-speaking countries and the others. Kaplan and Rauh suggest that top earners in occupations where country-specific human capital is important, such as law, have been experiencing fast income growth, and argue that this seems to weaken globalization as an explanation for what is happening at the top of the income distribution. But unlike Kaplan and Rauh, we find that professions where high pay is associated with asset market prices (finance and real estate) and superstardom (e.g., arts, media, sports) had much faster income growth than lawyers, and were three of the four professions with the fastest income growth among those in the top 0.1 percent. This bolsters both the asset price and "superstar" theories. It is unclear, however, whether occupations to which the superstar phenomenon applies comprise enough of the top of the distribution to account for much of what is going on. The superstar phenomenon could apply broadly in many different types of occupations. For instance, technology and globalization now enable the best management consultants to sell their services to a much broader audience, and notably their occupational category (business operations) experienced the fastest income growth of all in the top 0.1 percent between 1979 and 2005. Malmendier and Tate (2009) present evidence on the phenomenon of "superstar CEOs."

The new data and discussion presented in this paper have a number of implications for future research. They suggest that econometric analysis comparing changes in top incomes over time across countries and occupations would be a fruitful way to learn about the causes of rising top income shares. Different theories about the causes of rising top income shares often have different implications for the patterns of income change across occupations and across countries, and econometric research should leverage this evidence to gain new insights. The findings that financial professionals and executives, managers, and supervisors of both publicly-traded and privately-held firms can account for such a large share of the increase in top income shares in the U.S., and that the time patterns of their incomes correlate with financial market asset prices, suggests that econometric efforts to estimate the elasticity of taxable income should control as carefully for possible for factors that can be expected to influence the reported incomes of people in these professions, such as stock prices and incentives to shift income between the personal and corporate tax bases. The finding that there has been substantial

diversity in the growth rates of incomes within the top one percent of the income distribution, both across occupations and across income levels within these occupations, and that the time paths of income for these different groups often follow nonlinear patterns where the dips and spikes do not closely match the timing of tax changes, suggests that attempting to control for non-tax influences on incomes through linear time trends that differ by occupation and income will not adequately control for those factors, so that progress in efforts to identify the elasticity of taxable income will require coming up observable measures of non-tax influences on income such as globalization, technical change, and financial market asset prices and accounting for their divergent effects at different points in the income distribution and across and within different occupations.

Conclusions

In this paper, we have presented for the first time complete information on the occupations of very high-income people, and on how the incomes of top earners in different occupations have grown over time. Our findings suggest that the incomes of executives, managers, supervisors, and financial professionals can account for 60 percent of the increase in the share of national income going to the top percentile of the income distribution between 1979 and 2005. We also demonstrate significant heterogeneity in income growth across and within occupations among people in the top percentile of the income distribution, suggesting that factors that changed in the same way over time for all high-income people are probably not the main cause of increasing inequality at the top. The incomes of executives, managers, financial professionals, and technology professionals who are in the top 0.1 percent of the income distribution are found to be very sensitive to stock market fluctuations. Most of our evidence points towards a particularly important role for financial market asset prices, shifting of income between the corporate and personal tax bases, and possibly corporate governance and entrepreneurship, in explaining the dramatic rise in top income shares.

References

Alcouffe, Alain and Christiane Alcouffe. 2000. "Executive Compensation Setting Practices in France." *Long-Range Planning*. Vol. 33, pp. 527-543.

Alvaredo, Facundo, and Emmanuel Saez. 2006. "Income and Wealth Concentration in Spain in a Historical and Fiscal Perspective." CEPR Discussion Paper No. 5836.

Atkinson, Anthony B. 2007. "The Long Run Earnings Distribution in Five Countries: 'Remarkable Stability,' U, V or W?." *Review of Income and Wealth* 53, no. 1: 1-24.

Atkinson, Anthony B. and Thomas Piketty. 2007. *Top Incomes over the Twentieth Century: a Contrast between Continental European and English-speaking Countries*.Oxford University Press.

Atkinson, Anthony B., Thomas Piketty, and Emmanuel Saez. 2011. "Top Incomes in the Long Run of History." *Journal of Economic Literature*. Vol. 49, No. 1, pp. 3-71.

Atkinson, Anthony B. and Wiemer Salverda. 2005. "Top Incomes in the Netherlands and the United Kingdom over the 20th Century." Journal of the European Economic Association. Vol. 3, No. 4 (June), pp. 883-913.

Auten, Gerald, and David Joulfaian. 2008. "The Taxable Income Elasticity of High-Income Taxpayers: Evidence from a Long Panel." Working Paper (May).

Auten, Gerald, and Robert Carroll. 1999. "The Effect of Income Taxes on Household Income." *Review of Economics and Statistics* 81, no. 4: 681-693.

Auten, Gerald, Robert Carroll, and Geoffrey Gee. 2008. "The 2001 and 2003 Tax Rate Reductions: An Overview and Estimate of the Taxable Income Response." *National Tax Journal* 61, no. 3: 345-364.

Autor, David H., Lawrence F. Katz, and Melissa S. Kearney. 2008. "Trends in U.S. Wage Inequality: Revising the Revisionists." *Review of Economics and Statistics* 90, no. 2: 300-323.

Autor, David H., Frank Levy, and Richard J. Murnane. 2003. "The Skill Content of Recent Technological Change: An Empirical Exploration." *Quarterly Journal of Economics* 118, no. 4: 1279-1333.

Bakija, Jon. 2008. "Documentation for a Comprehensive Historical U.S. Federal and State Income Tax Calculator Program" Working paper, Williams College. <http://www.williams.edu/Economics/papers/bakijaDocumentation_IncTaxCalc.pdf>

Bakija, Jon, and Bradley Heim. 2008. "How Does Charitable Giving Respond to Incentives and Income? Dynamic Panel Estimates Accounting for Predictable Changes in Taxation." NBER Working Paper No. 14237.

Bebchuk, Lucian, Jesse M. Fried and David I. Walker. 2002. "Managerial Power and Rent Extraction in the Design of Executive Compensation." *The University of Chicago Law Review* 69, No. 3: 751-846.

Bebchuk, Lucian, and Yaniv Grinstein. "The Growth of Executive Pay." *Oxford Review of Economic Policy* 21, no. 2 (Summer 2005): 283-303.

Bertrand, Marianne, and Sendhil Mullainathan. 2001. "Are CEOs Rewarded for Luck? The Ones without Principles Are." *Quarterly Journal of Economics*. Vol. 116, no. 3: 901-932.

Bound, J., and G. Johnson. 1992. ''Changes in the Structure of Wages in the 1980s: An Evaluation of Alternative Explanations,'' *American Economic Review.* 82 (June), 371–392.

Bremner, Brian. 1999. "The Stock-Option Option Comes to Japan." *Businessweek Online*. April 19.

Card, David, and John E. DiNardo. 2002. "Skill-Biased Technological Change and Rising Wage Inequality: Some Problems and Puzzles." *Journal of Labor Economics* 20, no. 4: 733-783.

Chetty, Raj. 2008. "Is the Taxable Income Elasticity Sufficient to Calculate Deadweight Loss? The Implications of Evasion and Avoidance," NBER Working Paper No. 13844, forthcoming *American Economic Journal: Economic Policy*.

Chetty, Raj. 2009. "Partial Identication with Optimization Frictions: An Application to Taxation and Labor Supply" UC Berkeley Working Paper.

Clark, Bobby, Dodie Riley, and Peter Sailer. 1989. "1979 Occupation Study/1979-1983 Mortality Study," *Statistics of Income and Related Administrative Record Research: 1988-1989*. Washington, DC: Internal Revenue Service, pp. 181-187.

Crabbe, Patricia, Peter Sailer, and Beth Kilss. 1983. "Occupation Data From Tax Returns: A Progress Report," *Statistics of Income and Related Administrative Record Research: 1983*. Washington DC: Internal Revenue Service, pp. 59-64.

The Economist. 2008. "Executive Pay in Europe: Pay Attention." June 12.

Eissa, Nada O. and Seth H. Giertz. 2009. "Trends in High Incomes and Behavioral Responses to Taxation: Evidence from Executive Compensation and Statistics of Income." Working Paper.

Feenberg, Daniel and James Poterba. 1993. "Income Inequality and the Incomes of Very High Income Taxpayers: Evidence from Tax Returns," In Tax Policy and the Economy, James Poterba, ed., (MIT Press: Cambridge), 7: 145-177.

Feldstein, Martin. 1995. "The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act." *Journal of Political Economy*. 103, no. 3: 551-572.

Feldstein, Martin. 1999. "Tax Avoidance and the Deadweight Loss of the Income Tax." *Review of Economics and Statistics*, 81(4): 674-680.

Frydman, Carola and Raven E. Saks. 2010. "Executive Compensation: A New View from a Long-Term Perspective, 1936-2005." *Review of Financial Studies*, Vol. 23 No. 5, pp. 2099-2138.

Gabaix, Xavier, and Augustin Landier. 2008. "Why Has CEO Pay Increased So Much?" *Quarterly Journal of Economics* 123, no. 1: 49-100.

Garicano, L., and E. Rossi-Hansberg. 2006. "Organization and Inequality in a Knowledge Economy." *Quarterly Journal of Economics*. 121:1383–435

Garicano, L., and T. Hubbard. 2007. "The Returns to Knowledge Hierarchies." NBER Working Paper No. 12815 (January).

Giertz, Seth H. 2007. "The Elasticity of Taxable Income over the 1980s and 1990s." *National Tax Journal* 60, no. 4: 743-768.

Giertz, Seth. 2009. "The Elasticity of Taxable Income: Influences on Economic Efficiency and Tax Revenues, and Implications for Tax Policy," in Tax Policy Lessons from the 2000s, ed. Alan Viard, AEI Press, Washington, D.C.: 101-136.

Goolsbee, Austan. 2000. "What Happens When You Tax the Rich? Evidence from Executive Compensation." *Journal of Political Economy* 108, no. 2: 352-378.

Gordon, Robert J. and Ian Dew-Becker. 2008. "Controversies About the Rise of American Inequality: A Survey." NBER Working Paper No. 13982.

Gordon, Roger and Joel Slemrod. 2000. "Are `Real' Responses to Taxes Simply Income Shifting Between Corporate and Personal Tax Bases?" In Joel Slemrod, ed., *Does Atlas Shrug? The Economic Consequences of Taxing the Rich*, Cambridge University Press.

Gruber, Jon, and Emmanuel Saez. 2002. "The Elasticity of Taxable Income: Evidence and Implications." *Journal of Public Economics* 84, no. 1: 1-32.

Heim, Bradley T. 2006. "The Elasticity of Taxable Income: Evidence from a New Panel of Tax Returns." Manuscript submitted for publication

Heim, Bradley T. 2009. "The Effect of Recent Tax Changes on Taxable Income: Evidence from a New Panel of Tax Returns." *Journal of Policy Analysis and Management*, 9(1), 147-163.

Kaplan, Steven N. and Joshua Rauh. 2010. "Wall Street and Main Street: What Contributes to the Rise in High Incomes?" *Review of Financial Studies*, Vol. 23, No. 3., pp. 1004-1050.

Katz, Lawrence and Kevin Murphy. 1992. "Changes in RelativeWages, 1963–1987: Supply and Demand Factors." *Quarterly Journal of Economics* 107:35–78.

Koll, Douglas K. 2003. "Shareholder Oppression & Dividend Policy in the Close Corporation." Washington & Lee Law Review, Vol. 60, pp. 841-924.

Kopczuk, Wojciech, Emmanuel Saez, and Jae Song. 2007. "Uncovering the American Dream: Inequality and mobility in Social Security Earnings Data Since 1997." NBER Working Paper No. 13345.

Kopczuk, Wojciech. 2005. "Tax Bases, Tax Rates and the Elasticity of Reported Income." *Journal of Public Economics*, 89(11-12): 2093-2119.

Krugman, Paul R. 2008. "Trade and Wages, Reconsidered." *Brookings Papers on Economic Activity* , no. 2: 103-138.

