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Master Accounting and Control

Changes to Corporate Tax Law and CEO Compensation

Master Thesis

President Donald J. Trump celebrates the passage of the Tax Cuts and Jobs Act with Vice President Mike Pence, Senate Majority Leader Mitch McConnell, and Speaker of the House Paul Ryan (Boghosian, 2017)

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Abstract

In December 2017, the Tax Cuts and Jobs Act (TCJA) was signed, significantly changing the executive compensation tax deduction rules in section 162(m) of the tax code. I investigate the efficacy of amended section 162(m) in reducing the level and transforming the structure of CEO compensation. In my main analysis, I employ a multiple regression analysis and in an additional analysis, I employ a difference-in-difference design. I construct my treatment and control groups consistent with Luna et al. (2020) who expect CEOs earning less than one million dollars in salary to be more affected by amended section 162(m). Using the CEO compensation of a subsample of S&P 1500 firms over the 2016-2019 period, I find indications that amended section 162(m) did not materially affect CEO salary and the proportions of total compensation comprised by respectively salary and performance-based compensation. I additionally find indications performance-based and total compensation were, however, affected with estimates indicating decreases of respectively 30 and 10 percent in the growth of performance-based and total compensation.

Keywords: Taxes • TCJA • Tax cuts and jobs act • Section 162(m) • Executive compensation

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1. Introduction

On March 11, 2021, President Biden signed the American Rescue Plan Act of 2021 (hereafter ARPA) into law. The ARPA provided an estimated $1.9 trillion in stimulus to aid in the COVID-19 pandemic. The ARPA also expanded the reach of an executive compensation tax deduction limit under internal revenue code section 162(m) (hereafter §162m). The limit first applied to the CEO, CFO, and *three* highest-paid executives of a firm, but for tax years beginning in 2027 will apply to the CEO, CFO, and *eight* highest-paid executives (Miller, 2021). This modification to §162(m) came on the heels of an earlier modification in 2017. In 1993, §162(m) was passed into law. §162(m) eliminated the tax-deductibility of executive compensation above one million dollars unless the excess compensation was performance-based. On December 22, 2017, then President Trump signed the Tax Cuts and Jobs Act (hereafter TCJA) into law. The TCJA represented the most comprehensive reform to the U.S. tax code in over thirty years. The TCJA included significant changes to the executive compensation deduction rules in §162(m). As part of the TCJA, the one million dollar tax deductibility limit exemption for qualified performance-based compensation was eliminated, so that all compensation paid to a covered employee (approximated by a firms' named executive officers) in excess of one million dollars is currently nondeductible.

In this thesis, I use a multiple regression analysis in my main analysis and a difference-in-difference design in an additional analysis to examine whether firms change the composition and level of CEO compensation after amended §162(m). In the multiple regression analysis, I find some indication amended §162(m) affected the growth of performance-based and total compensation in expected directions (i.e., decreased it). The point estimates are generally in expected directions but are not statistically significant. In the difference-in-difference design, I compare firms that paid their CEO less than $1 million in salary before amended §162(m) (treatment group) to firms that paid their CEO more than $1 million in salary (control group). The treatment and control groups were defined consistent with Luna et al. (2020). For the difference-in-difference design, I find amended §162(m) did not affect the growth of salary, reduced the growth of performance-based and total compensation (i.e., my estimates indicate respective 30 and 10 percent reductions), and did not affect the proportion of total compensation comprised by respectively salary and performance-based compensation. As a note of caution, the parallel trends assumption, however, did not hold.

This research specifically contributes to the literature that examines the influence of tax policy on executive compensation. More broadly, this research could contribute to the debate about potential causes and fixes for income inequality. In 1989 the ratio of CEO compensation to that of the average worker was around sixty, this ratio increased to around three hundred in 2016. Next to managerial power and efficient contracting explanations for this increase, some have attributed this increase to §162(m) (enacted in 1993) (Galle et al., 2021). The results of prior empirical research on the effect of §162(m) on executive compensation have been "largely

speculative" (Galle et al., 2021, p.5) with researchers having difficulty separating the effects of §162(m) from the effects of other factors (Galle et al., 2021). Current research on the effect of amended §162(m) on the level and structure of executive compensation could indicate whether the performance-based compensation exemption under §162(m) led to an increase in performance-based compensation and total compensation (Galle et al., 2021). An increase in total compensation due to performance-based compensation being riskier than fixed compensation, which causes the need to compensate risk-averse executives for bearing additional risk (Galle et al. 2021). In case the performance-based compensation exemption under §162(m) led to an increase in performance-based compensation and total compensation in the aftermath of 1993, the repeal of the performance-based compensation exemption under amended §162(m) should have triggered a reversion of those effects (Galle et al. 2021). In case the performance-based compensation exemption under §162(m) was ineffectual with respect to influencing executive compensation, no reversing effects should be perceived (Galle et al. 2021).

Identification of the effect of amended §162(m) on executive compensation is complicated by the measure affecting all publicly listed U.S. firms, the timespan of available data being relatively short in combination with the stickiness of executive compensation, the potentially confounding effects of other provisions of the 2017 TCJA, such as a reduction in the top corporate income tax rate from 35 to 21 percent, and potential anticipatory effects of the amendment to §162(m) as documented by Durrant et al. (2021). In my empirical analysis, I attempt to overcome some of these problems by controlling for anticipatory effects and the concomitant change to the top corporate income tax rate. However, given the stickiness of executive compensation, my results may underestimate the full effects of amended §162(m) on executive compensation.

My results of some indication of an effect of amended §162(m) on the composition and level of CEO compensation provide some minor support for the notion (the original 1993) §162(m) influenced executive compensation under the assumption the importance of tax considerations has not changed since 1993. The results also provide some indication that current tax policies could be potent in influencing executive compensation and hence reducing income inequality.

My thesis proceeds as follows. First, I describe the background of §162(m), including its enactment in 1993 and amendment by the TCJA in 2017. I also summarize prior research on §162(m) and amended §162(m) and formulate my hypotheses. Second, I describe my research design, sample selection procedure, and provide descriptive statistics. Third, I present univariate and multivariate results. Fourth, I conduct additional analyses including a difference-in-difference analysis and a comparison of U.S. CEOs with Canadian CEOs. Finally, I conclude, enumerate some limitations of my research, and provide some suggestions for future research.

2. Background, related literature, and hypothesis development

2.1. The Omnibus Budget Reconciliation Act of 1993

The Omnibus Budget Reconciliation Act (hereafter OBRA) of 1993, also called the Deficit Reduction Act, proposed the highest tax increases on high-income earners in U.S. history. It also decreased appropriations spending and revised the framework of the Budget Enforcement Act of 1990. Additionally, the OBRA added §162(m) to the internal revenue code allowing public firms to deduct a maximum of $1 million in executive compensation expense from their revenues in the calculation of taxable income (Galle et al., 2021). The deductibility limit only applied to the compensation paid to named executive officers (NEOs). The deductibility limit did not apply to qualified performance-based compensation (Perry & Zenner, 2001; Rose & Wolfram, 2002). By introducing §162(m) lawmakers hoped to reduce excessive executive pay and to increase the relation between pay and performance.

As mentioned before, performance-based compensation can only be deducted if paid under a qualified plan. A qualified plan requires the approval of shareholders, the inclusion of objective performance targets, and administration by a compensation committee composed solely of outside directors. In one study, Balsam and Ryan (1996) find that approximately fifty percent of their sample firms changed their compensation plans to conform to the qualification requirements.

Earlier papers on the effect of §162(m) on the total amount and structure of CEO pay find an increase in the relative importance of performance-based compensation and a decrease in the relative importance of salary after 1993. For example, where Hall and Liebman (2000) show a small substitution of performance pay for salary, Perry and Zenner (2001) find that performance pay has become a much larger part of total compensation. Furthermore, Perry and Zenner (2001) and Rose and Wolfram (2002) document that firms limit the salary increases of their CEOs. All these three studies do not find changes in total compensation suggesting that there was indeed a shift in compensation structure but not in the overall level.

Related to the increase in performance-based compensation, Perry and Zenner (2001) find that the sensitivity of the CEO's wealth to changes in shareholder wealth increased after 1993 for affected firms, while Rose and Wolfram (2002) do not find such effects.

Finally, Harris and Livingstone (2002) argue that the §162(m) $1 million tax deductibility limit gave firms the perception that cash compensation up to $1 million was reasonable. As a result, firms that previously paid cash compensation below the limit increased their compensation.

2.2. The Troubled Asset Relief Program (TARP) and Patient Protection and Affordable Care Act (PPACA)

During the great recession, certain firms (i.e., American International Group) selling assets to the Treasury Department under the so-called troubled asset relief program (hereafter TARP) became subject to section 162(m)(5) of the tax code (Jones, 2012). These firms could deduct a maximum of $500,000 in total compensation for each NEO (Reinbold et al., 2009; Jones, 2012). The goal of this measure was to ensure that these companies would repay the TARP fund (Jones,

2012). To date, no substantial analysis has been done regarding the effects of the TARP deduction limit (Jones, 2012).

Later, with the passage of Obamacare section 162(m)(6) was added to the tax code. This section capped the tax deduction health insurance companies could take at $500,000 (Jones, 2012; Peppler, 2016). The difference with the TARP deduction limit is that this deduction limit applies to the compensation of all employees of health insurance companies and not just to NEOs. Like with the TARP deduction limit performance-based compensation is also covered by the $500,000 deduction limit (Jones, 2012). Section 162(m)(6) was implemented because Congress believed Obamacare would generate millions of new customers for health insurance companies, leading to increased profits and executive compensation (Eskow, 2014, as cited in Peppler, 2016). Section 162(m)(6) was there to alleviate concerns of profiteering by executives (Peppler, 2016).

2.3. The Tax Cuts and Jobs Act (TCJA) of 2017

The TCJA was signed into law by President Trump on December 22, 2017, representing the most comprehensive tax reform since the Tax Reform Act signed by President Reagan in 1986. The TCJA significantly amended §162(m) of the tax code, repealing the exemption for qualified performance-based compensation (Luna et al., 2020). Under amended §162(m) all compensation paid to NEOs exceeding $1 million is non-deductible for tax purposes (Fox, 2021). Additional provisions of the TCJA included a reduction of the top corporate tax rate from 35 to 21 percent, representing the largest reduction in the corporate tax rate since the creation of the U.S. corporate income tax in 1909, and a reduction of the top statutory tax rate for individuals from 39 to 37 percent in combination with capping individuals' itemized deductions for state and local taxes (Gaertner & Lynch, 2020; Gale, 2020; DeSimone et al., 2021).

Congress amended §162(m) to reverse a shift in executive compensation away from cash compensation towards performance pay (DeSimone et al., 2021). Congress believed the shift towards performance pay led executives to focus on short-term results rather than on the long-term success of the company (DeSimone et al., 2021). Congress hoped that by reducing the tax benefits of performance-based compensation (i.e., curbing its deductibility) firms would reduce its usage (DeSimone et al., 2021).

Amended §162(m) included an exemption for compensation being paid under a written binding contract that was in effect on November 2, 2017, and not modified in any material respect after that date (Galle et al., 2021). This compensation is still eligible for the pre-amended §162(m)'s performance-based compensation exemption (Galle et al., 2021).

When it comes to the effects of the TCJA on the level and structure of executive compensation, DeSimone et al. (2021), Luna et al. (2020), and Galle et al. (2021) find that the TCJA did not affect the level of total compensation. Furthermore, DeSimone et al. (2021), and Galle et al. (2021), additionally, find the TCJA did not affect the level of salary. In contrast, Luna

et al. (2020) find little (i.e., some) evidence of the TCJA affecting the level of salary. Specifically, in their main specification, the TCJA did affect the level of salary positively. This finding, however, is not robust across specifications. Finally, DeSimone et al. (2021) and Galle et al. (2021) find the TCJA did not affect the level of performance-based compensation.

In addition to the core effects of the TCJA, DeSimone et al. (2021) examine the influence of financial characteristics on the change in compensation after the TCJA for affected firms. DeSimone et al. (2021) do not find an effect of their financial characteristics, such as the average operating cash flow to assets, dividend payments, and total leverage. Luna et al. (2021) additionally examine the influence of CEO strength and broader corporate governance measures on the change in CEO compensation after the TCJA for affected firms. Luna et al. (2021) find that weaker CEOs with little influence over the board or compensation committee members received smaller increases in compensation after the TCJA. Changes to executive compensation did not vary with broader corporate governance measures. Finally, Galle et al. (2021) additionally examined how firms used deferred compensation both under the pre-amended and amended sections 162(m) to avoid the deduction limit. Galle et al. (2021) find that an old method of using deferred compensation to evade the pre-amended §162(m)'s deduction limit has been mitigated by amended §162(m)'s provision that individuals, which were once covered employees, remain covered employees. Galle et al. (2021), however, find that firms have now found another way of using deferred compensation to evade the amended §162(m)'s deduction limit. "Congress's supposed fix did not close the loophole, but instead just moved it over a little" (Galle et al., 2021, p.29)

In contrast to DeSimone et al. (2021), Luna et al. (2020), and Galle et al. (2021), who examine ex-post responses to the TCJA, Durrant et al. (2021) examine anticipatory responses to the TCJA. Durrant et al. (2021) find an increase in both bonus and option compensation in 2017, the year before the TCJA became effective. This finding is consistent with firms trying to maximize the value of tax deductions. The TCJA reduced the top corporate income tax rate from 35 to 21 percent, shifting compensation expense from the post-TCJA to the pre-TCJA period yields a higher tax benefit for compensation payments. Additionally, performance-based compensation paid under a written binding contract in effect November 2, 2017, was eligible for a grandfathering provision under which this compensation could be deducted under the old §162(m) exemption for performance-based compensation. By increasing performance-based compensation in 2017 firms could lock in these increases under the grandfathering provision and deduct additional amounts in future years.

