Executive Compensation, Corporate Tax, and Firm Investment*

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Extended Summary

Introduction This paper examines how firms responded to the dual shocks introduced by the 2017 U.S. Tax Cuts and Jobs Act (TCJA): the replacement of the progressive corporate tax schedule with a flat 21% rate and the elimination of the tax deductibility of performance-based executive compensation under Section 162(m). We explore how these reforms jointly influenced corporate innovation strategies and intangible capital formation by focusing on adjustments to compensation design and investment decisions. We address three interrelated questions: (i) How did firms adjust performance-based compensation in response to the TCJA? (ii) How did changes in compensation structure affect firm-level innovation and intangible investment? (iii) How did responses vary across firms with differing tax exposure, particularly through changes in marginal tax rates? We show that their interaction plays a critical role in shaping corporate innovation decisions—a mechanism overlooked in prior work.

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Contribution This paper contributes to three strands of literature. First, it advances research on executive compensation by showing that tax-induced changes to incentive pay affect not only pay structures but also corporate innovation strategies. Second, it complements studies on corporate taxation by documenting how interactions between marginal tax rates and pay design shape firm responses to major tax reforms. Third, it enriches the literature on intangible capital by providing causal evidence that tax policy can shift the composition of investment toward knowledge-based assets, particularly for growth firms with heightened tax exposure.

Data and Measures We build a comprehensive firm-level panel merging Compustat financials, DISCERN patent data, Peters and Taylor (2017) knowledge and organizational capital stocks, ExecuComp compensation data, and Graham (1996a,b) simulated marginal tax rates. The key treatment variable is the pre-TCJA intensity of performance-based compensation for executives covered under Section 162(m). This measure captures the share of executive pay tied to stock options, restricted stock, and non-equity incentives and serves as a proxy for firms' exposure to the reform.

Empirical Strategy The empirical approach combines a dynamic difference-in-differences specification with a continuous treatment variable that measures pre-TCJA performance-based compensation intensity. The specification includes firm fixed effects to control for time-invariant heterogeneity and industry-by-year fixed effects to absorb common industry shocks.

To address potential confounding from observable firm characteristics, we implement propensity score matching. We estimate a probit model predicting treatment status—whether a firm had positive performance-based compensation intensity in 2017—using pre-policy covariates. The estimated propensity scores are then used to construct inverse-probability weights, reweighting the

sample to achieve covariate balance between treated and control firms.

A balance test comparing matched treated and control firms confirms that most covariate means are statistically indistinguishable after reweighting, which is unlikely to bias the results. This matching procedure mitigates concerns that treatment effects might reflect pre-existing differences between firms rather than causal impacts of the TCJA.

Baseline Results Firms with greater reliance on performance-based pay before the TCJA experienced significant increases in innovation-related outcomes after the reform. We estimate that a one percentage point increase in pre-TCJA performance-based compensation intensity is associated with a post-TCJA rise in R&D spending roughly 50%, and knowledge and organizational capital stocks by 20–40% relative to their 2017 levels. Patenting activity also surged, with applications roughly tripling and grants quadrupling compared to lower-exposure firms. There is no evidence of differential effects on tangible capital investment. These effects persist for multiple years after 2018, suggesting that firms made long-term adjustments rather than short-term shifts. The event-study coefficients reveal no systematic pre-trends, supporting the parallel trends assumption.

Compensation Adjustments Higher-exposure firms reduced the use of stock-, option-, and non-equity-based pay for covered executives by 15–20%, consistent with a response to the higher after-tax cost of performance-based compensation. At the same time, they increased the total compensation of non-eligible executives by 10–15%, suggesting a reallocation of incentives rather than a net reduction in managerial pay.

Joint Role with Corporate Tax The effects are strongest among firms with positive marginal tax rate (MTR) gaps, defined as the change in firm-specific MTRs from 2017 (pre-TCJA) to 2018

(post-TCJA implementation). These firms exhibited disproportionately large increases in R&D spending, intangible capital accumulation, and patenting activity.

Mechanism Growth firms are the primary drivers of the observed responses. Growth-oriented firms with positive MTR gaps exhibit pronounced post-TCJA increases in R&D spending, knowledge and organizational capital accumulation, and patenting activity. In contrast, value firms show weaker or statistically insignificant effects, suggesting that the incentives embedded in the TCJA mattered most for firms with higher growth opportunities and heavier reliance on intangible capital.

Financing Behavior We also explore how firms financed their post-TCJA innovation surge. Higher-exposure growth firms with positive MTR gaps increased their cash holdings and relied more heavily on net equity issuance rather than debt financing. This pattern is consistent with the idea that intangible capital is difficult to collateralize, making equity and internal funds more suitable for financing R&D and organizational investments. The absence of significant changes in net debt issuance highlights that the observed investment responses were not driven by leverage but by a deliberate reallocation of internal resources and equity market access.

Tax-Related Benefits and R&D Deductibility A key mechanism underlying these responses is the continued full deductibility of R&D expenditures under U.S. tax law during the sample period. Firms with positive MTR gaps had strong incentives to expand R&D spending to offset higher taxable income, thereby reducing their effective tax rates. Consistent with this channel, these firms experienced relative declines in effective tax rates and increases in deferred tax liabilities and investment tax credits, indicating the TCJA encouraged a reallocation toward deductible, productivity-enhancing investments among the most tax-exposed firms.

Robustness Checks The results are robust to a battery of checks. We perform placebo tests using pre-TCJA periods, finding no evidence of differential pre-trends. We re-estimate the models with additional firm-level controls and alternative matching approaches, obtaining consistent results. We also verify that findings are unchanged when using alternative patent metrics such as Kogan et al. (2017) patent value. Finally, we account for potential confounding from the TCJA's interest deductibility cap and find that the main results remain unaffected.

Conclusion By simultaneously eliminating the deductibility of performance-based pay and maintaining full deductibility of R&D during the sample period, the TCJA shifted firms' incentives toward intangible investment. This reallocation was most pronounced among growth firms and those facing rising marginal tax rates, highlighting how tax policy can shape not only the level but also the composition of corporate investment.

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