Landais, Camille. 2008. "Top Incomes in France: Booming Inequalities?" Working paper, Stanford University. < http://www.stanford.edu/~landais/cgi-bin/Articles/topincomes.pdf>

Levy, Frank, and Richard J. Murnane. 1992. "U.S. Earnings Levels and Earnings Inequality: A Review of Recent Trends and Proposed Explanations." *Journal of Economic Literature* 30, no. 3: 1333-1381.

Malmendier, Ulrike, and Geoffrey Tate. 2009. "Superstar CEOs." Quarterly Journal of Economics. (November) pp. 1593-1638.

Moriguchi, Chiaki, and Emmanuel Saez. 2008. "The Evolution of Income Concentration in Japan, 1886-2005: Evidence from Income Tax Statistics." *Review of Economics and Statistics* 90, no. 4: 713-734.

Mudry, Kyle, and Justin Bryan. 2009. "Individual Income Tax Rates and Shares, 2006." IRS *Statistics of Income Bulletin*, (Winter), pp. 5-45.

Murphy, Kevin J. 2002. "Explaining Executive Compensation: Managerial Power versus the Perceived Cost of Stock Options." *The University of Chicago Law Review* 69, No. 3: 847-869.

OECD (Organization for Economic Cooperation and Development). 2009. Source OECD. < www.sourceoecd.org>.

Philippon, Thomas and Ariell Reshef. 2009. "Wages and Human Capital in the U.S. Financial Industry: 1909-2006." NBER Working Paper No. 14644.

Piketty, Thomas. 2003. "Income Inequality in France, 1901-1998." *Journal of Political Economy* 111, no. 5: 1004-1042.

Piketty, Thomas, and Emmanuel Saez. 2003. "Income Inequality in the United States, 1913-1998." *Quarterly Journal of Economics.* 118, no. 1: 1-39. (Tables and Figures updated through 2010 at http://elsa.berkeley.edu/~saez/TabFig2010.xls, March 2012).

Piketty, Thomas, and Emmanuel Saez. 2006. "The Evolution of Top Incomes: A Historical and International Perspective." *American Economic Review* 96, no. 2: 200-205.

Piketty, Thomas, Emmanuel Saez, and Irina Stantcheva. 2011. "Optimal Taxation of Top Labor Incomes: A Tale of Three Elasticities." NBER Working Paper No. 17616.

Roine, Jesper, Jonas Vlachos, and Daniel Waldenstrom. 2008. "The Long-Run Determinants of Inequality: What Can We Learn From Top Income Data." Working Paper.

Rosen, Sherwin. 1981. "The Economics of Superstars." American Economic Review 71, no. 5: 845-858.

Saez, Emmanuel, Joel Slemrod, and Seth Giertz. 2012. "The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review." *Journal of Economic Literature*, Vol. 50, No. 1, pp. 3-50.

Saez, Emmanuel, and Michael Veall. 2005. "The Evolution of High Incomes in Northern America: Lessons from Canadian Evidence." *American Economic Review*, 95(3): 831-849.

Saez, Emmanuel. 2006. "Income and Wealth Concentration in Historical and International Perspective." in Alan J. Auerbach, David Card, and John M. Quigley, eds., Public Policy and the Income Distribution, New York: Russell Sage Foundation, pp. 222-258.

Sailer, Peter, and Terry Nuriddin. 2000. "Occupation and Industry Data from Tax Year 1993 Individual Tax Returns." in *Proceedings of the American Statistical Association*. Alexandria, VA: American Statistical Association.

Sailer, Peter, Harriet Orcutt, and Phil Clark. 1980. "Coming Soon: Taxpayer Data Classified by Occupation," *Proceedings of the Survey Research Methods Section*, *American Statistical Association*, Alexandria, VA: American Statistical Association, pp. 467-471.

Slemrod, Joel. 1996. "High Income Families and the Tax Changes of the 1980s: The Anatomy of Behavioral Response." In *Empirical Foundations of Household Taxatio*n, eds. Martin Feldstein and James Poterba, University of Chicago.

Slemrod, Joel and Wojciech Kopczuk. 2002. "The Optimal Elasticity of Taxable Income." *Journal of Public Economics*, 84(1): 91-112.

Stolper, Wolfgang, and Paul Samuelson. 1941. "Protection and Real Wages." *Review of Economic Studies* 9, no. 1: 58–73.

Weber, Michael and Victoria L. Bryant. 2005. "The 1999 Individual Income Tax Return Edited Panel." in *2005 Proceedings of the American Statistical Association*. Alexandria, VA: American Statistical Association.

Weber, Michael. 2007. *General Description Booklet for the 2004 Public Use Tax File*. Washington, DC: IRS Statistics of Income Division.

Table 1 -- Percentage of primary taxpayers in top 0.1 percent of the distribution of income (including capital gains) that are in each occupation in 2004: tax return data compared to Kaplan and Rauh

	Tax return data	Kaplan and Rauh Estimate
Executives, managers, supervisors (non-finance)	40.8	
Top non-financial executives, publicly traded firms		3.8
Executive, non-finance, salaried	15.0	
Executive, non-finance, closely held business	13.6	
Manager, non-finance, salaried	4.7	
Manager, non-finance, closely held business	4.6	
Supervisor, non-finance, salaried	1.3	
Supervisor, non-finance, closely held business	1.7	
Financial professions, including management	18.4	10.3
Not working or deceased	6.3	
Lawyers	6.2	2.4
Real estate	4.7	
Medical	4.4	
Entrepreneur not elsewhere classified	3.6	
Arts, media, sports	3.1	0.9
Computer, math, engineering, technical (nonfinance)	3.0	
Other	2.6	
Business operations (nonfinance)	2.2	
Skilled sales (except finance or real estate)	1.9	
Professors and scientists	1.1	
Farmers & ranchers	1.0	
Unknown	0.7	82.6

Source: authors' tabulations of Statistics of Income individual income tax return data and Kaplan and Rauh (2010).

Table 2 -- Percentage of primary taxpayers in top one percent of the distribution of income (excluding capital gains) that are in each occupation

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Executives, managers, supervisors (non-finance)	36.0	33.6	34.5	34.1	31.6	31.3	30.3	30.4	31.0
Medical	16.8	20.4	17.9	15.1	16.5	17.2	17.7	16.7	15.7
Financial professions, including management	7.7	10.6	11.9	13.1	13.5	13.2	13.1	13.6	13.9
Lawyers	7.0	8.9	7.7	7.3	8.3	8.5	8.9	8.8	8.4
Computer, math, engineering, technical (nonfinance)	3.8	3.3	4.2	5.5	5.1	4.9	5.4	4.6	4.6
Not working or deceased	5.2	3.3	4.0	4.2	3.8	4.1	3.5	3.9	4.3
Skilled sales (except finance or real estate)	4.6	4.1	4.5	4.3	4.2	4.1	4.1	4.1	4.2
Blue collar or miscellaneous service	4.2	3.2	3.2	3.2	3.0	3.3	3.2	3.6	3.8
Real estate	1.9	1.4	1.8	2.6	2.6	2.9	2.6	3.1	3.2
Business operations (nonfinance)	2.4	2.2	2.6	2.8	3.3	3.0	2.8	3.3	3.0
Entrepreneur not elsewhere classified	2.7	2.1	2.1	2.1	2.1	1.7	2.1	1.9	2.3
Professors and scientists	1.3	1.8	1.6	1.4	1.8	1.8	1.9	1.8	1.8
Arts, media, sports	1.6	2.0	1.7	2.1	2.0	1.7	2.0	1.7	1.6
Unknown	1.6	1.3	1.0	0.9	0.9	1.0	1.3	1.1	0.9
Government, teachers, social services	0.8	0.9	0.5	0.8	0.5	0.8	0.7	0.8	0.8
Farmers & ranchers	1.8	0.1	0.6	0.4	0.4	0.3	0.4	0.5	0.5
Pilots	0.7	0.8	0.3	0.3	0.4	0.3	0.3	0.2	0.2
Addendum: detail on executives, managers, and supervisors									
Executive, non-finance, salaried	21.0	15.2	15.5	14.0	13.4	12.6	12.0	11.6	11.3
Executive, non-finance, closely held business	1.8	3.5	4.8	4.8	4.5	4.6	4.3	4.7	4.8
Manager, non-finance, salaried	6.6	8.1	8.2	9.0	7.8	7.4	7.8	7.4	7.3
Manager, non-finance, closely held business	1.8	2.1	3.1	3.2	3.1	3.4	3.3	3.7	4.2
Supervisor, non-finance, salaried	2.5	3.1	1.7	1.7	1.6	2.1	1.7	1.7	1.9
Supervisor, non-finance, closely held business	2.3	1.6	1.2	1.3	1.1	1.3	1.2	1.4	1.6
Total executives, managers, supervisors, and finance	43.7	44.1	46.4	47.1	45.1	44.5	43.4	44.0	44.9

Source: authors' tabulations of Statistics of Income individual income tax return data.

Table 2a -- Percentage of primary taxpayers in top one percent of the distribution of income (including capital gains) that are in each occupation

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Executives, managers, supervisors (non-finance)	35.3	33.3	33.2	32.7	31.0	30.8	30.2	30.0	30.0
Medical	15.9	19.7	16.4	13.9	15.1	16.2	16.3	15.0	14.2
Financial professions, including management	7.7	10.8	11.9	12.8	13.1	13.0	12.9	13.4	13.2
Lawyers	6.7	8.5	7.2	6.7	7.7	8.1	8.2	8.0	7.7
Computer, math, engineering, technical (nonfinance)	3.7	3.2	4.3	5.2	5.3	4.5	5.1	4.3	4.2
Not working or deceased	6.3	4.8	6.3	7.2	5.9	5.8	5.7	6.9	7.4
Skilled sales (except finance or real estate)	4.6	4.0	4.4	4.1	4.0	3.9	3.7	3.7	3.7
Blue collar or low-skill service	4.3	2.9	3.0	3.2	3.1	3.4	3.2	3.4	3.9
Real estate	2.1	1.7	2.0	2.7	2.9	3.2	3.2	3.7	3.9
Business operations (nonfinance)	2.4	2.2	2.4	2.5	3.2	3.0	2.7	2.9	2.8
Entrepreneur not elsewhere classified	2.7	2.5	2.5	2.5	2.3	1.9	2.3	2.3	2.8
Professors and scientists	1.2	1.6	1.9	1.6	1.8	1.7	1.9	1.7	1.8
Arts, media, sports	1.4	2.0	1.8	2.2	2.0	1.6	1.9	1.9	1.7
Unknown	2.0	1.3	1.0	1.2	1.1	1.1	1.0	1.1	1.0
Government, teachers, social services	0.9	0.8	0.6	0.8	0.8	0.8	0.8	0.8	1.0
Farmers & ranchers	2.3	0.2	0.8	0.6	0.5	0.6	0.6	0.7	0.8
Pilots	0.7	0.6	0.2	0.2	0.3	0.4	0.2	0.2	0.2
Addendum: detail on executives, managers, and supervisors									
Executive, non-finance, salaried	20.2	15.2	14.8	13.5	13.0	12.4	11.6	11.4	10.7
Executive, non-finance, closely held business	1.8	3.7	4.7	4.8	4.5	4.6	4.5	4.7	4.9
Manager, non-finance, salaried	6.5	7.7	7.8	8.4	7.6	7.4	7.6	7.1	7.2
Manager, non-finance, closely held business	1.8	2.2	3.1	3.0	3.1	3.3	3.3	3.7	4.0
Supervisor, non-finance, salaried	2.7	3.0	1.7	1.7	1.6	1.9	1.9	1.7	1.8
Supervisor, non-finance, closely held business	2.3	1.6	1.2	1.2	1.1	1.3	1.4	1.4	1.5
Total executives, managers, supervisors, and finance	42.9	44.2	45.1	45.5	44.1	43.8	43.2	43.4	43.2

Source: authors' tabulations of Statistics of Income individual income tax return data.