Finally, I present some additional research. Fox (2021) examined whether the TCJA influenced the design of bonus plans. Overall, his results suggest that the recent tax reform influenced the design of executive bonus plans by facilitating the inclusion of additional subjective performance measures. Gaertner and Lynch (2020) examine the effect of the TCJA on corporate defined benefit pension plan contributions. Gaertner and Lynch (2020) find firms increased defined

benefit pension plan contributions by an average of 25 to 31 percent in 2017 (the year before the TCJA) vis-à-vis earlier years. Gaertner and Lynch (2020) find that firms may have traded off some types of investment to fund the increased pension contributions in 2017.

Hypothesis development

The combination of the tightened deductibility rules and lower corporate tax rate reduce the tax benefits of executive compensation and make each dollar of CEO compensation paid more expensive after-tax (Luna et al., 2020). The increase in the after-tax cost of executive compensation can be significant (Luna et al., 2020). In an example, DeSimone et al. (2021) calculate a 91 percent decrease in the tax benefit from CEO compensation for the average firm in their sample. In another example, Luna et al. (2020) calculate increases of respectively 31 and 43 percent in the after-tax cost of compensation, this depending on the a priori structure of executive compensation.

Based on the tightened rules regarding the deductibility of executive compensation and the reduced corporate tax rate, I formulate three hypotheses below.

First, *I expect an increase in salary.* The tightened deductibility rules eliminate the tax disadvantage of fixed pay relative to performance pay existing under prior law (DeSimone et al., 2021). Under the new deductibility rules, firms are indifferent for tax purposes between fixed pay and performance-based compensation (Luna et al., 2020). Firms that may have preferred to pay CEOs more than $1 million in salary before the rules change but did not because of the tax penalty, may do so after the new deductibility rules (Luna et al., 2020). A reason for firms to prefer fixed compensation over performance pay is that when a firm increases its proportion of fixed pay it can reduce its total amount of compensation (i.e., fixed pay is cheaper). This will be discussed in more detail later. Hence eliminating the tax penalty for fixed pay may increase the share of total compensation paid as salary (Luna et al., 2020).

Second, *I argue that performance pay will decrease.* Under prior law qualified performance-based compensation was fully deductible, under current law performance-based compensation is only deductible up to $1 million. This increases the after-tax cost of performance-based compensation (in certain instances). The increase in the after-tax cost of performance-based compensation will lead to a decrease in performance-based compensation (DeSimone et al., 2021). The level of performance-based compensation will also decrease because it is no longer tax-favored relative to fixed pay (DeSimone et al., 2021).

Finally, *I predict a decrease in total compensation.* First, total compensation became more expensive to a firm after the TCJA. Firms may respond to the increased after-tax cost of CEO compensation by decreasing the level of total compensation or reducing its growth rate (Luna et al., 2020).

Second, prior research observes that executives are risk-averse, so they will prefer less risky guaranteed pay (i.e., derive a higher level of utility from the same compensation level). Variable compensation is riskier to the CEO, and thus more expensive, on average than fixed compensation

given the CEO needs to be compensated for the additional risk he bears to keep his utility constant. Thus, if firms pay more fixed compensation (i.e., salary), the CEO will bear less risk and his or her risk compensation can decrease while keeping his or her utility constant. A firm can meet an executive's expected reservation wage with a lower level of total compensation when a greater amount of that compensation is fixed. Thus, the earlier in this section hypothesized increase in the relative share of fixed compensation (i.e., salary) after the TCJA could enable firms to lower the level (or growth rate) of total compensation[1].

Below, I enumerate some reasons why my empirical results might not confirm my predictions.

First, I might not observe a downward change in performance-based compensation because the non-tax benefits of performance pay could dominate tax considerations (DeSimone et al., 2021). Shareholders could have an agency problem with the CEO and performance-based compensation may mitigate this mismatch of incentives (Jensen & Meckling, 1976, as cited in Luna et al., 2020). Also, performance-based compensation is associated with improved managerial efforts and firm performance (Mehran, 1995, as cited in Luna et al., 2020; Morgan & Poulsen, 2001, as cited in Luna et al., 2020). Additionally, more narrowly, *stock-based* performance pay is attractive from a contracting perspective because it addresses the horizon problem and induces managerial risk-taking (Dechow & Sloan, 1991, as cited in DeSimone et al., 2021; Coles et al., 2006, as cited in DeSimone et al., 2021). In addition to being attractive from a contracting perspective, *stock-based* performance pay also provides cash flow and financial reporting benefits to firms and executives may prefer it because it provides significant upside benefits and tax deferral (DeSimone et al., 2021).

Second, I might not see a downward change in total compensation because CEOs have sufficient bargaining power to retain their desired level of compensation (DeSimone et al., 2021). I also might not find a downward change in total compensation because the reduced corporate tax rate could have increased the value of CEO talent and concomitant pay because after the reduced corporate tax rate a larger portion of pre-tax earnings accrues to shareholders. (Auerbach, 2005, as cited in DeSimone et al., 2021). Furthermore, I might not see a downward change in total compensation because firms benchmark their pay to peers (Bizjak et al., 2008, as cited in DeSimone et al., 2021). If an individual firm reduces compensation, it could have difficulty attracting or retaining executive talent (DeSimone et al., 2021). An implicit agreement from all firms to reduce total compensation could be necessary for a downward change to total compensation to be feasible (DeSimone et al., 2021). There is also some evidence that firms reward executives for an increase in the after-tax profit resulting from a lower tax rate even though an executive was not personally responsible for the lower tax rate (Garvey & Milbourn, 2006, as cited in Luna et al., 2020). If firms

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[1] The general line of argument in the second part of this section was adapted from DeSimone et al. (2021) and Luna et al. (2020).

reward their executive for the increase in after-tax profit after the TCJA reduced the top corporate tax rate from 35 to 21 percent this could make it more difficult to find a downward change in total compensation. Additional factors that could make it difficult to find a downward change in total compensation could be that firms opportunistically choose their peer groups to justify high CEO compensation (Faulkender & Yang, 2010, as cited in Luna et al., 2020) and firms feeling pressure to increase CEO compensation because of competition over top executive personnel (Luna et al., 2020).

Third, reasons for why I may not find a change in total compensation, *or its components* could be the speed at which the TCJA passed through congress. Firms may not have had sufficient time to adjust their compensation structure (for the 2018 fiscal year) (Luna et al., 2020). Also, DeSimone et al. (2021) enumerate several comments from firms and practitioners that are indicative of taxes not being a first-order determinant of executive pay.

Next, DeSimone et al. (2021) enumerate some aspects of the TCJA that might make it less likely for me to find a change in total compensation *or its components*. First, changes to the taxation of foreign earnings and limits to the deductibility of net operating losses and interest expense could also indirectly affect executive compensation. Second, the TCJA also reduced the top statutory tax rate from 39 to 37 percent and capped state and local tax deductions. Third, the TCJA was signed close to the calendar year-end (December 22) therefore the IRS had not enough time to issue implementation guidance for calendar year-end firms (Luna et al., 2020).

Finally, I might not see a change in total compensation *or its components* because the Department of Treasury (only) issued final guidance in August of 2018 regarding the scope and application of the grandfathering provision (DeSimone et al., 2021). Firms may have waited before modifying total compensation or its components. Probably especially since the grandfathering provision did not apply to compensation contracts materially modified after November 2, 2017.

DeSimone et al. (2021) conclude regarding the reduced top statutory tax rate for individuals and the grandfathering provision that it is unclear whether these will have a discernable effect on executive compensation. I also interpret the evidence in DeSimone et al. (2021) as indicative that the other provisions of the TCJA are unlikely to have a discernable effect.

Based on the discussion above, I formulate the following three hypotheses. Based on the hypothesized effects and factors inhibiting the hypothesized effects, I concur with Luna et al. (2020) that it is unclear whether firms will increase fixed CEO compensation immediately after the TCJA and that it is also ex-ante unclear whether total compensation will change after the enactment of the TCJA. I thus present my first and third hypotheses in the null form. The second hypothesis follows logically from the first and third hypotheses.

Hypothesis 1: CEO salary will not change due to the Tax Cuts and Jobs Act.
Hypothesis 2: CEO performance-based compensation will not change due to the Tax Cuts and Jobs Act.
Hypothesis 3: Total CEO compensation will not change due to the Tax Cuts and Jobs Act.

3. Research design and data

3.1. Research design

Multiple regression model

To investigate whether firms responded to amended §162(m) by changing the structure and level of CEO compensation, I examine changes in salary, performance-based compensation, and total compensation and changes in the proportion of total compensation comprised by respectively salary and performance-based compensation over fiscal years 2016-2019. I use the following model to test my hypotheses:

$$Compensation_{it} = \beta_0 + \beta_1 TCJA_{it} + \sum \beta_k Controls_{it} + Industry\ FE_i + \gamma_t + \varepsilon_{it}\ (1)$$

$Compensation_{it}$ is the natural logarithm of either $\Delta Salary$, $\Delta Performance-based\ compensation$ or $\Delta Total\ compensation$, representing the change from year t-1 to year t. $\Delta Salary$, $\Delta Performance-based\ compensation$ and $\Delta Total\ compensation$ are calculated as change variables. I use the change, rather than the level of compensation, to mitigate concerns that higher compensation in the post-amended §162(m) period relative to the pre-amended §162(m) period is due to a broader trend of increasing compensation (Durrant et al., 2021). In addition to the just mentioned dependent variables, I include pay mix variables: the proportion of total compensation comprised by salary and the proportion of total compensation comprised by performance-based compensation. The additional inclusion of pay mix variables is helpful because it helps strengthen inferences (DeSimone et al., 2021).

For performance-based compensation, I use two definitions: the definition of DeSimone et al. (2021) and the definition of Galle et al. (2021). The definition of DeSimone et al. (2021) includes non-equity performance pay, share grants, and option grants. The definition of Galle et al. (2021) includes bonus and non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, and the grant date fair value of options granted. The Galle et al. (2021) definition of performance-based compensation thus generally also includes bonuses. For total compensation, I use three definitions: the definition of DeSimone et al. (2021), the definition of Luna et al. (2020), and the definition of Galle et al. (2021). The DeSimone et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, share grants, and option grants. The Luna et al. (2020) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, and all other compensation. The Galle et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, the change in pension value and nonqualified deferred compensation earnings,

and all other compensation. The Luna et al. (2020) and Galle et al. (2021) definitions of total compensation thus generally differ in being broader than the definition of DeSimone et al. (2021) by respectively, also including other compensation and other compensation and the change in pension funding. DeSimone et al. (2021) "exclude other compensation and changes to pension funding because Gaertner, Lynch, and Vernon (2020) provide evidence that firms accelerated these payments to 2017 to maximize tax benefits" (DeSimone et al. 2020, p.14). For the proportion of total compensation comprised by salary and performance-based compensation variables, I use the DeSimone et al. (2021) definitions of total and performance-based compensation.

Amended §162(m) is effective for tax years beginning on or after January 1, 2018 (Olshan et al., 2018). Firms with fiscal year-end 1-5 (January through May) are therefore subject to amended §162(m) for their 2018 and 2019 fiscal years. Firms with fiscal year-end 6-11 (June through November) are subject to amended §162(m) for their 2019 fiscal year, and firms with fiscal year-end 12 (December) are subject to amended §162(m) for their 2018 and 2019 fiscal years[2] (refer to figure A.1. appendix). I define the indicator variable $TCJA_{it}$ to equal unity for each fiscal year a firm is subject to amended §162(m) and zero otherwise. The variable $TCJA_{it}$ is my variable of interest. If firms respond as predicted to amended §162(m), I should observe either no change or a decrease in total compensation growth ($\beta_1 = 0 \ or \ \beta_1 < 0$), either no change or an increase in salary growth ($\beta_1 = 0, \ \beta_1 > 0$), and either no change or a decrease in performance-based compensation growth ($\beta_1 = 0, \ \beta_1 < 0$). Additionally, I should observe either no change or an increase in the proportion of total compensation comprised by salary ($\beta_1 = 0, \ \beta_1 > 0$), and either no change or a decrease in the proportion of total compensation comprised by performance-based compensation ($\beta_1 = 0, \ \beta_1 < 0$). For clarity, I included a graph below (figure A.1. appendix), indicating for a firm with a particular fiscal year-end when it became subject to amended §162(m). This is indicated by the black line within the shaded area. Although I do not use the staggered implementation of amended §162(m) across fiscal years (i.e. firms with fiscal-year ends 1-5 and 12 are subject to amended §162(m) for their 2018 and 2019 fiscal years, while firms with fiscal-year ends 6-11 are subject to amended §162(m) for their 2019 fiscal year) to implement a difference-in-difference analysis (like DeSimone et al., 2021), the staggered implementation of amended §162(m) aids me in identifying the effect of amended §162(m) by providing cross-sectional variation in treatment status.

