



Does tax policy affect executive compensation? Evidence from postwar tax reforms

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ABSTRACT

The trends in executive pay and labor income tax rates since the 1940s suggest a high elasticity of taxable income with respect to tax policy. By contrast, the level and structure of executive compensation have been largely unresponsive to tax incentives since the 1980s. However, the relative tax advantage of different forms of pay was small during this period. Using a sample of top executives in large firms from 1946 to 2005, we also find a small short run response of salaries, qualified stock options, and bonuses paid after retirement to changes in tax rates on labor income — even though tax rates were significantly higher and more heterogeneous across individuals in the first several decades following WWII. We explore several potential explanations for the conflicting impressions given by the long-run and short-run correlations between taxes and pay, including changes in social norms and concerns about pay equality.

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1. Introduction

An extensive literature in corporate finance and labor economics has debated potential explanations for the growth in the level of executive compensation and the increase in performance-related pay over the past three decades. Tax policy seems like a possible candidate since the rise in pay coincided with a marked drop in marginal income tax rates (see Fig. 1). However, the handful of studies on this topic has found modest effects of tax policy on managerial pay, at best (Goolsbee, 2000a; Hall and Liebman, 2000; Rose and Wolfram, 2002).¹ These results are consistent with the literature on the elasticity of taxable income, which finds limited behavioral response of top income earners — a group that includes but is not limited to corporate executives — to tax changes (Saez et al., forthcoming).

Using a novel dataset on top executive compensation since the 1940s, we provide new evidence on the effects of tax policy on managerial pay. Prior research on this topic has focused on the period since the 1980s, when low tax rates on labor income make the effect of taxes hard to identify. To obtain variation in tax rates, these studies compare highly-paid executives with those receiving a more modest paycheck. Thus, these estimates are based on the questionable comparability of individuals at very different points in the income distribution at a time of growing income inequality. By contrast, labor income tax rates were much higher and varied appreciably across top executives from the 1950s to the 1970s, providing a better environment to examine the effects of tax policy.

Differences in the tax-deductibility, time deferral, and tax treatment of various forms of remuneration imply that tax policy should affect the types of compensation used to remunerate executives (Scholes and Wolfson, 1992; Hall and Liebman, 2000; Graham, 2003). We focus on the effect of labor income tax rates on three major components of the compensation package: salary plus current bonus (a bonus that is paid out in the same year that it is awarded), qualified stock option grants, and bonuses paid after retirement.² We also

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¹ Goolsbee (2000a) finds that the tax increase of 1993 led to a significant decrease in the taxable income of corporate executives, but that this decline could be almost entirely attributed to a change in the timing of stock option exercises rather than to a permanent change in behavior. However, Hall and Liebman (2000) find no evidence that tax reforms influenced stock option exercises in the 1980s. They also document that the tax advantage of stock options was relatively small in the 1980s and 1990s and that it had little effect on stock option grants at that time. Using a difference-in-difference approach, Rose and Wolfram (2002) find the rule limiting salaries to \$1 million in 1993 had only a small effect on salaries and no effect on total compensation.

² Due to the difficulties of identification, our estimates of the effects of capital gains or corporate income tax rates on the compensation package are not as reliable (see Section 3). When we do take the tax rates on these two types of income into account, the estimated effects on labor income tax rates are qualitatively similar. Throughout the rest of the paper, the term “taxes rates” refers to labor income tax rates unless otherwise specified.

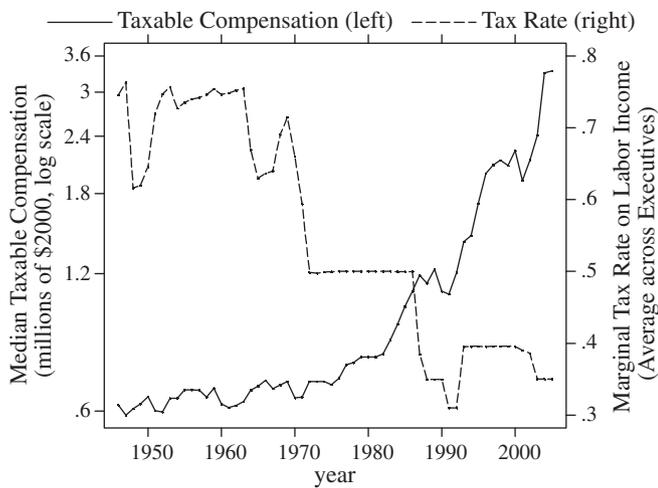


Fig. 1. Taxable compensation and labor income tax rates. Note. Based on a sample of the 5 highest-paid executives in the 50 largest firms in 1940, 1960, and 1990 (a total of 101 firms). Taxable compensation is the sum of salary, current bonus, long-term incentive payouts, and gains from exercised non-qualified stock options. Marginal tax rates on labor income for each executive are calculated assuming that his reported labor income is equal to his taxable compensation and that he files jointly with a spouse.

examine the sum of all forms of compensation that are taxable as labor income – which we refer to as “total taxable compensation” – because tax policy may also influence total taxable earnings relative to forms of compensation that are difficult to tax, such as perquisites and private benefits.