Table 3 -- Percentage of primary taxpayers in top 0.1 percent of the distribution of income (excluding capital gains) that are in each occupation

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Executives, managers, supervisors (non-finance)	48.1	45.7	48.4	47.1	42.6	40.6	40.5	40.9	42.5
Financial professions, including management	11.0	14.1	14.7	16.4	19.1	19.0	17.8	18.7	18.0
Lawyers	7.3	6.5	6.3	5.9	7.1	8.2	8.8	8.0	7.3
Medical	7.9	13.3	6.8	4.4	5.2	6.8	7.6	6.3	5.9
Not working or deceased	5.4	2.5	3.5	3.8	4.0	3.7	3.7	3.8	3.8
Real estate	1.8	1.3	1.8	2.1	2.5	2.9	3.0	3.3	3.7
Entrepreneur not elsewhere classified	3.9	3.0	2.8	2.7	2.8	2.9	3.2	3.0	3.0
Arts, media, sports	2.2	3.3	3.5	3.5	3.3	3.6	3.4	3.3	3.0
Business operations (nonfinance)	1.5	1.7	2.3	2.2	2.7	2.7	2.2	2.7	2.9
Computer, math, engineering, technical (nonfinance)	2.3	2.3	3.1	4.7	4.0	3.0	3.1	3.0	2.9
Other known occupation	2.9	2.1	2.2	2.6	2.5	2.5	2.4	2.5	2.7
Skilled sales (except finance or real estate)	2.2	2.9	2.9	2.6	2.4	2.3	2.3	2.3	2.3
Professors and scientists	0.8	0.8	0.7	0.8	0.9	0.9	0.9	0.9	0.9
Farmers & ranchers	1.4	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.6
Unknown	1.4	0.5	0.5	0.9	0.7	0.6	0.8	0.7	0.5
Addendum: detail on executives, managers, and supervisors									
Executive, non-finance, salaried	32.0	21.8	19.4	18.0	15.4	13.9	14.3	14.5	14.0
Executive, non-finance, closely held business	5.3	12.8	15.7	15.2	13.7	14.2	13.7	14.3	15.6
Manager, non-finance, salaried	4.9	4.1	5.5	6.2	5.4	4.5	4.7	4.1	4.0
Manager, non-finance, closely held business	2.5	3.5	4.8	4.8	5.1	4.9	5.0	5.0	5.8
Supervisor, non-finance, salaried	1.6	1.4	1.0	1.2	1.2	1.1	0.9	1.1	1.0
Supervisor, non-finance, closely held business	1.8	2.0	1.9	1.8	1.8	1.9	1.9	2.0	2.2
Addendum: executives, managers, supervisors, finance	59.0	59.7	63.1	63.5	61.6	59.6	58.4	59.6	60.5

Source: authors' tabulations of Statistics of Income individual income tax return data.

Table 3a -- Percentage of primary taxpayers in top 0.1 percent of the distribution of income (including capital gains) that are in each occupation

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Executives, managers, supervisors (non-finance)	46.9	45.9	48.6	45.7	41.5	40.8	40.6	40.8	41.3
Financial professions, including management	11.2	14.8	15.1	16.8	19.0	19.0	18.0	18.4	17.7
Lawyers	6.8	6.1	4.9	4.6	6.0	6.7	7.0	6.2	5.8
Medical	7.1	10.7	5.4	3.5	4.2	5.2	5.5	4.4	4.1
Not working or deceased	6.4	4.1	5.5	6.1	5.8	5.7	5.8	6.3	6.2
Real estate	2.3	1.6	2.0	2.4	2.9	3.5	3.9	4.7	5.4
Entrepreneur not elsewhere classified	4.3	3.4	3.4	3.5	3.3	3.2	3.6	3.6	3.8
Arts, media, sports	2.0	3.2	3.2	3.1	3.2	3.4	3.4	3.1	2.8
Business operations (nonfinance)	1.3	1.6	1.9	1.9	2.7	2.3	2.3	2.2	2.3
Computer, math, engineering, technical (nonfinance)	2.5	2.2	3.2	5.1	4.2	3.1	3.1	3.0	3.1
Other	3.1	2.0	2.1	2.6	2.4	2.7	2.3	2.6	2.6
Skilled sales (except finance or real estate)	2.0	2.6	2.4	2.2	2.2	2.1	2.2	1.9	2.1
Professors and scientists	0.9	1.0	1.0	0.9	1.1	0.9	1.0	1.1	1.2
Farmers & ranchers	1.6	0.3	0.7	0.7	0.6	0.7	0.8	1.0	1.0
Unknown	1.7	0.7	0.8	1.1	0.9	0.7	0.7	0.7	0.6
Addendum: detail on executives, managers, and supervisors									
Executive, non-finance, salaried	30.7	22.2	21.4	18.9	15.9	14.9	14.9	15.0	14.1
Executive, non-finance, closely held business	5.2	12.5	14.8	13.4	12.8	13.5	13.1	13.6	14.4
Manager, non-finance, salaried	5.0	4.2	5.3	6.5	5.1	4.8	5.1	4.7	4.6
Manager, non-finance, closely held business	2.3	3.4	4.3	4.3	4.8	4.6	4.7	4.6	5.4
Supervisor, non-finance, salaried	1.9	1.5	1.2	1.2	1.3	1.2	1.1	1.3	1.1
Supervisor, non-finance, closely held business	1.9	2.1	1.5	1.5	1.6	1.8	1.7	1.7	1.9
Addendum: executives, managers, supervisors, finance	58.1	60.7	63.7	62.5	60.5	59.7	58.5	59.2	59.1

Source: authors' tabulations of Statistics of Income individual income tax return data.

Table 4 -- Percentage of tax units in top one percent of distribution of income (excluding capital gains), by occupation of spouse

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Taxpayer is not married; no spouse	9.5	10.5	11.1	12.5	12.3	11.9	12.0	12.2	12.5
Not working or deceased	26.3	34.1	32.8	31.2	31.4	31.0	30.7	31.7	31.6
Unknown	30.7	7.0	6.3	5.8	5.8	5.4	5.5	5.5	5.6
Spouse in known employment	25.1	37.3	37.3	37.9	38.2	39.5	39.7	38.5	38.4
Executives, managers, and supervisors, non-finance	8.5	11.1	12.4	12.6	12.3	12.2	12.2	12.1	12.0
Medical	3.5	7.6	7.8	6.5	7.7	9.0	8.2	8.5	8.2
Blue collar or miscellaneous service	7.9	7.3	6.9	7.2	6.5	6.8	6.6	6.6	6.4
Government, teachers, social services	4.0	5.7	4.9	5.6	5.4	5.3	5.7	5.0	5.2
Financial professions, including management	1.5	3.1	3.2	3.5	3.6	3.6	3.9	3.5	3.7
Lawyers	0.5	2.0	2.0	2.0	2.6	2.8	3.0	2.8	2.8
Business operations (nonfinance)	1.1	1.7	2.0	2.5	2.6	2.5	2.3	2.3	2.5
Real estate	1.5	1.7	1.6	2.1	1.7	1.9	1.9	2.1	2.3
Arts, media, sports	2.0	2.5	2.6	2.7	2.6	2.5	2.3	2.1	2.2
Skilled sales (except finance or real estate)	0.8	2.4	2.5	2.2	2.2	2.1	2.3	2.2	2.0
Professors and scientists	1.1	2.0	1.7	1.5	1.4	1.4	1.5	1.5	1.4
Computer, math, engineering, technical (nonfinance)	0.3	0.9	1.3	1.6	1.5	1.1	1.3	1.2	1.1
Entrepreneur not elsewhere classified	0.7	0.3	0.5	0.6	0.3	0.4	0.5	0.5	0.5
Farmers & ranchers	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Pilots	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Detail on executives, managers, and supervisors									
Executive, non-finance, salaried	3.0	3.2	2.7	2.8	2.8	2.6	2.4	2.3	2.2
Executive, non-finance, closely held business	1.0	0.7	0.9	0.9	0.9	0.9	0.8	0.9	0.9
Manager, non-finance, salaried	2.0	4.6	5.5	5.4	5.1	5.3	5.6	5.3	4.8
Manager, non-finance, closely held business	0.7	1.4	2.0	2.2	2.2	2.0	2.2	2.3	2.6
Supervisor, non-finance, salaried	1.2	0.9	1.1	0.8	0.8	0.9	0.8	0.9	0.9
Supervisor, non-finance, closely held business	0.5	0.4	0.3	0.5	0.4	0.5	0.5	0.5	0.5

Table 5 -- Percentage of tax units in top 0.1 percent of distribution of income (excluding capital gains), by occupation of spouse

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Taxpayer is not married; no spouse	11.8	12.3	13.5	13.6	13.4	13.8	14.0	13.7	13.2
Unknown	34.8	8.4	7.8	7.9	8.2	7.7	7.5	7.7	7.3
Not working or deceased	25.7	39.8	39.9	38.6	39.7	38.5	37.9	38.7	39.3
Spouse in known employment	18.4	26.9	26.3	26.9	26.6	28.0	28.1	27.6	27.6
Executives, managers, and supervisors	8.8	12.4	12.3	12.8	11.9	11.9	12.3	12.2	12.5
Other	4.8	8.7	7.9	7.9	7.1	7.0	7.4	7.0	7.2
Medical	3.7	4.7	3.4	3.1	3.3	4.1	4.2	4.1	3.7
Financial professions, including management	2.8	2.9	3.3	3.3	3.6	3.7	3.6	3.6	3.6
Arts, media, sports	2.2	3.0	3.0	3.2	3.1	3.3	3.0	3.1	3.0
Lawyers	0.4	1.7	1.8	1.9	2.1	2.4	2.6	2.6	2.5
Business operations (nonfinance)	1.1	1.1	1.5	1.8	1.8	1.8	1.7	1.8	2.0
Real estate	1.0	1.2	1.3	1.5	1.4	1.7	1.9	1.8	1.9
Skilled sales (except finance or real estate)	0.6	1.7	1.8	1.7	1.6	1.6	1.6	1.5	1.4
Professors and scientists	0.4	0.9	1.0	1.0	1.0	1.0	0.9	0.9	1.0
Computer, math, engineering, technical (nonfinance)	0.2	0.5	0.7	1.0	0.9	0.7	0.7	0.7	0.7
Entrepreneur not elsewhere classified	1.3	0.5	0.7	0.6	0.5	0.6	0.6	0.7	0.7
Farmers & ranchers	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Detail on executives, managers, and supervisors									
Executive, non-finance, salaried	4.0	3.8	3.1	2.8	2.4	2.7	2.4	2.3	2.3
Executive, non-finance, closely held business	0.9	2.2	2.6	2.7	2.6	2.5	2.7	2.7	2.9
Manager, non-finance, salaried	2.1	3.2	3.1	3.7	3.0	2.9	3.1	2.8	2.6
Manager, non-finance, closely held business	0.7	1.8	2.4	2.7	2.7	2.8	2.9	3.3	3.6
Supervisor, non-finance, salaried	0.7	0.9	0.5	0.5	0.7	0.4	0.6	0.6	0.5
Supervisor, non-finance, closely held business	0.4	0.5	0.5	0.5	0.6	0.7	0.6	0.6	0.7

Table 6 -- Percentage of national income (excluding capital gains) received by top 1 percent, and each primary taxpayer occupation in top 1 percent