Control variables

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[2] In Execucomp for firms with fiscal year ends 1-5, the fiscal year is the year of the fiscal year-end – 1. E.g. fiscal year-end = may 2017, year of the fiscal year-end: 2017, fiscal year: 2017 – 1 = 2016. For firms with fiscal year ends 6-12 the fiscal year equals the year of the fiscal year-end. E.g. fiscal year-end: June 2017, fiscal year = 2017.

I include controls for factors associated with changes in CEO compensation. I include controls from DeSimone et al. (2021), which base their controls on Core et al. (1999). DeSimone et al. (2021) include total sales *(Sales)*, the mean year-end market-to-book ratio for the previous five years *(Investment opps.)*, net income divided by average total assets *(ROA$_t$)*, the stock return over the year *(Return$_t$)*, the standard deviation of ROA for the previous five years *(σROA)*, and the standard deviation of stock returns over the previous five years *(σReturn)* as controls. I depart from DeSimone et al. (2021) in including the return on assets and stock return for the previous year (t-1): *ROA$_{t-1}$* and *Return$_{t-1}$*. Perry and Zenner (2001) and Luna et al. (2020), also include the return on assets and stock return for the previous year as control variables. I include the mean year-end market-to-book ratio for the previous five years to capture a firm's investment opportunities. The return on assets and stock return control variables are intended to capture firm performance.

I, additionally, respectively, include the natural logarithm of a firms' total assets *(Size)*, and a firms' free cash flow *(Free cash flow)*, consistent with Fox (2021), and Durrant et al. (2021). The logarithm of a firms' total assets is included to control for size-related effects.

I then include the lagged compensation level *(Lag of Ln Comp. level)*, except in the ratio specifications, because Durrant et al. (2021) note that past compensation is an indicator for executive talent. I also include the lagged change in compensation *(Lag of Ln ΔComp.)*, except in the ratio specifications, consistent with Durrant et al. (2021), to control for the possibility of a mean-reversion effect or the sustainability of large increases in multi-year plan amounts.

Concerning CEO characteristics, I include CEO tenure (*Tenure), payslice (Payslice)*, age (*Age), ownership (Ownership)*, and an indicator variable equal to one if the CEO also serves as the chairperson of the board *(Chairman)*. I include those variables to control for executive power (consistent with Durrant et al., 2021, and Fox, 2021).

Finally, I include 2-digit (standard industry classification) SIC industry fixed effects to account for industry-specific differences in pay. I also include (fiscal) year fixed effects (γ_t) to control for time-variant unobserved factors. All control variables are described in more detail in appendix table A.1.

3.2. Data

Sample selection

Table 1 (below) presents my sample construction procedure. I commence with downloading data on executive compensation and characteristics for all firms in Execucomp for fiscal years 2014-2019. This data allows me to construct my executive compensation and executive characteristics variables for fiscal years 2016-2019. I subsequently reduce my sample to CEOs. I then require the same CEO to have been present at a firm for fiscal years 2015-2019. This ensures that changes in total CEO compensation or CEO compensation structure are not

attributable to changes in the CEO (Luna et al., 2020). Additionally, I require the executive that is the CEO of the firm for fiscal years 2015-2019 to be a named executive officer of the firm for the fiscal year 2014. Finally, I require non-missing observations to construct my CEO compensation and CEO characteristics variables.

I then download data to construct my economic determinants of CEO pay variables from Compustat and CRSP. I require non-missing observations to construct my variables. I subsequently merge this data with my data from Execucomp.

I then remove firms with a changing fiscal year-end and reduce my sample to firms incorporated in the U.S. I also remove utility firms (i.e., SIC codes 4900-4999), given they are highly regulated (Luna et al., 2020), and real estate investment trusts (i.e., SIC code 6798), because of their unique tax profile (Galle et al., 2021). I then require sample CEOs to receive at least $1 million in average total reported compensation over the pre-amended §162(m) period. This is because the changes introduced by the TCJA to the deductibility of executive compensation are not likely to affect firms with CEOs earning less than this amount (Fox, 2021). My final sample includes 472 firms.

Finally, all continuous variables are winsorized at the first and ninety-ninth percentiles to reduce the impact of extreme observations.

Table 1
Sample selection.

	No. of firms	
Full sample of CEOs in the (raw) Execucomp data for fiscal years 2016-2019.	1,988	
* Require the CEO to be CEO of the same firm for the entire fiscal 2015-2019 period, require the CEO to be a named executive officer of the same firm for the entire 2014-2019 period, and require the requisite data on executive compensation and characteristics to be available for the CEO	684	(1,304)
* Merge Execucomp and Compustat data	595	(89)
* Merge Execucomp and Compustat data (on the one hand) with CRSP data (on the other hand)	574	(21)
* Require firms to have a constant fiscal year-end	572	(2)
* Require firms to be incorporated in the U.S.	562	(10)
* Remove utility firms and real estate investment trusts	493	(69)
* Require CEOs to receive at least $1 million in average total reported compensation for the two fiscal years prior to the first fiscal year the firm became subject to amended §162(m)	472	(21)
Final sample of CEOs.	472	

This table outlines my sample selection procedure. I commence with the full sample of firms in Execucomp for fiscal years 2016-2019. I subsequently modify this dataset to close with a final (balanced panel) sample of 472 firms. The modifications consist of removing firms without requisite data available. In addition, I also impose requirements relating to the executive being a CEO and named executive officer at the same firm for a certain period. I also impose requirements relating to the firm being incorporated in the U.S. and the firm not being a utility or real estate investment trust. I also impose a requirement relating to the pre-amended §162(m) total compensation of the executive. Next to the modifications mentioned above, I also performed some checks on my data (i.e., whether sample firms had a constant fiscal year-end, a constant standard industry classification code, etc.). I only incorporated these checks to the extent these checks led to a reduction in the sample size.

As an aside, I also gather data on the salary and total compensation of the CEOs of several Canadian firms listed on the Toronto Stock Exchange. I used the Financial Post magazines' 2020 ranking of Canada's largest corporations by revenue (Financial Post, n.d.) to identify the 500 largest Canadian companies based on revenue. I subsequently used the System for Electronic Document Analysis and Retrieval (SEDAR) to retrieve the proxy circular (or management information circular) of each company, containing compensation-related information in the summary compensation table. Consistent with my data for U.S. CEOs, I required the same CEO to be present over the 2015-2019 period. This yielded me a sample of 84 Canadian firms. As a justification for choosing Canada as a comparison country, Sapp and Southam (2003) compare the compensation of U.S. and Canadian CEOs and note that: "the extensive cultural, economic and institutional linkages between Canada and the United States create a uniquely close relationship between the two countries" (Sapp & Southam, 2003, pp. 2-3). Sapp and Southam (2003) further note that: "the accounting regulations and reporting requirements for Canadian firms are close enough to those in the U.S. that Canadian firms can list on U.S. exchanges subject to the same regulations and reporting requirements as U.S. firms while firms from other countries are subject to different listing requirements" (Sapp & Southam, 2003, p.3). I use the Canadian CEO compensation data for both a graphical comparison with U.S. CEO compensation data and a placebo test.

Descriptive statistics

Table 2 (below) contains summary statistics of the variables used in my analysis. In the descriptive statistics table, for interpretability, I include the unlogged 1-yr. change in salary, performance-based compensation (DeSimone et al., 2021 and Galle et al., 2021 definitions), and total compensation (DeSimone et al., 2021, Luna et al., 2020, and Galle et al., 2021 definitions). In my regression analysis, I, however, take the (natural) logarithm of these variables given these are generally skewed as evidenced by the means of these variables (generally) being (substantially) higher than their medians (50th percentile). Note that the relevant definitions of the dependent variables are included in the note below the table. The average changes in salary, performance-based compensation, and total compensation are all positive, consistent with increasing compensation levels over time. Furthermore, total compensation is on average comprised of twenty percent by salary and of nearly eighty percent by performance-based compensation (since bonuses are not included in the definition of performance-based compensation but are included in the definition of total compensation the proportions do not sum to 1). Simple correlations (unreported) indicate a positive correlation between TCJA (an indicator variable for the post amended §162(m) period) and the change in salary. A negative correlation between TCJA and respectively performance-based and total compensation, and respective positive and negative correlations between TCJA and the proportion of total compensation comprised by respectively salary and performance-based compensation.

Table 2

Descriptive statistics.

	n	Mean	Std. Dev.	Percentile		
				25th	50th	75th
Independent variable						
TCJA	1,888	0.46	0.50	0.00	0.00	1.00
Compensatory variables						
Δ Salary	1,888	27,234	46,953	0	20,000	40,847
Δ Performance-based compensation (DeSimone et al., 2021 definition)	1,888	335,971	3,211,399	-322,146	232,267	1,023,756
Δ Performance-based compensation (Galle et al., 2021 definition)	1,888	273,800	3,825,894	-597,244	189,418	1,194,881
Δ Total compensation (DeSimone et al., 2021 definition)	1,888	357,671	3,269,699	-329,554	256,599	1,077,722
Δ Total compensation (Luna et al., 2020 definition)	1,888	312,807	3,856,322	-584,684	222,233	1,266,328
Δ Total compensation (Galle et al., 2021 definition)	1,888	378,193	3,963,379	-581,183	276,637	1,437,229
Proportion of total compensation comprised by salary	1,888	0.20	0.16	0.10	0.16	0.25
Proportion of total compensation comprised by performance-based compensation	1,888	0.77	0.19	0.72	0.83	0.89
Economic determinants of CEO pay						
Sales	1,888	7.70	1.55	6.67	7.59	8.66
Size	1,888	8.28	1.73	7.11	8.06	9.39
Free cashflow	1,888	0.08	0.08	0.03	0.08	0.12
Investment opps.	1,888	3.33	4.80	1.52	2.40	4.00
ROA_{t-1}	1,888	0.05	0.08	0.01	0.05	0.09
σROA	1,888	0.04	0.05	0.01	0.02	0.04
$Return_{t-1}$	1,888	0.12	0.34	-0.11	0.09	0.30
σReturn	1,888	0.09	0.03	0.06	0.08	0.10
CEO characteristics						
Age	1,888	58.68	6.78	54.00	58.00	62.00
Ownership	1,888	2.33	4.64	0.31	0.77	1.90
Payslice	1,888	2.33	1.14	1.59	2.18	2.83
Chairman	1,888	0.54	0.50	0	1	1
Tenure	1,888	12.37	8.02	6.33	10.00	16.00

This table shows the mean, standard deviation, and 25th, 50th, and 75th percentile values for the entire sample. The sample period is fiscal 2016-2019. Unscaled compensation variables are in the U.S. dollar. All continuous variables are winsorized at 1 and 99 percent. The *Sales* and *Size* variables were logged. Variables and units are defined in appendix table A.1. The DeSimone et al. (2021) definition of performance-based compensation includes non-equity performance pay, share grants, and option grants. The Galle et al. (2021) definition of performance-based compensation includes bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, and the grant date fair value of options granted. The DeSimone et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, share grants, and option grants. The Luna et al. (2020) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, and all other compensation. The Galle et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of

Figure 1.1., panels 1-6 (appendix), present the raw (i.e., unlogged) average change for salary, performance-based compensation, and total compensation by fiscal year for fiscal years 2016-2019. The definitions of the alternative definitions for performance-based and total compensation are reported in the note below the figure. Panels 7 and 8 also present the development of the fraction of total compensation comprised by respectively salary and performance-based compensation over fiscal years 2016-2019.