Time-series evidence points to a strong role for tax policy in affecting executive pay: total taxable compensation was significantly lower in the 1950s and 1960s when labor income tax rates were higher, whereas the sharp increase in pay in recent decades occurred at a time of lower tax rates (see Fig. 1). On the other hand, the level of taxable compensation did not significantly change after major tax reforms, suggesting that the rise in compensation over time might be driven by other factors that led to a secular rise in the incomes of the highly-paid. Indeed, we find that the strong correlation between tax rates and the level of compensation over time is driven by long-run trends rather than by high-frequency fluctuations.

A limitation of the time series correlations is that they can be influenced by a large number of possible omitted variables, and therefore cannot be interpreted in a causal manner.³ To account for omitted factors, we focus on the short-term response to tax changes and identify the effect of tax policy by comparing pre-reform to post-reform pay across executives in different tax brackets. We estimate these effects using both time-series and cross-sectional variation in changes in tax rates, using a variety of strategies to control for other factors that may confound the effect of tax changes.

For each form of compensation, we find no relationship between changes in tax rates and changes in pay. This result holds in both the entire sample and in the years from 1946 to 1972, when changes in tax rates were substantially larger and more heterogeneous across individuals. The large variation in tax rates in our sample allows us to reject statistically any meaningful short-run effect of tax rates on all of the types of remuneration that we analyze. Changes in the tax rates have a small effect on compensation even when we allow these effects to occur over 3, 5 and 10-year time periods.

³ See Saez et al. (forthcoming) for a detailed explanation of the identification issues in obtaining a reliable estimate of the long-run elasticity of taxable income.

We also find that changes in the tax rates had a negligible short-run effect on the total taxable labor income of executives, measured as the sum of salary, current bonus, long-term bonus payouts, and the value of exercised non-qualified stock options. We can reject an elasticity of taxable compensation with respect to taxes greater than 0.2, a value that is on the lower end of the broad range of estimates found in the public finance literature on this topic (Lindsey, 1987; Feldstein, 1995; Goolsbee, 1999; Gruber and Saez, 2002; Saez, 1999; Saez et al., forthcoming).⁴

The results based on the correlation between changes in the tax rates and changes in remuneration contrast sharply with the time-series correlation between the levels of these two variables. One possible way to reconcile these two findings is if tax rates affect pay with a considerable lag. This lag would have to be fairly long, since we do not find an effect on changes in pay over periods shorter than 10 years, the longest period for which we can follow a reasonable number of executives. Social norms might play a role in creating such a long lag if the social acceptability of changing an executive's pay relative to other workers makes radical changes in pay difficult, limiting firms' ability to alter compensation packages to take advantage of tax considerations. Another way to reconcile these findings is if the long-run correlation is driven by trends in other factors. For example, a general perception that top managers have become more productive and that high tax rates suppress productivity may have led to both higher levels of pay and lower tax rates.

The rest of the paper proceeds as follows. Section 2 presents time-series evidence on the long-run correlation between executive pay and tax rates. Section 3 describes the data and estimation strategy used to analyze changes in remuneration. Sections 4 and 5 report results for two important types of compensation: salaries and qualified stock options. Section 6 discusses the potential roles of unobserved forms of pay, and Section 7 provides estimates on the elasticity of a broad measure of income composed of all forms of compensation that are taxable as labor income. Finally, Section 8 discusses possible explanations for why the correlation between changes in tax rates and changes in pay is so small, while the time series correlation appears to be much stronger.

2. Long-run trends in tax rates and executive pay

As shown in Fig. 1, the trends in tax rates and executive pay in the post-war period suggest that the increase in remuneration might be partly due to a decline in tax rates. To provide formal evidence for this relationship, we regress the logarithm of the level of executive pay on the logarithm of one minus the average marginal tax rate faced by top executives, a standard specification in the literature to estimate the

⁴ Lindsey (1987) and Feldstein (1995) estimate a large elasticity of taxable income (between 1 and 3) by examining changes in the distribution of taxable income around the 1981 and 1986 tax reforms. Feenberg and Poterba (1993) also find large increases in high incomes in response to the 1986 tax cuts. However, these results are potentially biased by the secular increase in income inequality in those years. Gruber and Saez (2002) use panel data on individuals in the 1980s to control for the biases imparted by inequality and mean reversion, and find that the elasticity of taxable income was about 0.6 among individuals earning more than \$100,000. However, this response is largely due to changes in tax preferences such as exemptions and itemized deductions, not to changes in earned income. Using aggregate income tax return data from 1960 to 2000, Saez (2004) estimates an elasticity of wage income in the top 1% between 0.4 and 1. However, consistent with our results, he finds that high-income earners did not respond to Kennedy's large tax cuts in the early 1960s. Saez (1999) finds that the elasticity of adjusted gross income is 0.25 when identified from individuals near the boundary of a tax bracket 1979–1981. Finally, Goolsbee (1999) uses average incomes reported for different income groups in the *Statistics of Income* to estimate the elasticity of taxable income in reforms from the 1920s to the 1960s. His estimates for the top income group range from 0.2 to 0.7 in most reforms, but are negative for the 1935 and 1964 reforms.

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