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Share of national income going to top 1 percent	9.18	12.70	14.43	15.41	15.17	14.64	14.99	16.17	16.97
Executives, managers, and supervisors (non-finance)	3.65	4.98	5.93	6.19	5.55	5.26	5.35	5.86	6.35
Financial professions, including management	0.82	1.55	1.96	2.32	2.53	2.34	2.35	2.67	2.77
Lawyers	0.61	1.00	0.96	0.98	1.13	1.13	1.22	1.25	1.22
Medical	1.29	2.19	1.88	1.58	1.77	1.90	1.96	1.91	1.85
Real estate	0.17	0.17	0.25	0.34	0.38	0.41	0.40	0.51	0.57
Skilled sales (except finance or real estate)	0.34	0.44	0.51	0.51	0.48	0.46	0.47	0.50	0.53
Arts, media, sports	0.17	0.34	0.38	0.44	0.43	0.42	0.45	0.44	0.42
Entrepreneur not elsewhere classified	0.31	0.33	0.36	0.38	0.38	0.34	0.38	0.40	0.47
Computer, math, engineering, technical (nonfinance)	0.31	0.35	0.51	0.78	0.67	0.56	0.62	0.57	0.60
Business operations (nonfinance)	0.18	0.25	0.35	0.39	0.45	0.40	0.37	0.47	0.48
Professors and scientists	0.10	0.18	0.17	0.17	0.21	0.19	0.21	0.22	0.23
Farmers & ranchers	0.16	0.02	0.08	0.07	0.07	0.05	0.06	0.07	0.08
Pilots	0.04	0.05	0.02	0.02	0.03	0.03	0.03	0.02	0.02
Government, teachers, social services	0.07	0.08	0.06	0.09	0.07	0.09	0.08	0.08	0.09
Blue collar or low-skill service	0.33	0.32	0.36	0.40	0.38	0.39	0.38	0.45	0.49
Not working or deceased	0.48	0.37	0.53	0.61	0.57	0.56	0.52	0.61	0.67
Unknown	0.15	0.10	0.11	0.13	0.11	0.11	0.14	0.14	0.12
Addendum: detail on executives, managers, supervisors									
Executive, non-finance, salaried	2.23	2.24	2.56	2.53	2.25	1.97	2.03	2.22	2.22
Executive, non-finance, closely held business	0.29	1.10	1.50	1.48	1.37	1.41	1.41	1.60	1.87
Manager, non-finance, salaried	0.54	0.79	0.95	1.19	0.95	0.86	0.91	0.92	0.92
Manager, non-finance, closely held business	0.19	0.33	0.53	0.55	0.56	0.57	0.58	0.66	0.80
Supervisor, non-finance, salaried	0.21	0.30	0.20	0.21	0.21	0.23	0.20	0.21	0.23
Supervisor, non-finance, closely held business	0.19	0.22	0.20	0.22	0.20	0.21	0.21	0.25	0.30
Total executives, managers, supervisors, and finance:	4.47	6.53	7.90	8.51	8.07	7.59	7.70	8.53	9.12
percent of increase since 1979 that they explain		59	65	65	60	57	56	58	60
percent of increase since 1993 that they explain			79	73	62	55	51	58	61

Table 6a -- Percentage of national income (including capital gains) received by top 1%, and each primary taxpayer occupation in top 1%

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Share of national income going to top 1 percent	9.72	14.00	17.45	19.34	17.48	16.49	17.25	19.51	20.95
Executives, managers, and supervisors (non-finance)	3.84	5.58	7.25	7.80	6.46	6.02	6.29	7.18	7.85
Financial professions, including management	0.91	1.80	2.50	3.05	2.97	2.66	2.79	3.36	3.44
Lawyers	0.61	1.00	0.98	1.01	1.11	1.13	1.20	1.25	1.24
Medical	1.22	2.16	1.89	1.59	1.69	1.84	1.88	1.82	1.78
Real estate	0.20	0.22	0.33	0.46	0.48	0.52	0.57	0.78	0.94
Skilled sales (except finance or real estate)	0.34	0.45	0.55	0.56	0.49	0.47	0.48	0.50	0.54
Arts, media, sports	0.17	0.36	0.42	0.50	0.46	0.44	0.47	0.49	0.47
Entrepreneur not elsewhere classified	0.34	0.42	0.53	0.65	0.52	0.47	0.52	0.60	0.74
Computer, math, engineering, technical (nonfinance)	0.32	0.37	0.63	0.96	0.80	0.60	0.68	0.67	0.75
Business operations (nonfinance)	0.19	0.26	0.38	0.42	0.50	0.43	0.41	0.49	0.52
Professors and scientists	0.10	0.18	0.25	0.23	0.24	0.22	0.25	0.27	0.29
Farmers & ranchers	0.20	0.03	0.12	0.11	0.09	0.09	0.11	0.13	0.17
Pilots	0.04	0.04	0.02	0.02	0.02	0.03	0.02	0.02	0.02
Government, teachers, social services	0.07	0.08	0.09	0.11	0.10	0.11	0.11	0.11	0.14
Blue collar or low-skill service	0.35	0.31	0.38	0.45	0.41	0.43	0.42	0.48	0.57
Not working or deceased	0.61	0.60	0.97	1.20	0.98	0.89	0.92	1.20	1.33
Unknown	0.21	0.13	0.16	0.20	0.16	0.14	0.14	0.17	0.17
Addendum: detail on executives, managers, supervisors									
Executive, non-finance, salaried	2.33	2.61	3.30	3.46	2.79	2.39	2.51	2.92	2.89
Executive, non-finance, closely held business	0.32	1.23	1.82	1.84	1.54	1.59	1.64	1.91	2.34
Manager, non-finance, salaried	0.56	0.83	1.09	1.37	1.07	0.96	1.02	1.06	1.10
Manager, non-finance, closely held business	0.20	0.37	0.60	0.64	0.61	0.60	0.64	0.76	0.92
Supervisor, non-finance, salaried	0.23	0.31	0.23	0.27	0.24	0.25	0.25	0.26	0.28
Supervisor, non-finance, closely held business	0.20	0.23	0.21	0.23	0.21	0.23	0.23	0.27	0.32
Total executives, managers, supervisors, and finance:	4.74	7.37	9.75	10.86	9.43	8.68	9.08	10.54	11.28
% of increase since 1979 that they explain		61	65	64	60	58	58	59	58
% of increase since 1993 that they explain			69	65	59	53	53	58	56

Table 7 -- Percentage of national income (excluding capital gains) received by top 0.1 percent, and each primary taxpayer occupation in top 0.1 percent

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Share of national income going to top 0.1 percent	2.83	4.60	5.65	6.41	6.12	5.71	5.96	6.79	7.34
Executives, managers, and supervisors (non-finance)	1.37	2.32	2.96	3.16	2.73	2.51	2.63	3.05	3.42
Financial professions, including management	0.34	0.70	0.92	1.15	1.31	1.18	1.17	1.41	1.45
Lawyers	0.17	0.25	0.27	0.30	0.36	0.36	0.40	0.40	0.39
Medical	0.16	0.40	0.23	0.16	0.20	0.25	0.28	0.26	0.26
Real estate	0.05	0.05	0.08	0.11	0.14	0.15	0.16	0.21	0.25
Skilled sales (except finance or real estate)	0.05	0.11	0.12	0.13	0.11	0.10	0.11	0.12	0.14
Arts, media, sports	0.08	0.20	0.24	0.27	0.26	0.29	0.28	0.28	0.27
Entrepreneur not elsewhere classified	0.14	0.16	0.18	0.20	0.19	0.18	0.20	0.22	0.25
Computer, math, engineering, technical (nonfinance)	0.06	0.09	0.15	0.31	0.22	0.15	0.16	0.16	0.18
Business operations (nonfinance)	0.03	0.07	0.11	0.13	0.14	0.13	0.12	0.16	0.18
Professors and scientists	0.02	0.03	0.04	0.05	0.05	0.05	0.05	0.06	0.06
Farmers & ranchers	0.04	0.01	0.03	0.03	0.02	0.02	0.03	0.03	0.03
Not working or deceased	0.16	0.10	0.19	0.24	0.23	0.20	0.21	0.25	0.26
Unknown	0.06	0.02	0.03	0.05	0.04	0.03	0.04	0.04	0.03
Other	0.08	0.09	0.10	0.14	0.12	0.12	0.12	0.14	0.17
Detail on executives, managers, and supervisors (non-finance)									
Executive, non-finance, salaried	0.90	1.00	1.19	1.27	1.03	0.84	0.94	1.13	1.14
Executive, non-finance, closely held business	0.19	0.86	1.12	1.09	0.99	1.04	1.05	1.20	1.45
Manager, non-finance, salaried	0.12	0.15	0.25	0.39	0.27	0.21	0.22	0.23	0.24
Manager, non-finance, closely held business	0.08	0.16	0.25	0.26	0.27	0.26	0.28	0.31	0.39
Supervisor, non-finance, salaried	0.04	0.06	0.05	0.06	0.06	0.05	0.05	0.06	0.06
Supervisor, non-finance, closely held business	0.04	0.09	0.09	0.10	0.10	0.10	0.10	0.11	0.14
Total executives, managers, supervisors, and finance:	1.72	3.02	3.88	4.31	4.04	3.69	3.80	4.46	4.87
percent of increase since 1979 they explain		74	77	72	71	68	67	69	70
percent of increase since 1993 that they explain			82	71	67	60	57	66	67

Table 7a -- Percentage of national income (including capital gains) received by top 0.1%, and each primary taxpayer occupation in top 0.1%

	1979	1993	1997	1999	2001	2002	2003	2004	2005
Share of national income going to top 0.1 percent	3.30	5.54	7.91	9.28	7.91	7.13	7.64	9.27	10.34
Executives, managers, and supervisors (non-finance)	1.57	2.82	4.11	4.51	3.49	3.17	3.41	4.14	4.67
Financial professions, including management	0.42	0.89	1.37	1.77	1.71	1.47	1.55	1.99	2.05
Lawyers	0.17	0.26	0.28	0.31	0.35	0.34	0.37	0.40	0.40
Medical	0.16	0.38	0.27	0.19	0.20	0.23	0.25	0.24	0.26
Real estate	0.07	0.08	0.14	0.18	0.20	0.22	0.27	0.39	0.53
Skilled sales (except finance or real estate)	0.05	0.11	0.14	0.16	0.13	0.12	0.13	0.13	0.17
Arts, media, sports	0.08	0.20	0.26	0.29	0.28	0.29	0.30	0.30	0.29
Entrepreneur not elsewhere classified	0.18	0.21	0.29	0.40	0.30	0.28	0.30	0.37	0.44
Computer, math, engineering, technical (nonfinance)	0.08	0.12	0.22	0.45	0.31	0.19	0.21	0.24	0.33
Business operations (nonfinance)	0.03	0.08	0.14	0.15	0.20	0.15	0.15	0.19	0.21
Professors and scientists	0.03	0.04	0.08	0.07	0.08	0.07	0.07	0.10	0.11
Farmers & ranchers	0.06	0.02	0.04	0.05	0.04	0.04	0.05	0.06	0.08
Not working or deceased	0.22	0.19	0.38	0.48	0.41	0.36	0.38	0.49	0.53
Unknown	0.09	0.03	0.06	0.08	0.06	0.04	0.05	0.05	0.06
Other	0.10	0.10	0.14	0.18	0.15	0.15	0.15	0.18	0.22
Detail on executives, managers, and supervisors (non-finance)									
Executive, non-finance, salaried	1.02	1.31	1.89	2.09	1.54	1.24	1.39	1.76	1.74
Executive, non-finance, closely held business	0.21	0.95	1.39	1.35	1.12	1.18	1.23	1.45	1.83
Manager, non-finance, salaried	0.15	0.20	0.36	0.55	0.35	0.28	0.31	0.35	0.37
Manager, non-finance, closely held business	0.08	0.18	0.30	0.32	0.30	0.28	0.31	0.37	0.48
Supervisor, non-finance, salaried	0.06	0.07	0.08	0.09	0.09	0.07	0.07	0.09	0.10
Supervisor, non-finance, closely held business	0.05	0.10	0.10	0.11	0.10	0.11	0.10	0.12	0.15
Total executives, managers, supervisors, and finance:	2.00	3.71	5.48	6.27	5.21	4.64	4.96	6.13	6.72
% of increase since 1979 they explain		77	76	71	70	69	68	69	67
% of increase since 1993 that they explain			75	68	63	58	60	65	63

Table 8 -- Average annual real growth rate of income excluding capital gains, by job of primary taxpayer, among tax units in the top 1 percent but outside the top 0.5 percent of the distribution, using constant year 1979 job shares, ranked by income growth 1979-2005