Focusing on the black lines in panels 2-6, the changes in performance-based compensation and total compensation appear to increase from fiscal 2016 to fiscal 2017. The changes in performance-based compensation and total compensation reach their peak in fiscal 2017. The peak in performance-based compensation in fiscal 2017 is consistent with firms increasing bonuses and options in the fiscal year before §162(m) became effective (as found by Durrant et al., 2021). Subsequently, the changes in performance-based compensation and total compensation are lower in fiscal 2018 and 2019 compared to fiscal 2017. The decreased change in performance-based compensation in fiscal 2018 is consistent with the TCJA eliminating the tax incentive to use performance-based compensation to compensate CEOs. Focusing on the black line in panel 1, the change in salary increases in the pre-amended §162(m) period (from fiscal 2016-2017) and the first year of the post-amended §162(m) period (from fiscal 2017-2018). The change in salary decreases in the second year of the post-amended §162(m) period (from fiscal 2018-2019). The observed pattern in the change in salary does not fit my theoretical predictions (i.e., either no change between the pre- and post-amended §162(m) periods or a relative increase in the change in salary concentrated in the post-amended §162(m) period). Focusing on the two black lines in panels 7 and 8, the proportion of total compensation comprised by salary decreases in the pre-amended §162(m) period (from fiscal 2016-2017), and the first year of the post-amended §162(m) period (from fiscal 2017-2018). More or less by construction (read the note below the figure), vice versa for the proportion of total compensation comprised by performance-based compensation. The proportion of total compensation comprised by salary increases and the proportion of total compensation comprised by performance-based compensation decreases in the second year of the post-amended §162(m) period (from fiscal 2018-2019). These developments are consistent with my theoretical predictions (i.e., an increase in the proportion of total compensation comprised by salary and a decrease in the proportion of total compensation comprised by performance-based compensation) if one assumes it takes firms time to adjust to amended §162(m) (which some authors assume, and some don't).

In each of the panels of figure 1.1. (appendix), I additionally display the development of the average change in compensation/ average proportion of total compensation comprised by respectively salary or performance-based compensation for fiscal years 2016-2019 for three subpopulations of firms. The first subpopulation consists of firms with fiscal year-end 1-5 (i.e., January through May) (red line). The second subpopulation consists of firms with fiscal year-end

6-11 (i.e., June through November) (blue line), and the third subpopulation consists of firms with fiscal year-end 12 (i.e., December) (green line). I additionally indicate for these subpopulations for each fiscal year whether the firms were subject to the 2017 TCJA and/or amended §162(m) and whether the firms were subject to amended §162(m) for the first or second fiscal year: the colored squares/ stars. As an aside, I note that I generally prefer the compensation measures of DeSimone et al. (2021) over those of Luna et al. (2020) and Galle et al. (2021) given these are generally more narrowly specificized to specifically capture the effects of amended §162(m). When I abstract to the DeSimone et al. (2021) definitions of performance-based compensation and total compensation in panels 2 and 4, there appears to be an increase in performance-based compensation and total compensation in the fiscal year before amended §162(m) became effective. The TCJA of 2017 does not appear to be particularly responsible for this increase in the cases the TCJA of 2017 went into effect the fiscal year before amended §162(m) went into effect: in the subpopulation with fiscal year-end twelve (the green line), the anticipatory effect is still there. Performance-based compensation and total compensation appear to decrease in the fiscal years amended §162(m) is effective. These results are consistent with those of Durrant et al. (2021) who find anticipatory increases in components of performance-based compensation the fiscal year before amended §162(m) became effective. Furthermore, the post-amended §162(m) decreases in performance-based compensation and total compensation are consistent with theoretical predictions (i.e., a decrease in the change in performance-based compensation and total compensation in the post-amended §162(m) period). Focusing on panels 7 and 8 the interpretation does not change much (from the interpretation of the black line before): amended §162(m) appears to have a slow-moving effect, if any, on the proportion of total compensation comprised by salary and performance-based compensation, with a slow increase in the proportion of salary and decrease in the proportion of performance-based compensation generally becoming visible only in the second year of amended §162(m). The additional splitting of the change in salary by subsample in panel 1 does not provide additional support of the earlier (contrary to expectations) indication of a post-amended §162(m) decrease in salary. The development of the change in salary for the fiscal year-end 1-5 and 6-11 subsamples could be indicative of a small post-amended §162(m) increase in the change in salary, taking a reversion of the large increases in the change in salary the fiscal year before amended §162(m) went into effect into account. The development of the change in salary for the fiscal year-end 12 subsample is consistent with the earlier indication of a post-amended §162(m) decrease in the change in salary.

Overall, the graphical evidence provides preliminary support for amended §162(m) affecting performance-based compensation and total compensation in expected directions (i.e., a decrease in the change in performance-based compensation and total compensation in the post-amended §162(m) period). The graphical evidence provides some indication of amended §162(m) affecting the proportion of total compensation comprised by salary and performance-based compensation in expected directions. The graphical evidence, however, does generally not support the notion of amended §162(m) leading to an increase in salary. It is important to note that given the limited period of the data and possible confounding factors all patterns mentioned

above are not conclusive and merely indicative/ speculative. In the next section, using a multiple regression, I attempt to control for some of the confounding factors affecting the change in compensation/ proportion of total compensation comprised by salary or performance-based compensation.

4. Results

Univariate results

Table 3 (below) presents the average of the raw (i.e., unlogged) changes in compensation for the pre- and post-amended §162(m) periods (columns 1 and 2). Additionally, the difference in the mean change in raw compensation between the pre- and post-amended §162(m) periods is reported (column 3). I test for a difference in the mean raw compensation changes between the pre- and post-amended §162(m) periods. Although the p-values sometimes diverge substantially, the respective parametric and non-parametric paired samples t-test and paired samples Wilcoxon test provide qualitatively similar indications when looking at changes in compensation (i.e., row 1-6). The increase in total compensation was smaller post-amended §162(m) than pre-amended §162(m) by $296,632 (p-value = 0.071, two-tailed). I further find no statistically significant differences in the average raw changes in compensation across the two periods, except for a statistically significant decrease in performance-based compensation, where only the Wilcoxon-signed-rank test is significant. Overall, these univariate results support my theoretical predictions (i.e., there is either no effect or if there is an effect, this effect should be positive for salary and negative for performance-based and total compensation) but provide only marginal support for changes in compensation in expected directions. The marginal referring to the signs of the differences in means being in expected directions and the one (two) significant difference(s) in means. Note that the relevant definitions of variables are included in the note below the table.

Table 3 (below) also compares the average proportion of total compensation comprised of respectively salary and performance-based compensation between the pre- and post-amended §162(m) periods. There is a statistically significant decrease in the proportion of total compensation comprised by salary between the pre- and post-amended §162(m) periods, while there is a significant increase in the proportion of total compensation comprised by performance-based compensation between the pre- and post-amended §162(m) periods. The effects, however, (+1 and -1 percentage point) appear to be economically small, and the statistical significance is limited to the Wilcoxon Signed Rank Test. These results do not support my theoretical predictions (i.e., if there is an effect, this effect should be positive for the proportion of total compensation comprised by salary and negative for the proportion of total compensation comprised by performance-based compensation). I now proceed to the multivariate results where I control for several possible confounding factors.

Table 3

Differences in Means Tests.

Difference in the change in salary, performance-based compensation, and total compensation/ proportion of total compensation comprised by respectively salary and performance-based compensation between the pre-amended §162(m) and post-amended §162(m) periods.

	Mean pre-amended §162(m)	Mean post-amended §162(m)	Difference	t-test (p-value)	Wilcoxon-signed-rank test (p-value)
Δ Salary	26,398	27,823	1,425	0.492	0.176
Δ Performance-based compensation (DeSimone et al., 2021 definition)	420,840	164,258	(256,581)	0.111	0.125
Δ Performance-based compensation (Galle et al., 2021 definition)	329,055	142,800	(186,255)	0.321	0.104*
Δ Total compensation (DeSimone et al., 2021 definition)	459,806	163,174	(296,632)	0.071*	0.075*
Δ Total compensation (Luna et al., 2020 definition)	368,125	179,603	(188,523)	0.317	0.413
Δ Total compensation (Galle et al., 2021 definition)	394,911	300,931	(93,980)	0.634	0.368
Proportion of total compensation comprised by salary	0.21	0.20	(0.01)	0.149	<0.001***
Proportion of total compensation comprised by performance-based compensation	0.77	0.78	0.01	0.123	<0.001***
n	472	472			

***, **, and * indicate significance at 1%, 5%, and 10%, respectively (two-tailed). This table reports the results of eight different sets of paired sample t-tests. The pre- and post-amended §162(m) periods correspond to the periods before and after the firm became subject to amended §162(m). Generally, for firms with fiscal year-end months Jan. – May. & Dec. the pre-amended §162(m) period equals FY2016 & FY2017 and the post-amended §162(m) period equals FY2018 & FY2019. For firms with fiscal year-end months Jun. – Nov. the pre-amended §162(m) period equals FY2016, FY2017 & FY2018 and the post-amended §162(m) period equals FY2019. The first p-value is from a paired sample t-test, the second is from the non-parametric Wilcoxon signed-rank test. Reported p-values are based on two-tailed t-tests. Variables are defined in appendix table A.1. The DeSimone et al. (2021) definition of performance-based compensation includes non-equity performance pay, share grants, and option grants. The Galle et al. (2021) definition of performance-based compensation includes bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, and the grant date fair value of options granted. The DeSimone et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, share grants, and option grants. The Luna et al. (2020) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, and all other compensation. The Galle et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, the change in pension value and nonqualified deferred compensation earnings, and all other compensation.

Multivariate results

Table 4 (below) presents my OLS regression results from estimating equation 1. The relevant definitions of dependent variables are included in the note below the table. My variable of interest, TCJA, represents the difference in the change in compensation in the post-amended §162(m) period relative to the pre-amended §162(m) period for the first six variables (i.e., columns 1 through 6), and represents the difference in the proportion of total compensation comprised by respectively salary or performance-based compensation between the pre- and post-amended §162(m) periods for the last two variables (i.e., columns 7 and 8). The multivariate results are generally consistent with the univariate results (in table 3 above): except for the proportion of total compensation comprised by salary and performance-based compensation the effects are in the expected directions (i.e., either no change or a positive effect on salary and negative effect on performance-based and total compensation of amended §162(m)), however, the effects are not statistically significant. Looking at the point estimates (anyway), the point estimates for the change in salary and change in total compensation are relatively small: amended §162(m) is associated with respectively a less than one percent increase and one percent decrease in the change in salary and change in total compensation after controlling for alternative explanations. The point estimates for performance-based compensation are substantially larger: amended §162(m) is associated with respectively 9 and 4 percent decreases in the change in performance-based compensation. The point estimates for the proportion of total compensation comprised by salary and performance-based compensation are once more (like in the univariate analysis) quite small. Amended §162(m) is associated with a respective less than one percent decrease and one percent increase in the share of total compensation comprised by respectively salary and performance-based compensation.

Looking at the control variables, firm size, as captured by the *Sales* (revenue) and *Size* (total assets) variables, is positively associated with the change in total CEO compensation. Also, a firms' investment opportunities are positively associated with the change in total CEO compensation (although the association is marginal). Core et al. (1999) find similar results in a specification with total compensation as the dependent variable and note that this could reflect higher-quality managerial talent. Larger firms (as measured by *Size* (total assets)) also appear to remunerate their CEOs with compensation that is relatively more performance-based, consistent with Lee, (2009) her findings.

Furthermore, free cash flow is positively associated with the change in salary, performance-based compensation, and total compensation, consistent with Akono, (2016) his findings. Free cash flow also appears to be positively associated with the proportion of total compensation comprised by performance-based compensation, presumably reflecting a positive relation between free cash flows and stock returns (Ghodrati & Abyak, 2014).

The previous year's return on assets is negatively associated with the current year's change in total compensation. The previous year's return on assets, additionally, appears to be

positively associated with the current year's proportion of total compensation comprised by salary. The standard deviation of return on assets is positively associated with the change in total compensation, presumably reflecting compensation for risk (Luna et al. 2020). The standard deviation of return on assets also appears to be positively associated with the proportion of total compensation comprised by performance-based compensation, which is contrary to expectations. Aggarwal and Samwick, (1999), for example, find that in general, the pay-performance sensitivity for executives at firms with the least volatile stock prices (also a measure of firm risk) is an order of magnitude greater than the pay-performance sensitivity for executives at firms with the most volatile stock prices.

The previous year's stock return is positively associated with the current year's change in compensation. CEO stock ownership is negatively associated with the change in performance-based and total compensation. CEO stock ownership also appears to be marginally positively associated with the proportion of total compensation comprised by salary. These findings are consistent with Mehran, (1995), who finds that firms with higher managerial ownership have less equity-based compensation in their executive compensation packages. These results are also consistent with Perry and Zenner, (2001), who find that boards of firms with low CEO ownership increased the pay for performance sensitivity of compensation contracts to align CEO and shareholder interests. The ratio of the CEO's total compensation to that of the highest-paid non-CEO executive is positively associated with the change in performance-based compensation and total compensation, which is consistent with the notion of managerial power. The ratio also appears to be positively associated with the proportion of total compensation comprised by performance-based compensation. The CEO holding the position of chairman of the board is negatively associated with the change in total compensation, contrary to expectations. The previous year change in compensation and compensation level are generally negatively associated with the current year change in compensation, consistent with Durrant et al. (2021) who use a similar model, and consistent with the notion of mean-reversion.