	1979-1993	1993-1999	1999-2002	2002-2005	1979-2005
Financial professions, including management	2.6	6.7	-1.3	4.4	3.3
Real estate	0.1	9.9	0.8	7.9	3.2
Business operations (nonfinance)	1.0	6.7	-0.1	4.5	2.6
Manager, non-finance	1.6	6.7	-3.7	4.0	2.4
Professors and scientists	2.2	2.1	-0.3	5.3	2.2
Lawyers	1.9	2.6	1.9	2.4	2.1
Arts, media, sports	1.9	6.2	-3.5	0.3	2.1
Computer, math, engineering, technical (nonfinance)	0.5	8.3	-4.3	2.6	1.9
Skilled sales (except finance or real estate)	1.0	4.6	-2.9	3.1	1.6
Medical	2.0	0.8	1.8	0.7	1.6
Entrepreneur not elsewhere classified	0.3	3.5	-4.8	8.6	1.3
Supervisor, non-finance	0.7	0.9	-0.2	3.0	0.9
Executive, non-finance	0.1	3.8	-3.4	0.6	0.6
Farmers & ranchers	-7.3	13.3	-1.1	3.6	-0.9

Table 9 -- Average annual real growth rate of income excluding capital gains, by job of primary taxpayer, among tax units in the top 0.5 percent but outside the top 0.1 percent of the distribution, using constant year 1979 job shares, ranked by income growth 1979-2005

	1979-1993	1993-1999	1999-2002	2002-2005	1979-2005
Real estate	0.7	10.3	1.4	11.4	4.1
Financial professions, including management	3.4	7.6	0.3	4.3	4.1
Business operations (nonfinance)	2.1	8.8	-0.7	7.8	3.9
Arts, media, sports	4.0	7.5	-2.2	0.5	3.6
Manager, non-finance	2.0	9.3	-5.0	5.5	3.2
Professors and scientists	2.7	3.2	-0.7	7.6	2.9
Lawyers	2.3	4.0	1.8	3.3	2.8
Computer, math, engineering, technical (nonfinance)	1.1	12.4	-9.6	4.8	2.7
Skilled sales (except finance or real estate)	2.3	4.8	-3.4	4.2	2.4
Medical	3.1	0.3	2.0	1.9	2.2
Entrepreneur not elsewhere classified	0.7	4.4	-0.8	7.5	2.1
Supervisor, non-finance	1.3	3.8	-2.9	6.3	1.9
Executive, non-finance	1.2	4.6	-5.2	3.4	1.5
Farmers & ranchers	-6.9	15.2	-4.0	8.9	-0.1

Table 10 -- Average annual real growth rate of income excluding capital gains, for each primary taxpayer job among tax units in the top 0.1 percent of the distribution, using constant year 1979 job shares, ranked by income growth

	1979-1993	1993-1999	1999-2002	2002-2005	1979-2005
Business operations (nonfinance)	5.2	11.2	-4.6	13.8	6.3
Real estate	1.6	12.1	5.3	17.2	6.1
Financial professions, including management	4.2	11.3	-2.8	9.7	5.6
Arts, media, sports	5.5	8.1	0.8	1.4	5.1
Manager, non-finance	3.1	13.3	-9.8	11.0	4.6
Professors and scientists	2.4	10.5	-4.0	12.3	4.6
Skilled sales (except finance or real estate)	4.4	7.7	-7.2	11.3	4.5
Computer, math, engineering, technical (nonfinance)	2.4	21.2	-19.4	8.7	4.3
Executive, non-finance	3.9	7.4	-6.9	11.6	4.2
Supervisor, non-finance	3.5	5.2	-2.3	9.4	3.9
Lawyers	3.1	7.1	-1.1	6.4	3.9
Medical	4.1	0.0	2.3	5.4	3.1
Entrepreneur not elsewhere classified	1.3	7.0	-4.9	11.3	3.0
Farmers & ranchers	-5.4	15.5	-4.0	11.1	1.1

Table 11 -- Divergence: ratio of 1979-2005 growth rate of real income (excluding capital gains) in the top 0.1 percent of income distribution, to growth rate at p99 to p99.5, by job, holding job shares in top percentiles constant at 1979 levels, 1979-2005

Occupation	Ratio
Executive, non-finance	7.0
Supervisor, non-finance	4.2
Skilled sales (except finance or real estate)	2.9
Business operations (nonfinance)	2.5
Arts, media, sports	2.5
Computer, math, engineering, technical (nonfinance)	2.2
Entrepreneur not elsewhere classified	2.2
Professors and scientists	2.0
Medical	2.0
Manager, non-finance	1.9
Real estate	1.9
Lawyers	1.8
Financial professions, including management	1.7
Farmers & ranchers	-1.2
Mean	2.4

Source: authors' tabulations from Statistics of Income individual income tax return data.

Table A.1 -- Job Classifications Used in This Paper, Part 1

	Job	Description	Relation to 2000 SOC and 1997 NAICS codes
1	**Executive, non-finance, salaried**	Executives, except those whose industry is finance or government, if wage and salary income >= business income (Schedule C self-employment of the taxpayer plus partnership and S-corporation income of the return)	SOC=111000 , 111010; excludes executives with industry of finance (NAICS codes of 520000, 522100 through 525920, 525990, 551111) or government (921110 through 928120, and 521000 through 521110).
2	**Manager, non-finance, salaried**	Management occupations, except for, executives, financial managers, legislators, farmers, ranchers, agricultural managers, postmasters, and property and real estate managers, and those whose industry is finance or government; if wage and salary income >= business income.	SOC=110000, 111020, 112000 through 113020, 113040 through 19120, 119150 through 119190, or 131110; and NAICS industry is not finance or government.
3	**Supervisor, non-finance, salaried**	Supervisors in any field except finance or government; if wage and salary income >= business income.	SOC codes 331000 through 331020, 351000 through 351011, 371011 through 371012, 391000 through 391010, 411000 through 411012, 431000 through 431010, 451010, 471000 through 471010, 491010, 511000, 511010; and NAICS industry is not finance or government.
4	**Executive, non-finance, closely held business**	Same as 1, but business income > wage and salary income.	Same as 1, but business income > wage and salary income.
5	**Manager, non-finance, closely held business**	Same as 2, but business income > wage and salary income.	Same as 2, but business income > wage and salary income.
6	**Supervisor non-finance, closely held business**	Same as 3, but business income > wage and salary income.	Same as 3, but business income > wage and salary income.
7	**Financial professions**	Any financial SOC code, e.g., "financial managers," "financial specialists," "securities, commodities, and financial services sales agents," etc.; executives whose industry is finance, jobs 11 and 12 below (skilled sales; computer, engineering and technical) where industry is finance; taxpayers classified by the IRS as "investors."	SOC = 113030, 132000, 132030 through 132072, 132090, 413030, 920000; or job=11 or 12 below and NAICS industry is finance.
8	**Lawyers**	Lawyers, judges, legal occupations besides support	SOC = 230000 − 231020

Table A.1 -- Job Classifications Used in This Paper, Part 2

	Job	Description	Relation to 2000 SOC and 1997 NAICS codes
9	**Medical**	Medical doctors, surgeons, and other skilled medical professions	SOC = 291030, 291050, 291070, 291120 through 291130, 292000 - 299099.
10	**Real estate**	Property and real estate managers; appraisers and assessors of real estate; real estate brokers and agents	SOC = 119140, 132020, or 419020
11	**Skilled sales (except finance , real estate)**	Skilled sales positions; excludes anyone whose NAICS industry is finance, real estate, or construction	SOC = 413000 through 413020, 413090 through 419010, 419030 through 419099; NAICS industry is not finance; NAICS is not real estate or construction (525930, 531000 through 531310, 233000 through 235990).
12	**Arts, media, sports**	Arts, design, entertainment, sports, and media occupations, except blue-collar	SOC = 270000 through 273090, 274020.
13	**Entrepreneur not elsewhere classified**	Occupation is not assigned an SOC code, but taxpayer reports self-employment income on return.	No SOC code, but self-employment income > 0.
14	**Computer, math, engineering, technical (nonfinance)**	Computer and mathematical occupations; architects and engineers; technicians; excludes anyone whose industry is finance.	SOC = 150000 through 173031, 194000 through 194093; NAICS industry is not finance.
15	**Business operations (nonfinance)**	Nonfinancial business operations professions; for example accountants and management consultants.	SOC = 130000 through 131190
16	**Professors and scientists**	Professors and scientists	SOC = 190000 through 193099, 25100 – 251190
17	**Farmers & ranchers**	Farmers, ranchers, agricultural managers and supervisors	SOC = 119010 through 119012, 451010
18	**Pilots**	Aircraft pilots and navigators	SOC = 532010
19	**Government, teachers, social services**	Executives, managers and supervisors with NAICS industry = government; miscellaneous government workers; teachers; community and social services occupations	SOC = 251191 through 259040, 210000 through 212090, 111030, 119130, 434030, 434060, 435050, 435052, 435053, 970000
20	**Blue collar , miscellaneous service**	All other SOC codes, which are generally blue collar jobs, or service jobs of relatively low skill-intensity.	All other SOC codes
21	**Not working , deceased**	Coded by IRS	Coded by IRS
22	**Unknown**		

Table A.2 -- Sample statistics for the full data set (all incomes)

	Mean	St. Dev.
Income	1,521,090	11,372,522
Income Excluding Capital Gains	834,491	6,321,352
Labor and Business Income	695,973	4,562,001
Wage and Salary Income	444,583	2,569,487
Have a Closely Held Business	0.255	0.436
Married	0.661	0.473
Observations	1,594,359	

Source: Authors' tabulations of Statistics of Income individual income tax return data from 1979, 1993, 1997, 1999, and 2001-2005. Means are unweighted.

Table A.3 -- Occupation and industry of primary and secondary filers in the full data set (all incomes)

| Occupation	Primary Fraction	Secondary Fraction	Industry	Primary Fraction	Secondary Fraction
Executive, salaried	8.97	2.2	Arts, media, sports	2.50	1.52
Manager, salaried	5.5	3.9	Finance	6.78	2.96
Supervisor, salaried	2.78	1.4	Management consulting	1.50	0.68
Executive, closely held business	4.78	1.34	Accounting	0.69	0.57
Manager, closely held business	2.59	1.99	Real estate and construction	8.62	3.37
Supervisor, closely held business	1.87	0.63	Law	1.55	0.82
Financial professions (non-managerial)	6.62	2.6	Health care	5.47	5.74
Lawyers	2.83	1.18	Computers and telecommunications	2.82	1.19
Medical	4.84	4.66	Government	4.19	4.61
Real estate	2.79	2.01	Other specified industry	43.14	24.84
Skilled sales (except finance or real estate)	2.54	1.62	Unknown, not working, or deceased	22.72	53.68
Arts, media, sports	1.91	2.49			
Entrepreneur not elsewhere classified	2.95	0.71			
Computer, math, engineering, technical (nonfinance)	3.73	1.03			
Business operations (nonfinance)	2.11	2.21			
Professors and scientists	1.14	0.99			
Farmers & ranchers	1.97	0.45			
Pilots	0.14	0.01			
Government, teachers, social services	3.12	5.61			
Blue collar or miscellaneous service	17.42	13.4			
Not working or deceased	10.82	37.94			
Unknown	8.56	11.63			

Source: Authors' tabulations of Statistics of Income individual income tax return data from 1979, 1993, 1997, 1999, and 2001-2005.

Figure 1 -- Percentage of national income (excluding capital gains) received by top 0.1% of income earners: United States, France, and Japan, 1981 - 2006
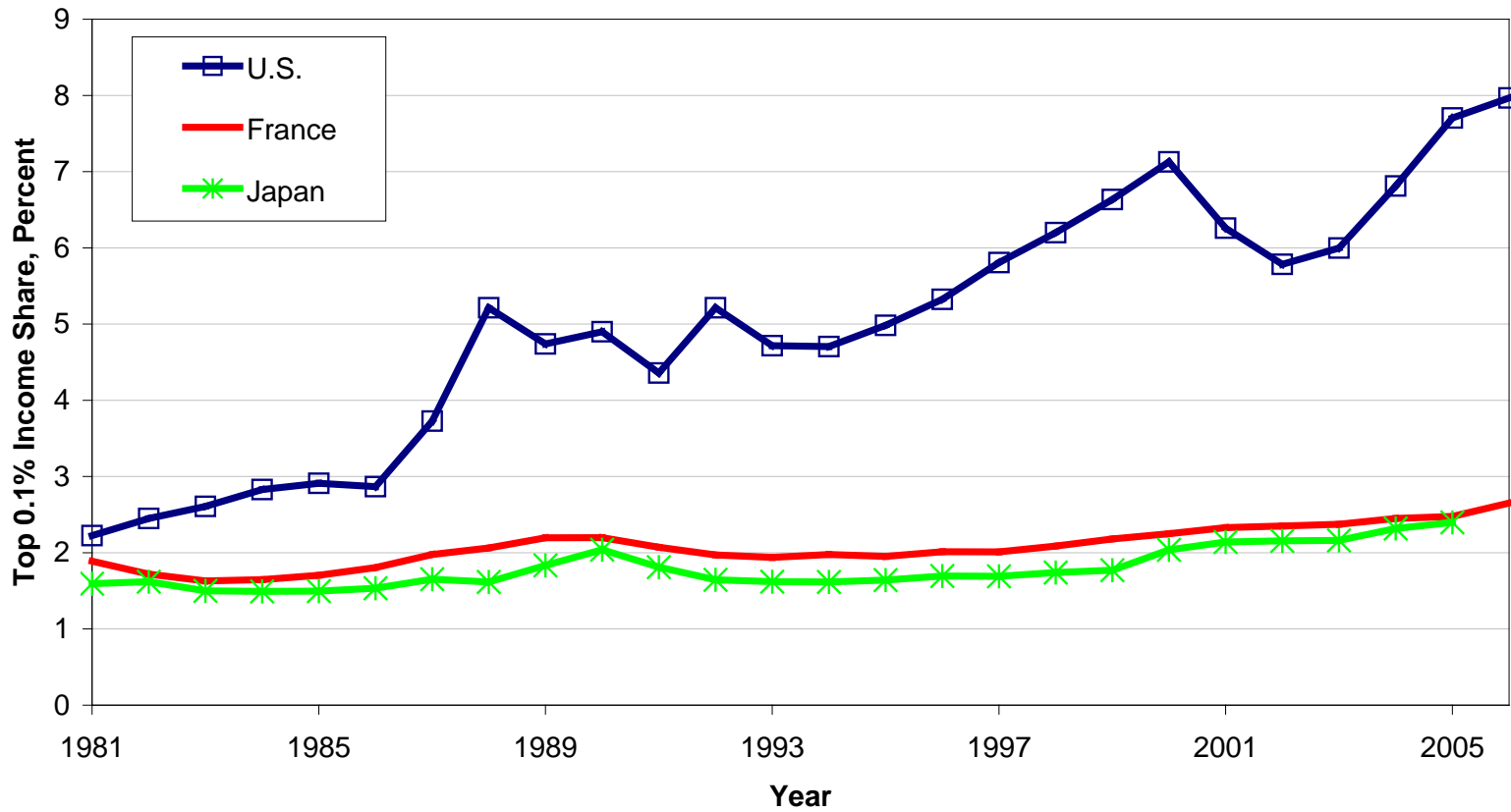
Source: Piketty and Saez (2003, updated in 2008 at <http://elsa.berkeley.edu/~saez/TabFig2006.xls>; Moriguchi and Saez (2008); Piketty (2003); Landais (2008); and upublished tables provided to the authors by Camille Landais.

Figure 2 -- Top marginal income tax rate: United States, France, and Japan, 1981 - 2006
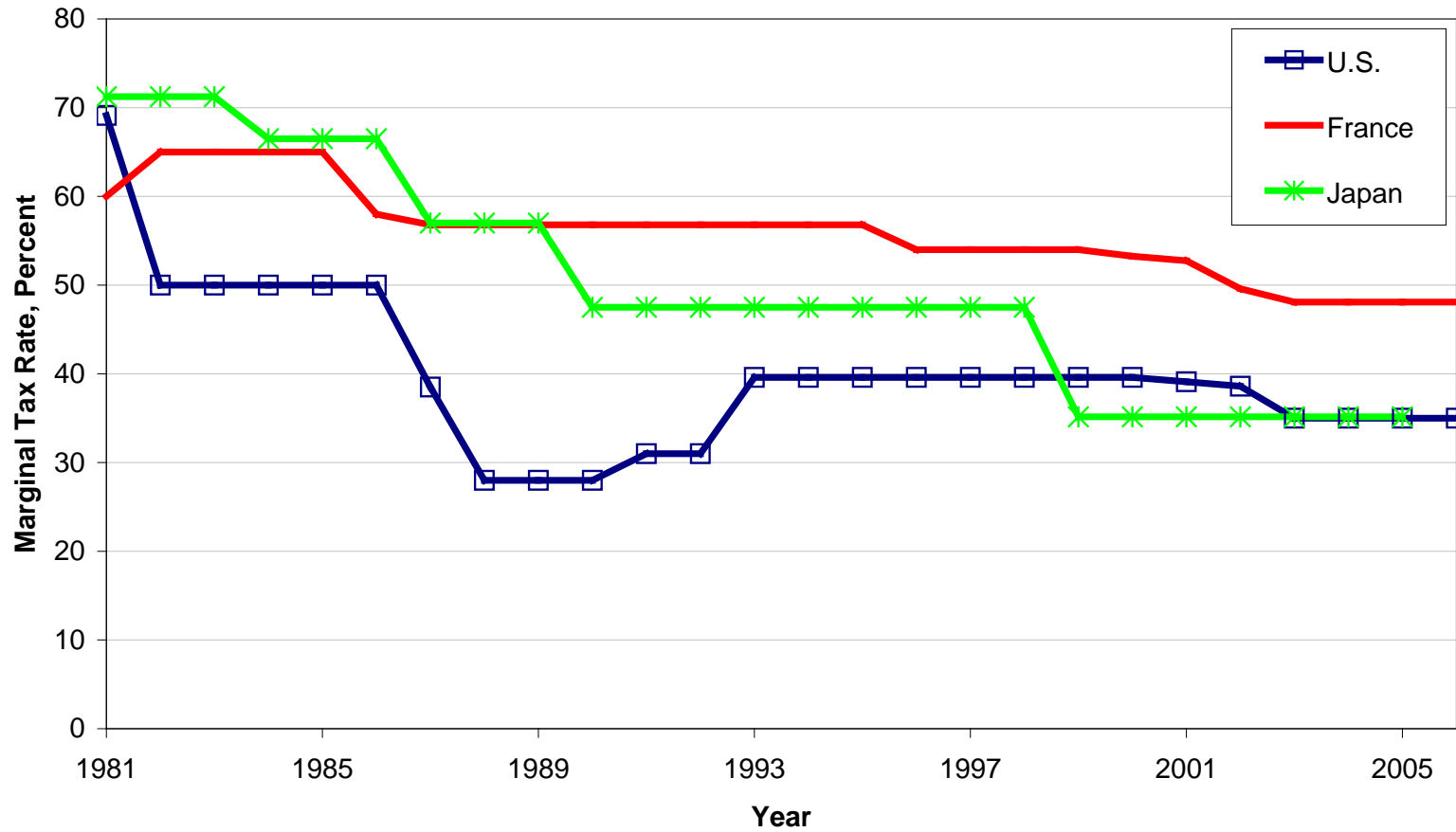
Source: OECD (2009).

**Figure 3 -- Index of average stock prices, adjusted for inflation:
United States, France, and Japan, 1981 - 2006**
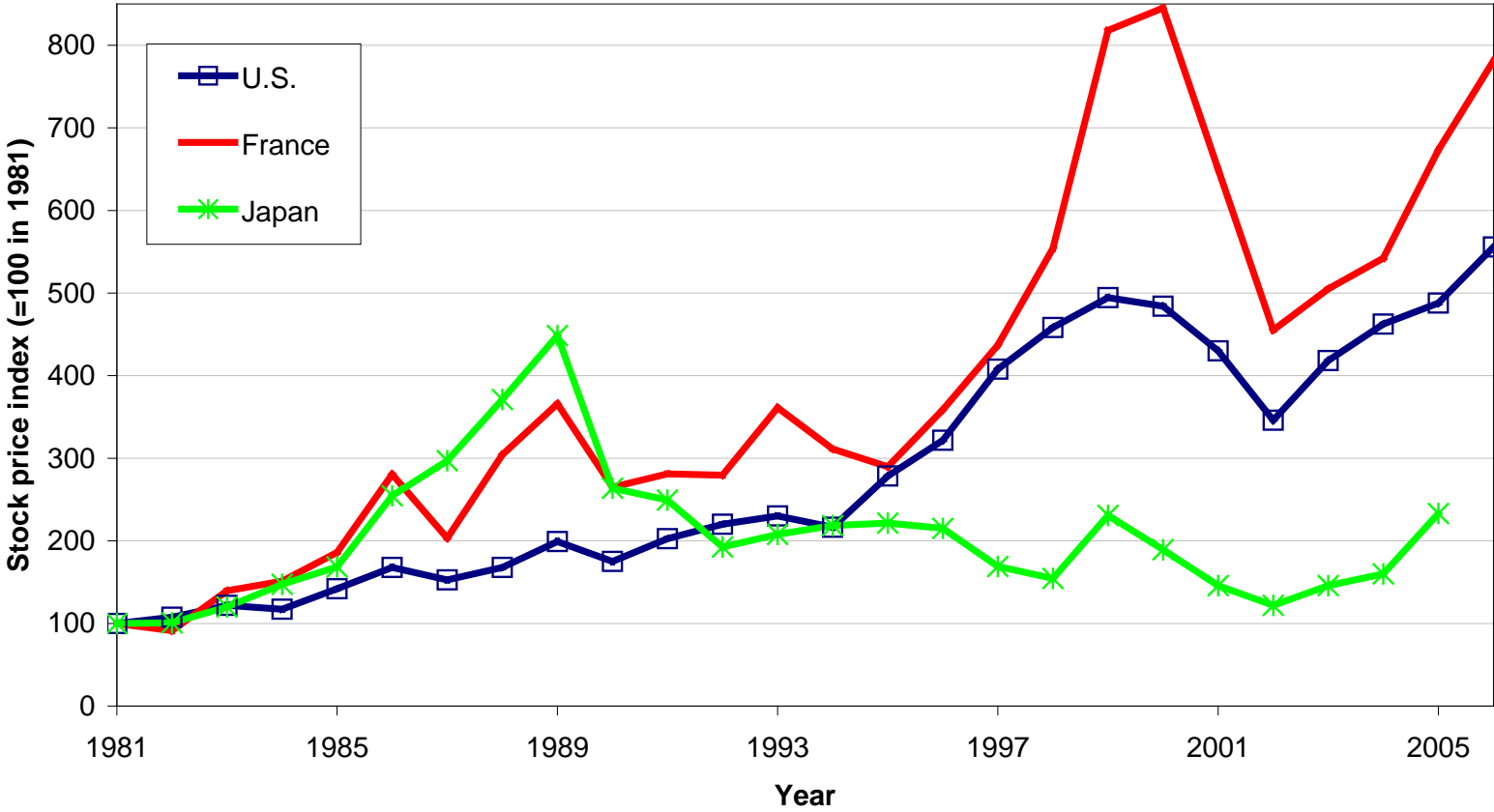
Source: OECD (2009). Depicts the NYSE Composite index for the U.S., the TSE Topix All Shares index for Japan, and the Paris Stock Exchange SBF 250 index for France, each deflated using each country's consumer price index.