In the appendix, I additionally augment model 1. For each of my dependent variables, in appendix tables 1.1 through 1.8, in the first column, I repeat the specification shown below in table 4. In the second column, I add an indicator variable "Anticipation" that equals one the fiscal year before amended §162(m) became effective to control for possible anticipatory responses to amended §162(m) as found by Durrant et al. (2021). In columns 3-8, I attempt to control for the 2017 Tax Cuts and Jobs Act (i.e., the broader tax bill part of which was the amendment to §162(m)). I can control for the 2017 TCJA since some firms first became subject to other provisions of the 2017 TCJA, such as the reduction in the top corporate income tax rate from 35 to 21 percent, only later to become subject to amended §162(m). I control in several different ways for the 2017 TCJA: in column 3 I include the indicator variable "TCJA_1" which equals one for each fiscal year a firm is subject to the 2017 TCJA. In column 4 I include the indicator variable "TCJA_2" which equals one for each *full* fiscal year a firm is subject to the 2017 TCJA. In column 5, I include the variable "TCJA_3", which indicates the number of months a firm is

Table 4

Test of the relation between the change in compensation/ the proportion of total compensation comprised by respectively salary and performance-based compensation and amended §162(m).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Ln Δ Salary	Ln Δ Performance-based compensation (DeSimone et al., 2021 definition)	Ln Δ Performance-based compensation (Galle et al., 2021 definition)	Ln Δ Total compensation (DeSimone et al., 2021 definition)	Ln Δ Total compensation (Luna et al., 2020 definition)	Ln Δ Total compensation (Galle et al., 2021 definition)	Proportion of total compensation comprised by salary.	Proportion of total compensation comprised by performance-based compensation.
TCJA	0.00	-0.09	-0.04	-0.01	-0.01	-0.01	-0.00	0.01
	(0.002)	(0.063)	(0.069)	(0.017)	(0.020)	(0.020)	(0.005)	(0.006)
Sales	0.00	-0.01	0.08	0.04**	0.08***	0.07***	-0.01	0.02
	(0.002)	(0.066)	(0.057)	(0.017)	(0.023)	(0.023)	(0.010)	(0.011)
Size	-0.00	0.09	0.05	0.07***	0.08***	0.09***	-0.03***	0.03**
	(0.002)	(0.069)	(0.056)	(0.021)	(0.024)	(0.023)	(0.011)	(0.013)
Free cashflow	0.04**	0.85*	0.32	0.49***	0.46***	0.43***	-0.21***	0.17**
	(0.019)	(0.463)	(0.421)	(0.128)	(0.159)	(0.154)	(0.059)	(0.077)
Investment opps.	-0.00**	0.00	0.00	0.00	0.01**	0.01**	-0.00	0.00**
	(0.000)	(0.005)	(0.006)	(0.002)	(0.003)	(0.003)	(0.001)	(0.002)
ROA_{t-1}	0.01	-0.61	-0.72	-0.48***	-0.42***	-0.35**	0.15*	-0.16*
	(0.017)	(0.489)	(0.578)	(0.153)	(0.158)	(0.155)	(0.077)	(0.092)
σROA	-0.01	-0.08	1.16	0.36	0.51**	0.43*	-0.30**	0.29*
	(0.026)	(0.968)	(0.915)	(0.225)	(0.254)	(0.251)	(0.122)	(0.167)
$Return_{t-1}$	0.02***	0.17*	0.16	0.13***	0.14***	0.14***	-0.01	0.02
	(0.004)	(0.097)	(0.105)	(0.028)	(0.029)	(0.028)	(0.012)	(0.012)
σReturn	0.05	0.06	-1.24	-0.08	0.04	-0.03	0.29	-0.45
	(0.052)	(1.573)	(1.716)	(0.337)	(0.457)	(0.446)	(0.207)	(0.290)
Age	-0.00	-0.00	0.00	-0.00	0.00	0.00	0.00	-0.00**
	(0.000)	(0.007)	(0.007)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
Ownership	-0.00	-0.02	-0.04*	-0.01**	-0.01*	-0.01*	0.00*	-0.01**

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	(0.000)	(0.012)	(0.020)	(0.003)	(0.004)	(0.004)	(0.002)	(0.003)
Payslice	0.00	0.17***	0.32***	0.09***	0.16***	0.16***	-0.03***	0.03***
	(0.001)	(0.059)	(0.054)	(0.014)	(0.017)	(0.017)	(0.006)	(0.008)
Chairman	0.00	0.04	-0.01	-0.02	-0.06***	-0.04**	0.01	-0.00
	(0.003)	(0.063)	(0.069)	(0.017)	(0.022)	(0.021)	(0.010)	(0.013)
Tenure	-0.00	-0.00	-0.01	0.00	-0.00	-0.00	0.00	-0.00
	(0.000)	(0.005)	(0.007)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
Lag of Ln ΔComp	0.09***	-0.61***	-0.29***	-0.27***	-0.26***	-0.26***	N.A.	N.A.
	(0.026)	(0.149)	(0.083)	(0.031)	(0.024)	(0.024)		
Lag of Ln Comp Level	-0.01*	-0.07***	-0.17***	-0.27***	-0.39***	-0.39***	N.A.	N.A.
	(0.006)	(0.024)	(0.023)	(0.038)	(0.032)	(0.031)		
Intercept	0.16**	0.33	0.45	3.09***	4.04***	4.14***	0.49***	0.59***
	(0.078)	(0.639)	(0.553)	(0.444)	(0.398)	(0.395)	(0.085)	(0.104)
Observations	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888
R-squared	0.089	0.196	0.179	0.321	0.405	0.399	0.370	0.334
Adjusted R-squared	0.054	0.165	0.147	0.294	0.382	0.376	0.346	0.309
Industry & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

***, **, and * indicate significance at 1%, 5%, and 10%, respectively (two-tailed). Standard errors are clustered by firm. All regressions include industry fixed effects (two-digit SIC) and year fixed effects. All regressions use model 1. TCJA is an indicator variable equal to 1 if the firm is subject to amended §162(m) for a particular fiscal year and zero otherwise. TCJA equals 1 for FY2018 and FY2019 and zero for FY2016 and FY2017 for firms with fiscal year ends Jan. through May and Dec. TCJA equals 1 for FY2019 and zero for FY2016, FY2017, and FY2018 for firms with fiscal year ends Jun. through Nov. All other variables, including the units, are defined in appendix table A.1. The *Sales* and *Size* variables were logged. The DeSimone et al. (2021) definition of performance-based compensation includes non-equity performance pay, share grants, and option grants. The Galle et al. (2021) definition of performance-based compensation includes bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, and the grant date fair value of options granted. The DeSimone et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, share grants, and option grants. The Luna et al. (2020) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, and all other compensation. The Galle et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, the change in pension value and nonqualified deferred compensation earnings, and all other compensation.

subject to the 2017 TCJA for a certain fiscal year, and in column 6, I include for a certain fiscal year the number of months since the 2017 TCJA became effective. For example, the 2017 TCJA became effective January 1st, 2018, so for a fiscal year ending in May 2018, this variable would equal five. In column 6 I also interact this variable with an indicator variable indicating whether the firm has been subject to the 2017 TCJA for more than respectively twelve (1) and twenty-four months (2). Garvey and Milbourn (2006) find a firm may choose to reward executives for the increase in after-tax profits resulting from lower tax rates, even though the CEO was not personally responsible for the lower tax rate (Luna et al. 2020). It seems reasonable to assume that this "reward for luck" is proportional to the number of months in a fiscal year the firm was subject to the lower tax rate since the increase in after-tax profits will be. For example, if a firm was only subject to the reduced tax rate for one month of its fiscal year, the increase in profit for that fiscal year, and "reward for luck" are likely to be lower than if the firm was subject to the reduced tax rate for all twelve months of its fiscal year. Subsequently, it seems also likely that this "reward for luck" will be a one-time event, warranting the inclusion of the interaction terms. I do expect to see "reward for luck" in compensation for the first fiscal year of the reduced top corporate tax rate and probably even the second. For example, for those firms that have a January fiscal year-end and are therefore only subject to the TCJA for one month in their 2017 fiscal year, while being subject to the TCJA for 12 months in their 2018 fiscal year. I, however, do not expect to see "reward for luck" persist into the second (for firms with fiscal year ends 6-12) or third (for firms with fiscal year ends 1-5) fiscal year after the reduced corporate tax rate went into effect. In columns 7 and 8, I finally include two indicator variables "TCJA_5" and "TCJA_6" that respectively equal one for the first fiscal year and for the first *full* fiscal year the 2017 TCJA became effective. In columns 9 through 14, I repeat the specifications of columns 3-8 and additionally include the control "Anticipation" for possible anticipatory effects of amended §162(m).

For tables 1.1 through 1.8 in the appendix, in panels B and C, I additionally add two alternative versions of my independent variable "TCJA". In panel B the independent variable "TCJA" equals 1 for the first fiscal year the firm is subject to amended §162(m) and 2 for the second fiscal year the firm is subject to amended §162(m). I included this specification to check for a slow-moving effect of amended §162(m) on compensation, as some authors have suggested. In panel C, the independent variable "TCJA_alt_1" equals one only for the first fiscal year the firm became subject to amended §162(m). I included this specification to check for a rapid adjustment to amended §162(m), as some authors have suggested being possible. Relevant definitions of the dependent variables are once more included in the notes to the tables.

The results of the alternative specifications are in line with the earlier results (in table 4 above): in general, there is no statistically significant effect of amended §162(m) on the change in compensation or the proportion of total compensation comprised of salary or performance-based compensation. The results of the alternative specifications only strengthen the earlier notion of

amended §162(m) not affecting the change in salary (see appendix table 1.1.). The results of the alternative specifications, however, do provide some minor indication that amended §162(m) did substantially reduce the change in performance-based compensation. For the DeSimone et al. (2021) definition of performance-based compensation (appendix table 1.2.) (definition provided below the table) in panels A and B the point estimates are generally more often negative than positive, and the point estimates in panel B hint at a slow-moving effect of §162(m). In addition, the point estimates are sometimes substantial. For the Galle et al. (2021) definition of performance-based compensation (appendix table 1.3.) (definition provided below the table), in panels A and C the point estimates are almost uniformly negative, however, the point estimates in panel B, although being generally negative, tend to increase over time, inconsistent with a slow-moving effect of §162(m). In addition, the point estimates are, once more, sometimes substantial. Concerning the change in total compensation, the results of the alternative specifications do not provide additional information for the DeSimone et al. (2021) definition of total compensation (appendix table 1.4.) (definition provided below the table). The results of the alternative specifications for the Luna et al. (2020) and Galle et al. (2021) definitions of total compensation (appendix tables 1.5. and 1.6.) (definitions provided below the tables) do, however, provide some minor indication amended §162(m) led to a decrease in the change in total compensation of an intermediate magnitude. The point estimates are generally negative, however, the pattern of the point estimates in panel B is contrary to expectations of a slow-moving effect of §162(m). Finally, the results in the alternative specifications provide a further indication the percentage of total compensation comprised by salary decreased slightly and the percentage of total compensation comprised by performance-based compensation increased slightly after amended §162(m) (appendix tables 1.7 and 1.8).

Concerning the additionally included control variables, the coefficients on the control variable "Anticipation" (unreported) are generally not statistically significant. In addition, the directions of the point estimates for the control variable "Anticipation" are not in all cases consistent with expectations (i.e., an anticipatory increase in bonus and stock options in the year before §162(m) became effective).

For the control variables for the 2017 TCJA: TCJA_1, TCJA_2, TCJA_3, TCJA_5, and TCJA_6 the coefficients (unreported) are also generally not statistically significant. In addition, the directions of the point estimates for the control variables are, once more, not in all cases consistent with expectations (i.e., "reward for luck" concomitant the 2017 TCJA, which would presumably have led to a temporary increase in compensation most pronounced for performance-based and total compensation).

Finally, the coefficients (unreported) on the control variable for the 2017 TCJA, "TCJA 2017 months", and its interaction terms, are generally not statistically significant. The point estimates generally have the expected signs for salary, the performance-based compensation definition of Galle et al. (2021), the total compensation definition of Luna et al. (2020), the total compensation definition of Galle et al. (2021), and for the proportion of total compensation comprised by salary (i.e., a general positive effect which subsequently reverses and attenuates

over time). For the other cases: the performance-based and total compensation definitions of DeSimone et al. (2021) and the proportion of total compensation comprised by performance-based compensation, the point estimates generally display consistent patterns, however, these patterns are inconsistent with expectations.

Generally, my additional control variables, do not indicate the presence of anticipatory effects to amended §162(m), nor indicate the presence of effects from other provisions of the 2017 TCJA. Given Durrant et al. (2021) do find anticipatory effects to amended §162(m), my lack of findings could probably be ascribed to limited identifying variation: the absolute majority of firms in my sample are December (31st) fiscal year-end firms and I include fiscal year fixed effects in my specifications. Finally, the additional control variables do not substantially alter the explanatory power of my specifications based on the adjusted r-squared.