Figure 4-- Percentage of national income (excluding capital gains) going to the top 1 percent of the income distribution, by occupation
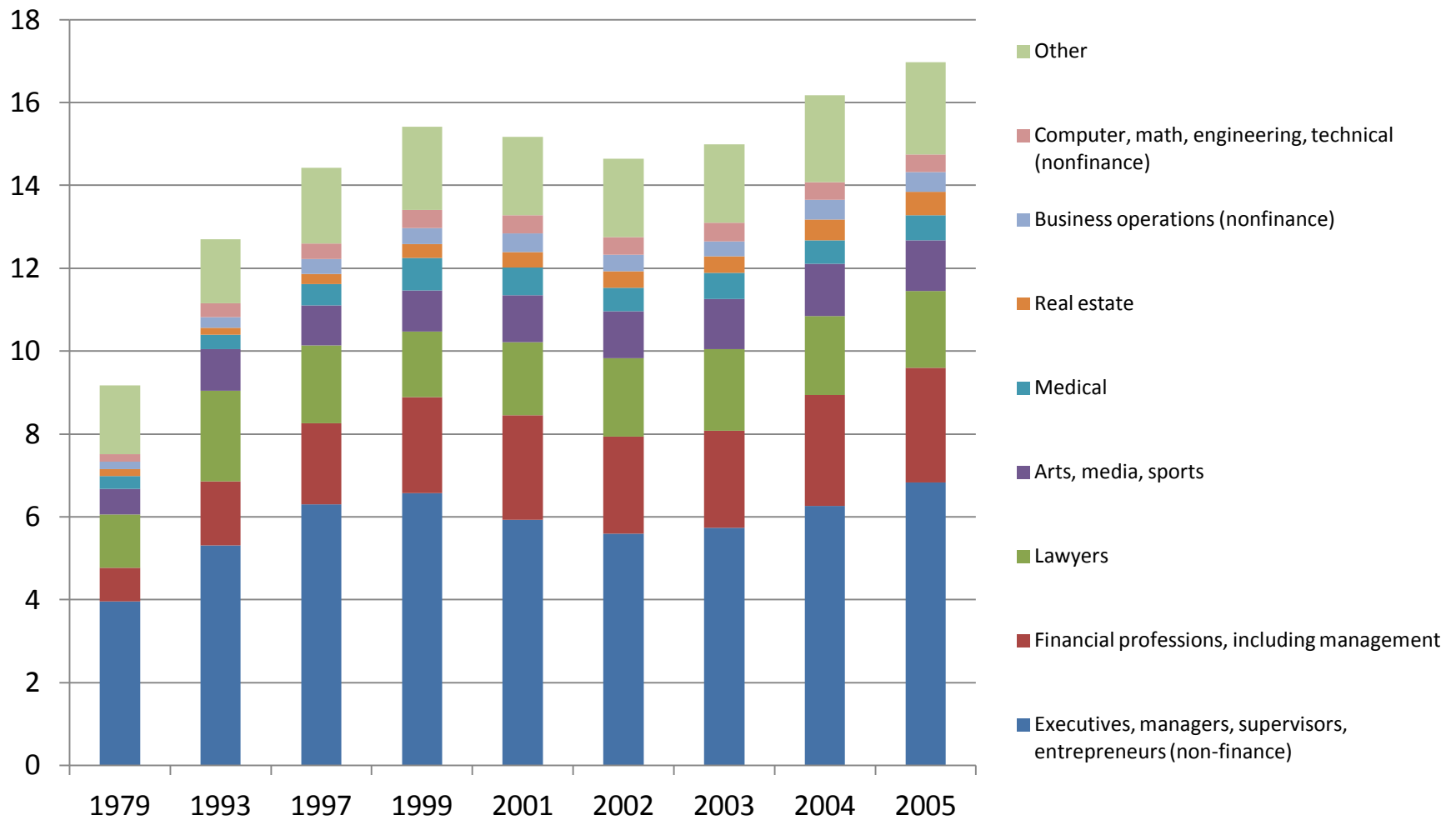
Legend:
- Other
- Computer, math, engineering, technical (nonfinance)
- Business operations (nonfinance)
- Real estate
- Medical
- Arts, media, sports
- Lawyers
- Financial professions, including management
- Executives, managers, supervisors, entrepreneurs (non-finance)

Figure 5 -- Percentage of national income (excluding capital gains) going to the top 0.1 percent of the income distribution, by occupation

Legend:
- Other
- Computer, math, engineering, technical (nonfinance)
- Business operations (nonfinance)
- Real estate
- Medical
- Arts, media, sports
- Lawyers
- Financial professions, including management
- Executives, managers, supervisors, entrepreneurs (non-finance)

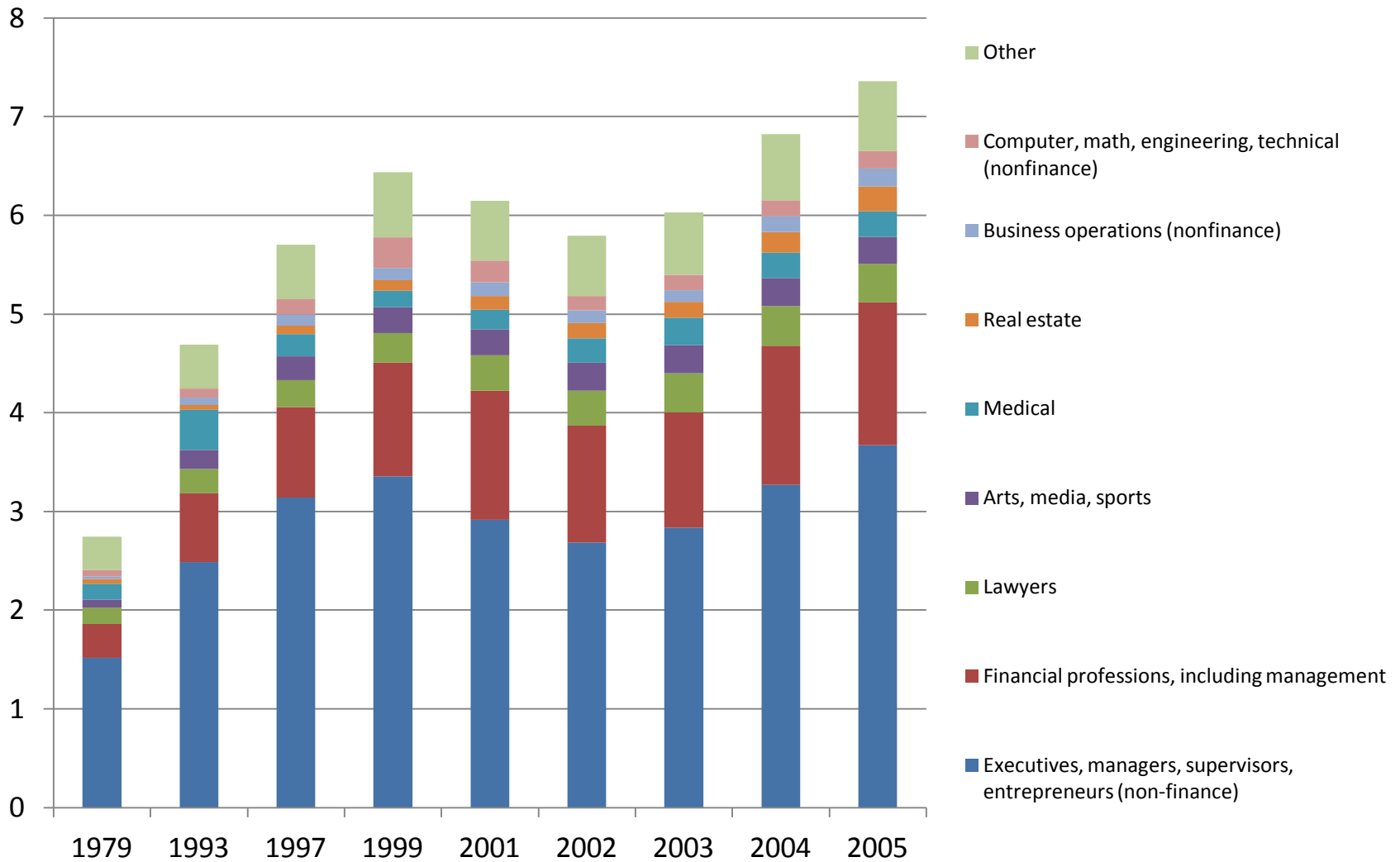X-axis: 1979, 1993, 1997, 1999, 2001, 2002, 2003, 2004, 2005

Figure 6 -- Mean income excluding capital gains in thousands of constant year 2007 dollars, top 1% but outside top 0.5% of distribution, by job of primary taxpayer, using constant 1979 job shares
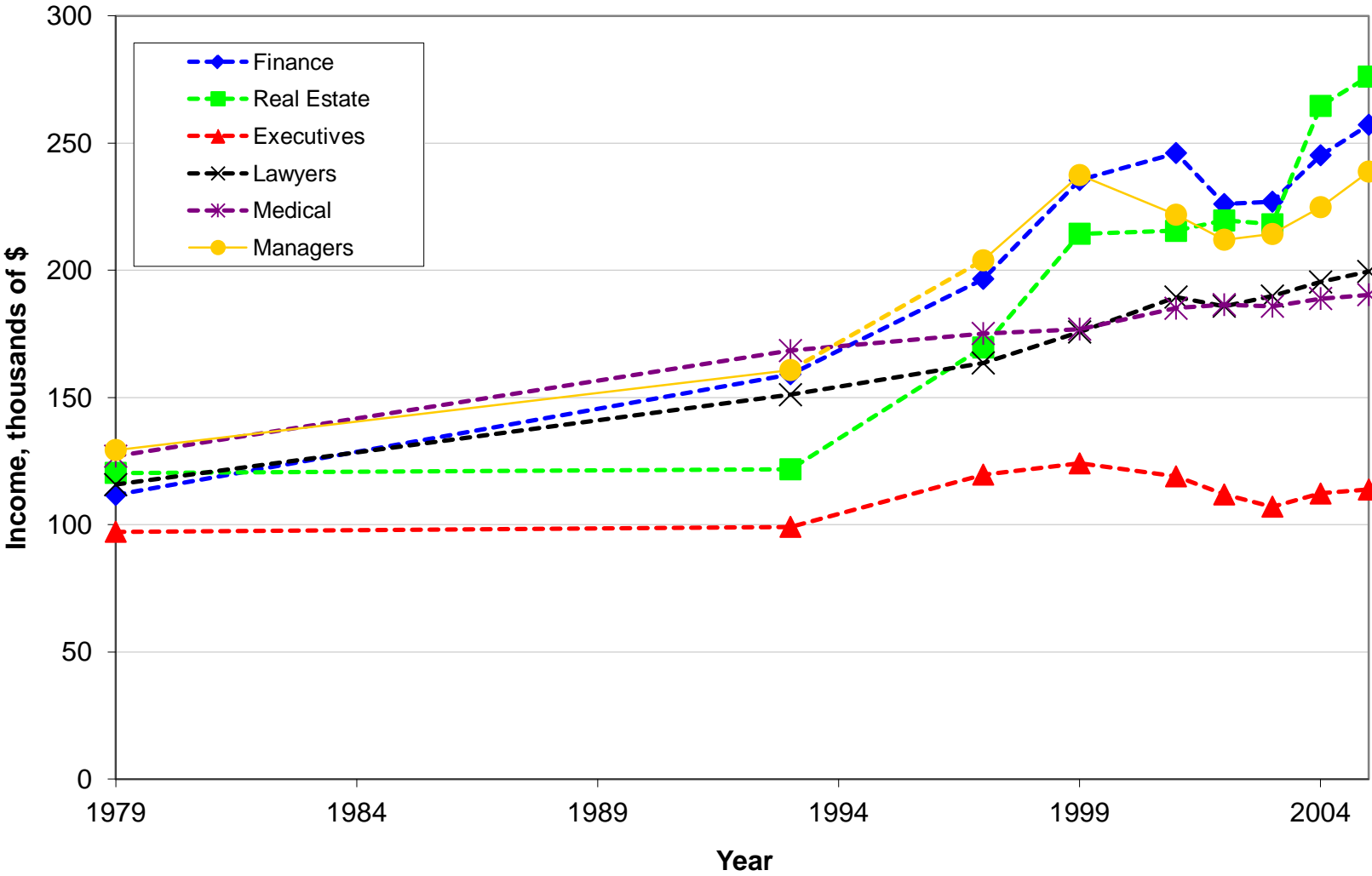
Figure 7 -- Mean income excluding capital gains in thousands of constant year 2007 dollars, top 0.5% but outside 0.1% of distribution, by job of primary taxpayer, using constant 1979 job shares
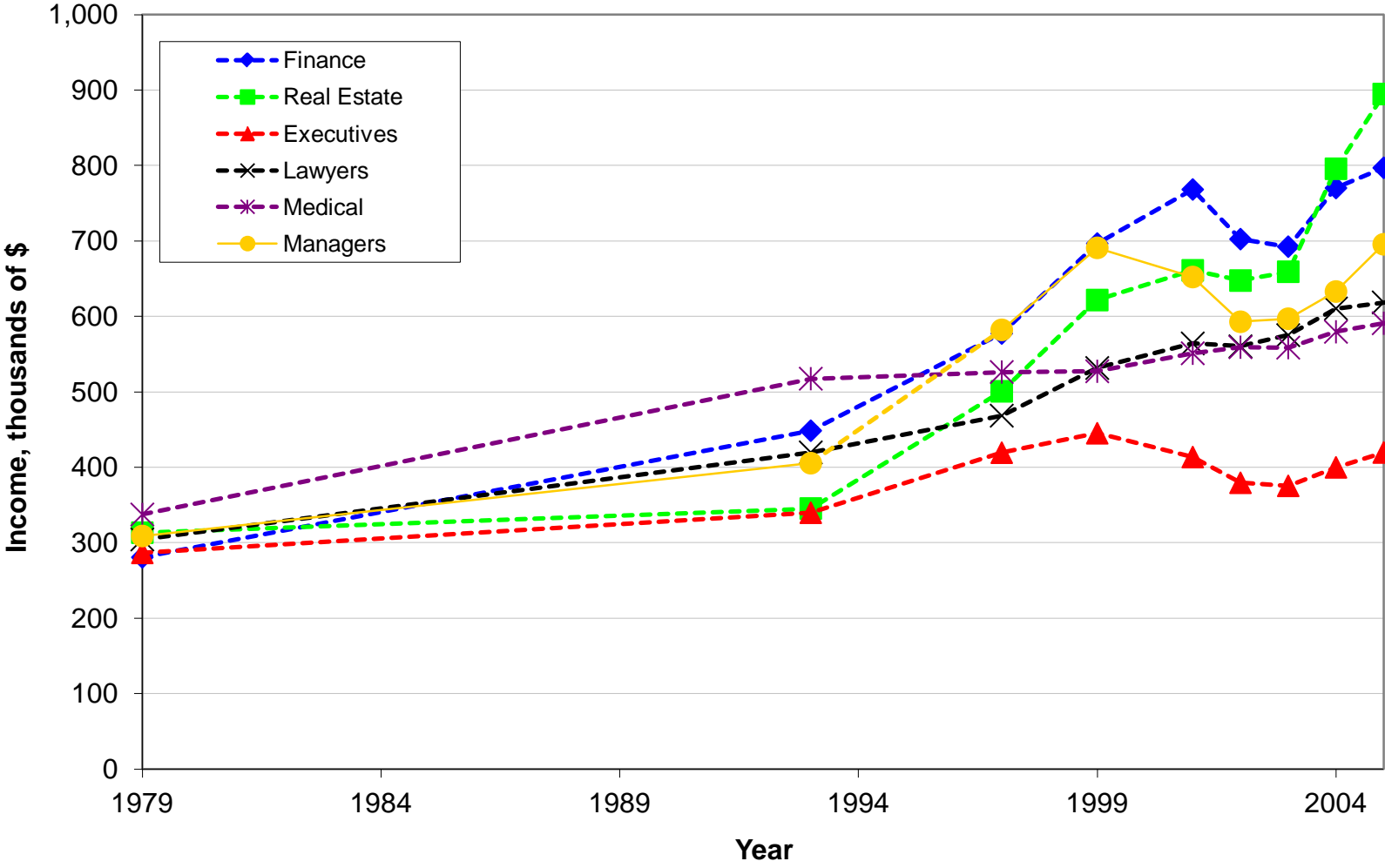
Figure 8 -- Mean income excluding capital gains in thousands of constant year 2007 dollars, top 0.1% of distribution, by job of primary taxpayer, using constant 1979 job shares
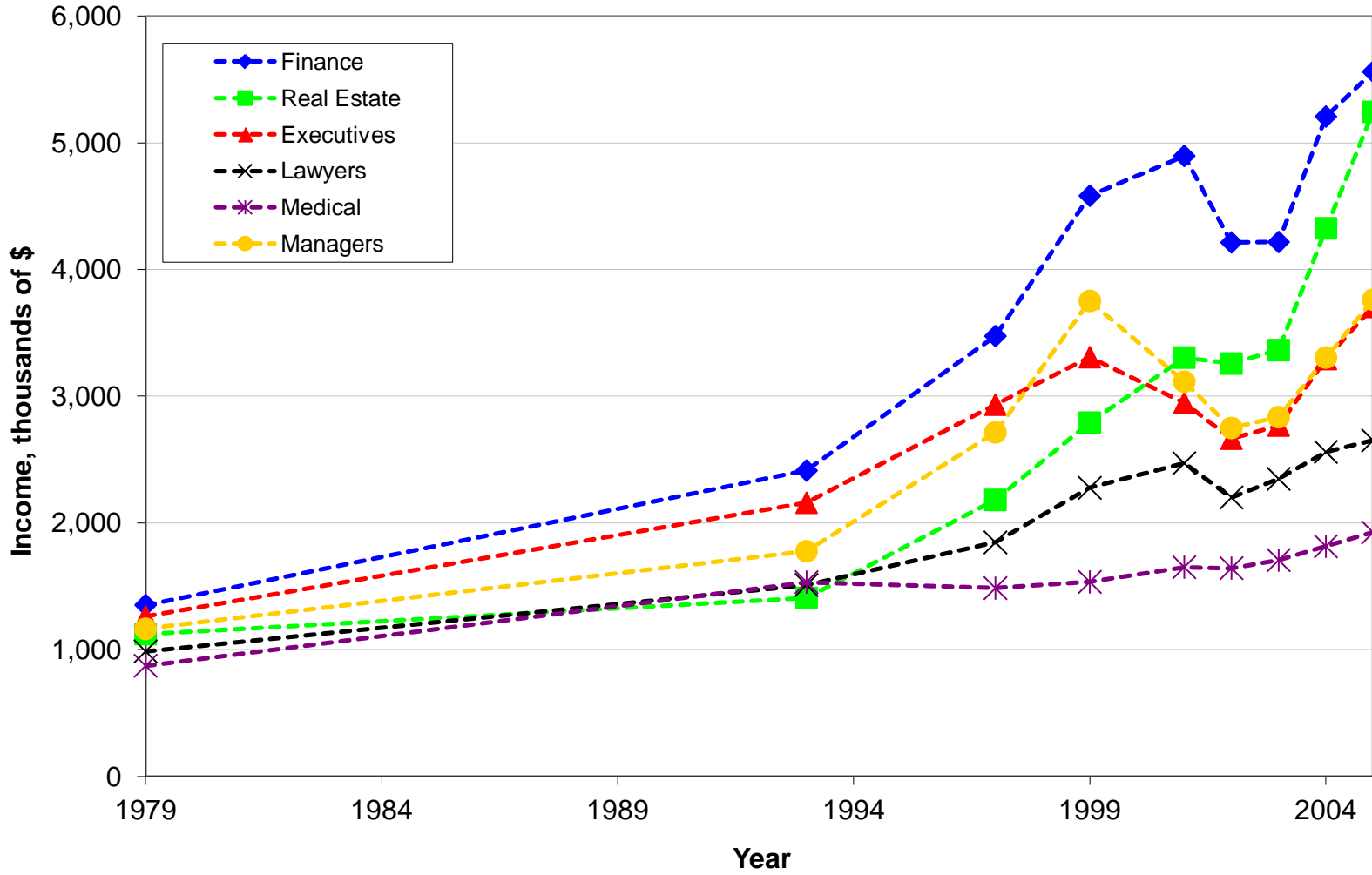
Figure 9 -- Percentage of national income (excluding capital gains) going to top 1 percent by occupation, relative to 1979

Legend:
- Real estate
- Financial professions, including management
- Business operations (nonfinance)
- Computer, math, engineering, technical (nonfinance)
- Arts, media, sports
- Medical
- Executives, managers, supervisors, entrepreneurs (non-finance)
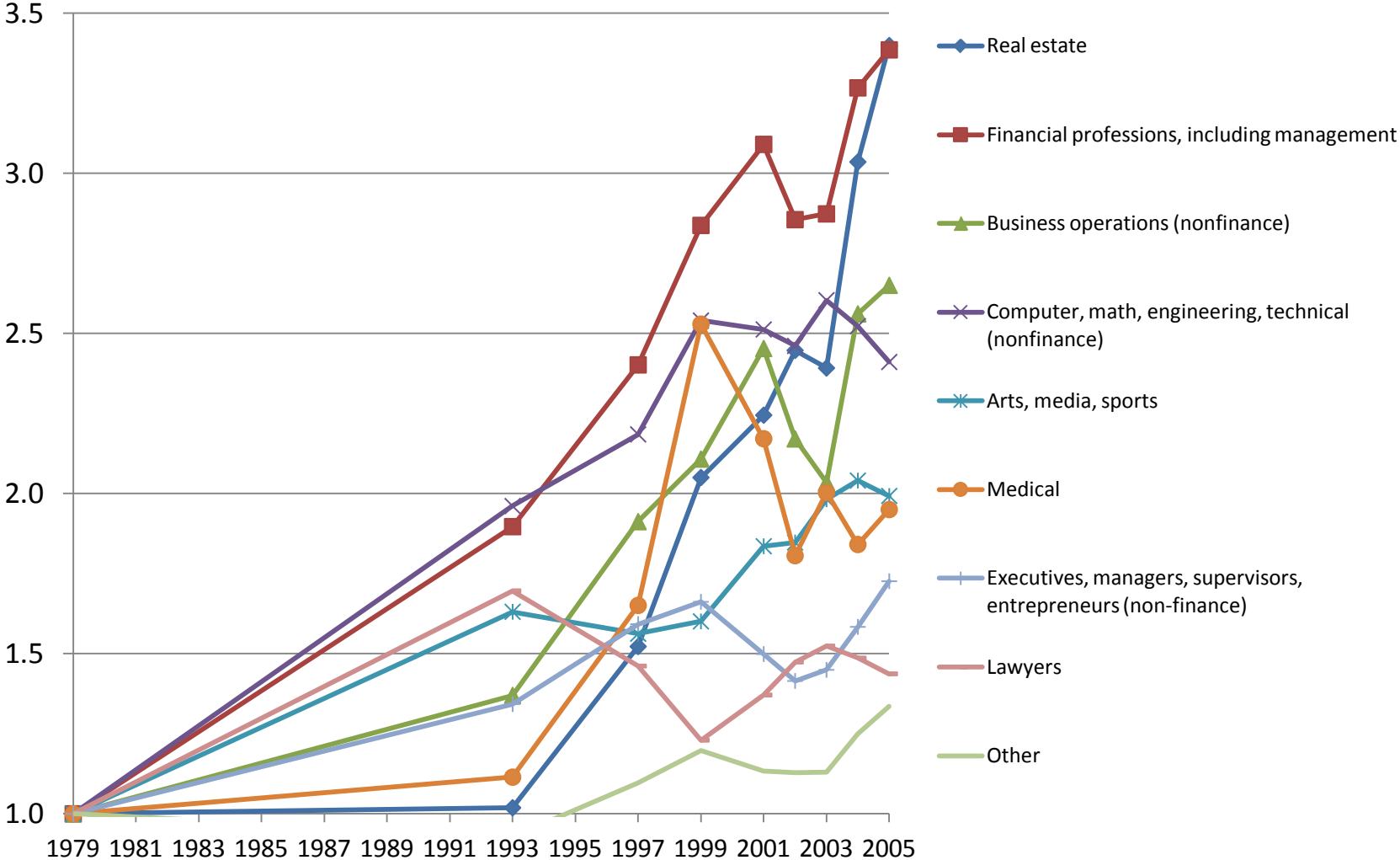- Lawyers
- Other

Figure 10 -- Percentage of national income (excluding capital gains) going to top 0.1 percent by occupation, relative to 1979

Legend:
- Business operations (nonfinance)
- Real estate
- Financial professions, including management
- Arts, media, sports
- Computer, math, engineering, technical (nonfinance)
- Executives, managers, supervisors, entrepreneurs (non-finance)
- Lawyers
- Other
- Medical