The results, in this section, are generally consistent with my hypotheses of no effect of amended §162(m). Although I find (almost) no statistically significant effects of amended §162(m) on compensation, the results indicate that there could have been some effect on performance-based and total compensation. These results of no statistically significant effects could be indicative of other considerations outweighing tax considerations in the process of determining CEO compensation.

Finally, I also include a difference-in-difference extension of the current model (model 1) and a placebo test comparing U.S. and Canadian firms.

Additional analysis: difference-in-difference

Luna et al. (2020) compare CEOs with a salary below or equal to one million dollars and total compensation above one million dollars (treatment group) to CEOs with a salary above one million dollars (control group). Luna et al. (2020) posit the following substantiation for choosing these treatment and control groups: "firms that pay CEOs more than $1 million in *total* compensation and only allocate $1 million or less in salary in the pre-period will face a larger change in the after-tax cost of CEO compensation due to the changes in the TCJA" (Luna et al., 2020, p.13). Luna et al. (2020) further note that: "[…] these firms may have taken into consideration the tax incentives of section 162(m) when designing their compensation packages" (Luna et al., 2020, p.13). Luna et al. (2020) finally note, in a similar vein, that: "[…] firms that already pay significantly more than $1 million in non-performance-based compensation are less affected by the changes in the TCJA, and these firms demonstrate with their pay structure that factors other than maximizing tax-deductibility guide their compensation mix decisions" (Luna et al., 2020, p.13). In an additional analysis, I expand upon my original model (model 1) by augmenting it to a difference-in-difference model where the treatment and control groups are constructed similarly to Luna et al. (2020). The results of estimating this difference-in-difference model are presented in table 2.1 columns 1-8 in the appendix. In the results table, "TCJA" is an indicator variable set equal to one if the fiscal year is either 2018 or 2019 (i.e., the post amended

§162(m) period) and zero if the fiscal year is either 2016 or 2017 (i.e., the pre-amended §162(m) period). "Treatment" is an indicator variable equal to one if the firm is in my treatment group (the treatment group is defined consistent with Luna et al., 2020) and zero otherwise. The key variable of interest in table 2.1 (appendix) is the interaction of the "Treatment" and "TCJA" variables (Treatment * TCJA). I shaded the estimates for this variable gray in the table. Further, note that I reduced my sample to December (31st) fiscal year-end firms for this analysis. The economically and statistically insignificant coefficient in the first column suggests amended §162(m) did not materially affect the change in salary. The negative and significant (p-value <= 0.05) coefficients in columns 2 and 3 suggest that the change in performance-based compensation was lower post-amended §162(m) at firms that were more sensitive to changes in the TCJA (i.e., treatment firms). Or suggest amended §162(m) materially affected the change in performance-based compensation: the point estimates suggest reductions of respectively 27 percent (exp(-0.31) – 1) and 31 percent (exp(-0.37) – 1) in the change in performance-based compensation after amended §162(m) at treatment firms relative to control firms. The negative and significant (p-value <= 0.10) coefficients in columns 5 and 6 provide some evidence that the change in total compensation was lower post-amended §162(m) at firms that were more sensitive to changes in the TCJA (i.e., treatment firms). Some evidence, given the statistical significance of these point estimates, is lower than for those of the performance-based compensation specification, and given the point estimate of the DeSimone et al. (2021) definition of total compensation, my preferred definition, is not statistically significant (the relevant definitions of dependent variables are enumerated in the note below the table). The results provide some indication amended §162(m) materially affected the change in total compensation: the point estimates suggest reductions of respectively 10 (exp(-0.11) – 1) and 9 (exp(-0.09) – 1) percent in the change in total compensation after amended §162(m) at treatment firms relative to control firms. The statistically (and economically) insignificant coefficients in columns 7 and 8 suggest amended §162(m) did not affect the proportion of total compensation comprised by respectively salary and performance-based compensation. Contrary to the prior results, the point estimates are now in expected directions.

I, however, note that these results should be interpreted with caution: figure 2.1 (appendix) indicates that the parallel trends assumption generally (except for ΔSalary and ΔTotal compensation (Galle et al., 2021 definition)) does not hold. This causes my estimates to be potentially biased, the extent of this bias depends on the reasonableness of my control variables. This is the reason I included this difference-in-difference analysis as an aside instead of in the main analyses. As an improvement (which I did not execute) propensity score matching could be used to deal with the nonconformity with the parallel trends assumption.

Supplemental test: placebo test

A placebo test provides supporting evidence by showing that the effect is absent when performed on outcomes that should not be affected (Durrant et al., 2021). In table 2.1 columns 9

and 10 (appendix) I estimate a difference-in-difference model on a treatment group of U.S. CEOs and a control group of Canadian CEOs. Because amended §162(m) does not affect the tax treatment of the compensation of Canadian CEOs, if amended §162(m) did not influence U.S. CEO compensation or affected U.S. CEO compensation in the directions mildly indicated by the prior analysis, I should either not find an effect of amended §162(m) on U.S. CEO compensation relative to Canadian CEO compensation or effects in the directions mildly indicated by the prior analysis. In table 2.1. (appendix) "TCJA" is an indicator variable that equals 1 for fiscal years 2018 and 2019 (i.e., the post-amended §162(m) period) and equals 0 for fiscal years 2016 and 2017. "Country" is an indicator variable that equals 1 if the CEO is from the United States. Note that the variables for columns 1-8 (the difference-in-difference) are placed above the variables for columns 9 and 10 (the current analysis) and that the variables for the current analysis are placed in brackets. I do find a small positive effect of amended §162(m) on the salary of U.S. CEOs: the point estimate indicates a 2 percent (exp(0.02) – 1) increase. I find a more substantial effect of amended §162(m) on total compensation: the point estimate indicates a 7 percent (exp(0.07) – 1) increase.

Although this placebo test has substantial limitations: the parallel trends assumption does not hold (see figure 3.1. appendix), and I also do not include control variables, the results provide no clear indication of §162(m) influencing the level or composition of U.S. CEO compensation in expected directions (i.e., either no effect or an increase in the change in salary and a decrease in the change in total compensation). As referred to before, figure 3.1. (appendix), compares the development of the change in salary and total compensation for my sample of U.S. CEOs and a sample of the CEOs of 84 Canadian firms listed on the Toronto Stock Exchange for fiscal years 2016-2019. It is important to note that I limited the sample of U.S. and Canadian firms to firms with a December (31st) fiscal year-end so that amended §162(m) is effective for the 2018 and 2019 fiscal years for U.S. firms. As mentioned above, the parallel trends assumption does not hold, this in combination with control variables not being included, makes my results merely speculative.

As an aside, some of the Canadian firms used in the analysis are also cross-listed on the New-York Stock Exchange and other U.S. exchanges (i.e., the Nasdaq), this however appears not to be a problem: "for Canadian-based public issuers with "foreign private issuer" status (i.e., some operations and/or listings in the US), there appears to be no impact on executive pay of amended §162(m) as these issuers were not governed by I.R.C. section 162(m)" (Hugessen Consulting, 2017)

5. Conclusion

The Tax Cuts and Jobs Act (hereafter TCJA) of 2017 reduced the top corporate tax rate from 35 to 21 percent and eliminated the exemption for qualified performance-based compensation from the I.R.C. section 162(m) (hereafter §162m) one million dollar tax deductibility limit for executive compensation. Those two amendments increased the after-tax cost of CEO compensation with estimates ranging from increases of thirty to forty percent. Additionally, by removing the exemption from the executive compensation tax deductibility limit for performance-based compensation, the TCJA removed the tax preference of performance-based compensation vis-à-vis salary. I examine whether these two amendments led to changes in the composition and level of CEO compensation.

I use compensation data for a subsample of S&P 1500 CEOs from 2016-2019 and employ a multiple regression analysis as my main analysis and a difference-in-difference design as an additional analysis. My empirical results show little evidence that the annual change in salary and proportions of total compensation comprised by respectively salary and performance-based compensation were significantly affected by amended §162(m). I, however, do find some indication amended §162(m) affected the change in performance-based and total CEO compensation. Based on these results, I conclude that the increase in the after-tax cost of compensation and the removal of the tax preference of performance-based compensation did presumably affect, to some extent, the level and composition of CEO compensation. These results provide some indication that tax policy influences compensation design. This finding could have consequences for the desirability of future use of taxes as a policy tool to influence the level and composition of executive compensation, for example, to reduce income inequality. Further, these results contribute to the understanding of the factors influencing executive compensation.

The current study suffers from several limitations. One limitation is the limited period of the study. The current study examines compensation data for fiscal years 2016-2019. The extension of this period is limited by the COVID-19 pandemics' effects on executive compensation and data availability. The limited period of the study provides a problem given the general stickiness of executive compensation and could lead me to underestimate the true effects of amended §162(m). Other limitations of the current research design are the implementation of a difference-in-difference method where the parallel trends assumption does not hold and a comparison of U.S. and Canadian CEOs where, once more, the parallel trends assumption does not hold, and additionally, no control variables are included.

A potential avenue for future research could be the comparison of U.S. compensation with that of other nations. Fox (2021), for example, compares U.S. firms to European firms in a similar setting. An additional suggestion for future research could be the comparison of U.S.

firms with securities registered under the Securities Act of 1933 with U.S. firms with securities registered under the Securities Exchange Act of 1934. The second group became subject to amended §162(m) at the beginning of their 2018 tax year, while not being subject to §162(m) before, while the first group was subject to both §162(m) and amended §162(m). A final suggestion for future research could be the examination of CFOs. CFOs became subject to amended §162(m) in the 2018 tax year being previously exempted from §162(m) in 2007.

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Appendix

Figure A.1.

Indication for Each Firm Fiscal Year-End Month of When a Firm Becomes Subject to Amended §162(m).

Year	2015						2016												2017												2018											
Month	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Fiscal Year-End Month																																										
1																			1												1											
2																				2												2										
3											Fiscal 2016										3			Fiscal 2017									3				Fiscal 2018				
4																						4												4								
5																							5												5							
6												6												6												6						
7													7												7												7					
8														8												8												8				
9					Fiscal 2016										9					Fiscal 2017							9				Fiscal 2018						9			
10																10												10												10		
11																	11												11												11	
12																		12												12												12

Year	2019												2020				
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Fiscal Year-End Month																	
1	1												1				
2		2												2			
3			3				Fiscal 2019								3		
4				4												4	
5					5												5
6						6											
7							7										
8								8									
9			Fiscal 2019						9								
10										10							
11											11						
12												12					

Note. This figure indicates for each fiscal year-end month (y-axis) when a firm becomes subject to amended §162(m). The period left of the black line within the shaded area, a firm is not subject to amended §162(m). The period right of the black line within the shaded area a firm is subject to amended §162(m)

Table A.1.

Variable definitions.

Variable	Description	Data Source
Independent variables		
TCJA	Indicator variable. Indicates the fiscal years for which amended §162(m) is effective. Equals 1 for fiscal years 2018 and 2019 and 0 otherwise (i.e., for fiscal years 2016 and 2017) for firms with fiscal years ending in months 1-5 & 12. Equals 1 for fiscal year 2019 and 0 otherwise (i.e., for fiscal years 2016, 2017, and 2018) for firms with fiscal years ending in months 6-11.	Own computation.
TCJA_first_year; TCJA_second_year	Indicator variable. Indicates the first and second fiscal years for which amended §162(m) is effective. Equals 1 for fiscal year 2018 and 2 for fiscal year 2019 and 0 otherwise (i.e., for fiscal years 2016 and 2017) for firms with fiscal years ending in months 1-5 & 12. Equals 1 for fiscal year 2019 and 0 otherwise (i.e., for fiscal years 2016, 2017, and 2018) for firms with fiscal years ending in months 6-11.	Own computation.
TCJA_alt_1	Indicator variable. Indicates the first fiscal year for which amended §162(m) is effective for a firm. Equals 1 for fiscal year 2018 and 0 otherwise (i.e., for fiscal years 2016, 2017, and 2019) for firms with fiscal years ending in months 1-5 & 12. Equals 1 for fiscal year 2019 and 0 otherwise (i.e., for fiscal years 2016, 2017, and 2018) for firms with fiscal years ending in months 6-11.	Own computation.
Executive compensation variables		
Ln Δ Salary	The natural logarithm of the change from t-1 to t in the dollar value of salary earned during the fiscal year. Unit: U.S. dollars.	Compustat Execucomp
Proportion of total compensation comprised by salary	The ratio of salary to total compensation. Total compensation here refers to the DeSimone et al. (2021) definition. Unit: proportion 0-1.	Compustat Execucomp
Ln Δ Performance-based compensation (DeSimone et al., 2021)	The natural logarithm of the change from t-1 to t in the dollar value of performance-based compensation. Performance-based compensation is here computed consistent with DeSimone et al. (2021). In contrast to Galle et al. (2021) their definition, DeSimone et al. (2021) exclude the dollar value of bonusses earned during the fiscal year from their definition. Also, DeSimone et al. (2020) and Galle et al. (2021) use different Execucomp variables to measure stock and option compensation. For the computation of this variable Execucomp variables "NONEQ_INCENT", "STOCK_AWARDS", and "OPTION_AWARDS" were used. Unit: U.S. dollars.	Compustat Execucomp
Ln Δ Performance-based compensation (Galle et al., 2021)	The natural logarithm of the change from t-1 to t in the dollar value of performance-based compensation. Performance-based compensation is here computed consistent with Galle et al. (2021). For the computation of this variable Execucomp variables "BONUS", "NONEQ_INCENT", "STOCK_AWARDS_FV", and "OPTION_AWARDS_FV" were used. Unit: U.S. dollars.	Compustat Execucomp
Proportion of total compensation comprised by performance-based compensation	The ratio of performance-based compensation to total compensation. Where performance-based compensation and total compensation are defined consistent with DeSimone et al. (2021). Unit: proportion 0-1.	Compustat Execucomp

Ln Δ Total compensation (DeSimone et al., 2021)	The natural logarithm of the change from t-1 to t in total compensation. Total compensation is here computed consistent with DeSimone et al. (2021). DeSimone et al. (2021) exclude other compensation and changes to pension funding from their definition of total compensation. For the computation of this variable Execucomp variables "SALARY", "BONUS", "NONEQ_INCENT", "STOCK_AWARDS", and "OPTION_AWARDS" were used. Unit: U.S. dollars.	Compustat Execucomp
Ln Δ Total compensation (Luna et al., 2020)	The natural logarithm of the change from t-1 to t in total compensation. Total compensation is here computed consistent with Luna et al. (2020). Luna et al. (2020) compute total compensation like Galle et al. (2021) (next item) except they (Luna et al., 2020) exclude the change in pension value and non-qualified deferred compensation earnings from their definition. For the computation of this variable Execucomp variables "SALARY", "BONUS", "NONEQ_INCENT", "STOCK_AWARDS_FV", "OPTION_AWARDS_FV", and "OTHCOMP" were used. Unit: U.S. dollars.	Compustat Execucomp
Ln Δ Total compensation (Galle et al., 2021)	The natural logarithm of the change from t-1 to t in total compensation. Total compensation is here computed consistent with Galle et al. (2021). For the construction of this variable Execucomp variable "TOTAL_ALT1" was used, which includes Execucomp variables "SALARY", "BONUS", "NONEQ_INCENT", "STOCK_AWARDS_FV", "OPTION_AWARDS_FV", "PENSION_CHG" and "OTHCOMP". Unit: U.S. dollars.	Compustat Execucomp

Economic determinants of compensation

Sales	The natural logarithm of total revenue. Unit: millions of U.S. dollars.	CRSP/Compustat merged database
Size	The natural logarithm of total assets. Unit: millions of U.S. dollars.	CRSP/Compustat merged database
Free cashflow	Free cash flow defined as operating cash flow minus common and preferred dividends divided by average total assets. Unit of the underlying variables: millions of U.S. dollars.	CRSP/Compustat merged database
Investment opps.	The mean year-end market-to-book ratio for the previous five fiscal years (i.e., t-1 through t-5). Unit: ratio.	CRSP/Compustat merged database
ROA_{t-1}	The firm's return on assets for fiscal year t-1, defined as net income divided by average total assets. Unit of the underlying variables: millions of U.S. dollars.	CRSP/Compustat merged database
σROA	The standard deviation of return on assets over the previous five fiscal years (t-1 through t-5).	CRSP/Compustat merged database
$Return_{t-1}$	One year buy and hold return. Calculated as the cumulative monthly holding period returns for the previous fiscal year. Unit: percentage/ 100.	CRSP monthly stock
$\sigma Return$	The standard deviation of monthly stock returns for the prior 60-months (i.e., t-1 through t-5).	CRSP monthly stock

Executive characteristics

Age	The age of the CEO.	Compustat Execucomp.
Ownership	The ratio of shares owned by the CEO, excluding options owned, to shares outstanding. Unit: ratio.	Compustat Execucomp.
Payslice	The total compensation of the CEO divided by the total compensation of the highest paid non-CEO executive. Unit: ratio.	Compustat Execucomp
Chairman	Indicator variable. Equals 1 if the CEO also holds the position of chairman of the board, 0 otherwise. Constructed using Compustat Execucomp data items "TITLE" and "TITLEANN". If the title description of the CEO included the word "chairman" or abbreviation thereof "chmn", I determined the CEO to be chairman of the board. I corrected for possible case sensitivity.	Compustat Execucomp/ own computation.
Tenure	CEO tenure. Unit: number of years.	Compustat Execucomp
Other		
Lag of Ln ΔComp	The natural logarithm of the lagged (i.e., t-2 to t-1) change in compensation (e.g., Lag of Ln ΔTotal compensation). Unit: U.S. dollars.	Compustat Execucomp
Lag of Ln Comp level	The natural logarithm of lagged (i.e., t-1) compensation (e.g., Lag of Ln Total compensation)). Unit: U.S. dollars.	Compustat Execucomp
Anticipation	Indicator variable. Indicates the last fiscal year before the firm became subject to amended §162(m).	Own computation.
TCJA_1	Indicator variable. Indicates the fiscal years for which the 2017 Tax Cuts and Jobs Act was effective.	Own computation.
TCJA_2	Indicator variable. Indicates the *full* fiscal years for which the 2017 Tax Cuts and Jobs Act was effective.	Own computation.
TCJA_3	Indicates the number of months in a fiscal year the firm was subject to the 2017 Tax Cuts and Jobs Act. Unit: number of months.	Own computation.
TCJA 2017 months	Indicates for a particular fiscal year the number of months that have elapsed since the 2017 Tax Cuts and Jobs Act went into effect. Unit: number of months.	Own computation.
TCJA 2017 months (indicator variable)	Indicator variable. Equals 1 if the number of months that have elapsed since the 2017 Tax Cuts and Jobs Act went into effect for a fiscal year is between thirteen and twenty-four, equals 2 if the number of months that have elapsed since the 2017 Tax Cuts and Jobs Act went into effect for a fiscal year is between twenty-five and twenty-nine, equals 0 otherwise.	Own computation.
TCJA_5	Indicator variable. Indicates the first fiscal year the firm was subject to the 2017 Tax Cuts and Jobs Act.	Own computation.
TCJA_6	Indicator variable. Indicates the first *full* fiscal year the firm was subject to the 2017 Tax Cuts and Jobs Act.	Own computation.
TOTAL_SEC	Total compensation as reported in SEC filings. This is the sum of the "SALARY", "BONUS", "NONEQ_INCENT", "STOCK_AWARDS", "OPTION AWARDS", "PENSION_CHG", and "OTHCOMP" columns. (Definition adapted from the ExecuComp Data Definitions Manual).	Compustat Execucomp.

This table presents the definitions and data sources of the variables used in the current research.

Table 1.1.

Effect of amended §162(m) on salary.

Panel A: baseline specifications

	Dependent variable: *Ln Δ Salary*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)

TCJA	0.00	0.01	0.00	N.A.	-0.00	0.00	0.00	0.00	0.01	N.A.	0.00	0.01	0.01	0.01
	(0.006)	(0.009)	(0.006)	N.A.	(0.011)	(0.011)	(0.006)	(0.009)	(0.009)	N.A.	(0.013)	(0.013)	(0.009)	(0.012)
Observations	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888
R-squared	0.091	0.091	0.091	0.091	0.091	0.093	0.093	0.091	0.092	0.091	0.091	0.094	0.093	0.091
Adjusted R-squared	0.054	0.054	0.054	0.054	0.054	0.054	0.056	0.054	0.054	0.054	0.054	0.054	0.056	0.054
Anticipation	No	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
TCJA of 2017	No	No	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6
Industry & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

Panel B: test for slow moving effect of amended §162(m)

	Dependent variable: *Ln ΔSalary*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_first_year	0.00	0.01	0.00	N.A.	-0.00	0.00	0.00	N.A.	0.01	N.A.	0.00	0.01	0.01	N.A.
	(0.006)	(0.009)	(0.006)	N.A.	(0.011)	(0.011)	(0.006)	N.A.	(0.009)	N.A.	(0.013)	(0.013)	(0.009)	N.A.
TCJA_second_year	0.00	0.01	0.00	N.A.	-0.00	0.01	0.00	N.A.	0.01	N.A.	0.00	0.02	0.01	N.A.
	(0.009)	(0.012)	(0.009)	N.A.	(0.012)	(0.016)	(0.009)	N.A.	(0.012)	N.A.	(0.015)	(0.016)	(0.012)	N.A.

Panel C: test for short lived effect of amended §162(m)

	Dependent variable: *Ln ΔSalary*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_alt_1	0.00	0.00	0.00	0.00	-0.00	-0.00	0.00	N.A.	0.00	0.00	0.00	-0.00	0.00	N.A.
	(0.005)	(0.005)	(0.005)	(0.007)	(0.006)	(0.008)	(0.005)	N.A.	(0.005)	(0.007)	(0.006)	(0.009)	(0.005)	N.A.

This table presents results from estimating equation (1) and various alterations thereof for CEO salary. *TCJA* is the independent variable and equals one for those fiscal years in which a firm is subject to amended §162(m). *TCJA 2017 months* represents the number of months a firm has been subject to the 2017 TCJA for a certain fiscal year. In specifications 6 and 12, I, additionally, include an indicator variable that equals one if the number of months a firm has been subject to the 2017 TCJA for a certain fiscal year exceeds twelve and equals two if this exceeds twenty-four: *TCJA 2017 months (indicator variable)*. In specifications 6 and 12, I also include the interaction of the *TCJA 2017 months* and *TCJA 2017 months (indicator variable)* variables. The variable *Anticipation* is an indicator variable that equals one for the fiscal year before a firm became subject to amended §162(m). Variables *TCJA_1, TCJA_2, TCJA_5,* and *TCJA_6* are different indicator variables included to control for other provisions of the 2017 TCJA. *TCJA_1* equals one for each fiscal year a firm was subject to the 2017 TCJA and *TCJA_2* equals one for each *full* fiscal year a firm was subject to the 2017 TCJA. *TCJA_5* equals one for the first fiscal year a firm was subject to the 2017 TCJA and *TCJA_6* equals one for the first *full* fiscal year a firm was subject to the 2017 TCJA. The variable *TCJA_3* represents the number of months the firm was subject to the 2017 TCJA for a particular fiscal year. Panels B and C present two alternative specifications. For the first alternative specification (panel B) the independent variable equals one for the first fiscal year the firm became subject to amended §162(m) and equals two for the second fiscal year. For the second alternative specification (panel C) the independent variable equals one for the first fiscal year the firm became subject to amended §162(m). All specifications

include two-digit SIC industry fixed effects and (fiscal) year fixed effects. Standard errors are in parentheses and are clustered by firm. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively (two-tailed). The unit of the dependent variable is U.S. dollar. For further information about the variables please refer to appendix table A.1. In the table there are some N.A. values. In panel A, columns 4 and 10, the relevant control variable for the 2017 TCJA: "TCJA_2" was dropped due to multicollinearity. I therefore do not report estimates for my independent variable "TCJA" in panel A columns 4 and 10. In estimating the panel B columns 4, 8, 10, and 14 and panel C columns 8 and 14 specifications the relevant control variable (either "TCJA_2" or "TCJA_6) for the 2017 TCJA was dropped due to multicollinearity. I therefore decided not to report estimates for the particular independent variable(s).

Table 1.2.

Effect of amended §162(m) on performance-based compensation.

Panel A: baseline specifications

	Dependent variable: *Ln Δ Performance-based compensation (DeSimone et al., 2021 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA	-0.07	-0.19	-0.07	N.A.	0.07	0.06	-0.08	-0.12	-0.18	N.A.	-0.05	-0.05	-0.19	-0.24
	(0.094)	(0.134)	(0.094)	N.A.	(0.182)	(0.175)	(0.093)	(0.196)	(0.139)	N.A.	(0.224)	(0.220)	(0.134)	(0.232)
Observations	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888
R-squared	0.197	0.198	0.197	0.197	0.198	0.202	0.197	0.197	0.198	0.198	0.198	0.202	0.198	0.198
Adjusted R-squared	0.165	0.165	0.165	0.165	0.165	0.168	0.165	0.165	0.164	0.164	0.165	0.167	0.164	0.164
Anticipation	No	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
TCJA of 2017	No	No	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6
Industry & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

Panel B: test for slow moving effect of amended §162(m)

	Dependent variable: *Ln Δ Performance-based compensation (DeSimone et al., 2021 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_first_year	-0.07	-0.19	-0.07	N.A.	0.06	0.05	-0.08	N.A.	-0.18	N.A.	-0.06	-0.06	-0.19	N.A.
	(0.094)	(0.135)	(0.094)	N.A.	(0.185)	(0.178)	(0.093)	N.A.	(0.141)	N.A.	(0.230)	(0.221)	(0.135)	N.A.
TCJA_second_year	-0.12	-0.24	-0.12	N.A.	0.02	-0.18	-0.12	N.A.	-0.23	N.A.	-0.11	-0.30	-0.24	N.A.
	(0.196)	(0.232)	(0.196)	N.A.	(0.286)	(0.386)	(0.195)	N.A.	(0.238)	N.A.	(0.330)	(0.391)	(0.232)	N.A.

Panel C: test for short lived effect of §162(m)

	Dependent variable: *Ln Δ Performance-based compensation (DeSimone et al., 2021 definition)*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_alt_1	-0.01	-0.03	-0.01	0.05	0.05	0.13	-0.02	N.A.	-0.03	0.05	0.03	0.09	-0.03	N.A.
	(0.092)	(0.112)	(0.092)	(0.166)	(0.114)	(0.137)	(0.093)	N.A.	(0.112)	(0.167)	(0.122)	(0.174)	(0.112)	N.A.

This table presents results from estimating equation (1) and various alterations thereof for CEO performance-based compensation (DeSimone et al., 2021 definition). All specifications include two-digit SIC industry fixed effects and (fiscal) year fixed effects. Standard errors are in parentheses and are clustered by firm. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively (two-tailed). The unit of the dependent variable is U.S. dollar. The DeSimone et al. (2021) definition of performance-based compensation includes non-equity performance pay, share grants, and option grants. For further information about the variables and reported results please refer to the note below appendix table 1.1. and appendix table A.1.

Table 1.3.

Effect of amended §162(m) on performance-based compensation.

Panel A: baseline specifications

	Dependent variable: *Ln Δ Performance-based compensation (Galle et al., 2021 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA	-0.07	-0.25	-0.07	N.A.	-0.18	-0.17	-0.05	0.04	-0.28	N.A.	-0.40*	-0.39	-0.25	-0.15
	(0.118)	(0.167)	(0.118)	N.A.	(0.181)	(0.179)	(0.117)	(0.211)	(0.172)	N.A.	(0.241)	(0.237)	(0.167)	(0.244)
Observations	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888
R-squared	0.179	0.180	0.180	0.180	0.180	0.181	0.180	0.180	0.180	0.180	0.180	0.181	0.181	0.180
Adjusted R-squared	0.146	0.146	0.146	0.146	0.146	0.145	0.147	0.146	0.146	0.146	0.146	0.145	0.147	0.146
Anticipation	No	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
TCJA of 2017	No	No	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6
Industry & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

Panel B: test for slow moving effect of amended §162(m)

	Dependent variable: *Ln Δ Performance-based compensation (Galle et al., 2021 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_first_year	-0.06	-0.24	-0.06	N.A.	-0.17	-0.15	-0.04	N.A.	-0.27	N.A.	-0.39	-0.37	-0.24	N.A.
	(0.117)	(0.166)	(0.117)	N.A.	(0.184)	(0.181)	(0.116)	N.A.	(0.171)	N.A.	(0.245)	(0.241)	(0.166)	N.A.
TCJA_second_year	0.04	-0.15	0.04	N.A.	-0.07	0.36	0.06	N.A.	-0.18	N.A.	-0.30	0.14	-0.15	N.A.
	(0.211)	(0.244)	(0.211)	N.A.	(0.293)	(0.518)	(0.208)	N.A.	(0.249)	N.A.	(0.340)	(0.554)	(0.243)	N.A.

Panel C: test for short lived effect of amended §162(m)

	Dependent variable: *Ln Δ Performance-based compensation (Galle et al., 2021 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_alt_1	-0.08	-0.15	-0.08	-0.10	-0.12	-0.29	-0.07	N.A.	-0.16	-0.10	-0.16	-0.43*	-0.15	N.A.
	(0.109)	(0.133)	(0.109)	(0.181)	(0.125)	(0.194)	(0.110)	N.A.	(0.134)	(0.181)	(0.139)	(0.237)	(0.133)	N.A.

This table presents results from estimating equation (1) and various alterations thereof for CEO performance-based compensation (Galle et al., 2021 definition). All specifications include two-digit SIC industry fixed effects and (fiscal) year fixed effects. Standard errors are in parentheses and are clustered by firm. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively (two-tailed). The unit of the dependent variable is U.S. dollar. The Galle et al. (2021) definition of performance-based compensation includes bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, and the grant date fair value of options granted. For further information about the variables and reported results please refer to the note below appendix table 1.1. and appendix table A.1.

Table 1.4.

Effect of amended §162(m) on total compensation.

Panel A: baseline specifications

	Dependent variable: *Ln Δ Total compensation (DeSimone et al., 2021 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA	-0.03	-0.05	-0.03	N.A.	0.08	0.08	-0.04	0.01	-0.04	N.A.	0.07	0.07	-0.05	-0.00
	(0.048)	(0.061)	(0.048)	N.A.	(0.083)	(0.084)	(0.048)	(0.066)	(0.061)	N.A.	(0.090)	(0.090)	(0.061)	(0.069)
Observations	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888
R-squared	0.322	0.322	0.323	0.323	0.324	0.328	0.323	0.323	0.323	0.323	0.324	0.328	0.323	0.323
Adjusted R-squared	0.295	0.295	0.295	0.295	0.296	0.299	0.295	0.295	0.295	0.295	0.296	0.299	0.295	0.295
Anticipation	No	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
TCJA of 2017	No	No	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6
Industry & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

Panel B: test for slow moving effect of amended §162(m)

	Dependent variable: *Ln Δ Total compensation (DeSimone et al., 2021 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_first_year	-0.03	-0.04	-0.03	N.A.	0.09	0.08	-0.03	N.A.	-0.04	N.A.	0.08	0.08	-0.04	N.A.
	(0.048)	(0.060)	(0.048)	N.A.	(0.084)	(0.084)	(0.048)	N.A.	(0.060)	N.A.	(0.090)	(0.090)	(0.060)	N.A.

TCJA_second_year	0.01	-0.00	0.01	N.A.	0.13	0.21	0.01	N.A.	0.01	N.A.	0.12	0.21	-0.00	N.A.
	(0.066)	(0.069)	(0.066)	N.A.	(0.102)	(0.141)	(0.066)	N.A.	(0.069)	N.A.	(0.104)	(0.133)	(0.069)	N.A.

Panel C: test for short lived effect of amended §162(m)

	Dependent variable: *Ln Δ Total compensation (DeSimone et al., 2021 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_alt_1	-0.03	-0.04	-0.03	-0.04	-0.01	-0.00	-0.04	N.A.	-0.04	-0.04	-0.02	-0.02	-0.04	N.A.
	(0.034)	(0.040)	(0.034)	(0.047)	(0.038)	(0.057)	(0.034)	N.A.	(0.040)	(0.046)	(0.040)	(0.065)	(0.040)	N.A.

This table presents results from estimating equation (1) and various alterations thereof for total CEO compensation (DeSimone et al., 2021 definition). All specifications include two-digit SIC industry fixed effects and (fiscal) year fixed effects. Standard errors are in parentheses and are clustered by firm. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively (two-tailed). The unit of the dependent variable is U.S. dollar. The DeSimone et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, share grants, and option grants. For further information about the variables and reported results please refer to the note below appendix table 1.1. and appendix table A.1.

Table 1.5

Effect of amended §162(m) on total compensation.

Panel A: baseline specifications

	Dependent variable: *Ln Δ Total compensation (Luna et al., 2020 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA	-0.02	-0.07	-0.02	N.A.	-0.06	-0.05	-0.02	0.04	-0.08	N.A.	-0.11	-0.10	-0.07	-0.00
	(0.054)	(0.080)	(0.054)	N.A.	(0.086)	(0.089)	(0.054)	(0.084)	(0.080)	N.A.	(0.105)	(0.107)	(0.080)	(0.099)
Observations	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888
R-squared	0.405	0.405	0.406	0.406	0.405	0.407	0.405	0.406	0.406	0.406	0.406	0.407	0.406	0.406
Adjusted R-squared	0.381	0.381	0.381	0.381	0.381	0.381	0.381	0.381	0.381	0.381	0.381	0.381	0.381	0.381
Anticipation	No	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
TCJA of 2017	No	No	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6
Industry & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

Panel B: test for slow moving effect of amended §162(m)

	Dependent variable: *Ln Δ Total compensation (Luna et al., 2020 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_first_year	-0.02	-0.06	-0.02	N.A.	-0.05	-0.05	-0.01	N.A.	-0.07	N.A.	-0.11	-0.09	-0.06	N.A.
	(0.054)	(0.080)	(0.054)	N.A.	(0.087)	(0.091)	(0.054)	N.A.	(0.080)	N.A.	(0.106)	(0.109)	(0.080)	N.A.
TCJA_second_year	0.04	-0.00	0.04	N.A.	0.01	0.19	0.05	N.A.	-0.01	N.A.	-0.05	0.14	-0.00	N.A.
	(0.084)	(0.099)	(0.084)	N.A.	(0.111)	(0.171)	(0.084)	N.A.	(0.099)	N.A.	(0.123)	(0.176)	(0.099)	N.A.

Panel C: test for short lived effect of amended §162(m)

	Dependent variable: *Ln Δ Total compensation (Luna et al., 2020 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_alt_1	-0.04	-0.06	-0.04	-0.06	-0.06	-0.12**	-0.04	N.A.	-0.06	-0.06	-0.07	-0.16**	-0.06	N.A.
	(0.035)	(0.045)	(0.035)	(0.055)	(0.043)	(0.059)	(0.036)	N.A.	(0.045)	(0.055)	(0.047)	(0.072)	(0.045)	N.A.

This table presents results from estimating equation (1) and various alterations thereof for total CEO compensation (Luna et al., 2020 definition). All specifications include two-digit SIC industry fixed effects and (fiscal) year fixed effects. Standard errors are in parentheses and are clustered by firm. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively (two-tailed). The unit of the dependent variable is U.S. dollar. The Luna et al. (2020) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, and all other compensation. For further information about the variables and reported results please refer to the note below appendix table 1.1. and appendix table A.1.

Table 1.6

Effect of amended §162(m) on total compensation.

Panel A: baseline specifications

	Dependent variable: *Ln Δ Total compensation (Galle et al., 2021 definition)*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA	-0.03	-0.05	-0.03	N.A.	-0.06	-0.06	-0.03	0.03	-0.06	N.A.	-0.08	-0.08	-0.05	0.02
	(0.053)	(0.078)	(0.053)	N.A.	(0.085)	(0.088)	(0.053)	(0.080)	(0.078)	N.A.	(0.103)	(0.105)	(0.078)	(0.094)
Observations	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888
R-squared	0.399	0.399	0.400	0.400	0.399	0.401	0.399	0.400	0.400	0.400	0.399	0.401	0.400	0.400
Adjusted R-squared	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375
Anticipation	No	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
TCJA of 2017	No	No	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6
Industry & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

Panel B: test for slow moving effect of amended §162(m)

| | | | | Dependent variable: *Ln Δ Total compensation (Galle et al., 2021 definition)* | | | | | | | | | | |
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_first_year	-0.03	-0.04	-0.03	N.A.	-0.06	-0.05	-0.03	N.A.	-0.05	N.A.	-0.08	-0.07	-0.04	N.A.
	(0.053)	(0.078)	(0.053)	N.A.	(0.085)	(0.089)	(0.053)	N.A.	(0.078)	N.A.	(0.103)	(0.106)	(0.078)	N.A.
TCJA_second_year	0.03	0.02	0.03	N.A.	0.00	0.17	0.04	N.A.	0.01	N.A.	-0.01	0.16	0.02	N.A.
	(0.080)	(0.094)	(0.080)	N.A.	(0.108)	(0.168)	(0.080)	N.A.	(0.095)	N.A.	(0.119)	(0.172)	(0.094)	N.A.

Panel C: test for short lived effect of amended §162(m)

| | | | | Dependent variable: *Ln Δ Total compensation (Galle et al., 2021 definition)* | | | | | | | | | | |
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_alt_1	-0.04	-0.05	-0.04	-0.06	-0.06	-0.12**	-0.04	N.A.	-0.06	-0.06	-0.06	-0.14**	-0.05	N.A.
	(0.036)	(0.045)	(0.036)	(0.054)	(0.043)	(0.060)	(0.036)	N.A.	(0.045)	(0.054)	(0.047)	(0.072)	(0.045)	N.A.

This table presents results from estimating equation (1) and various alterations thereof for total CEO compensation (Galle et al., 2021 definition). All specifications include two-digit SIC industry fixed effects and (fiscal) year fixed effects. Standard errors are in parentheses and are clustered by firm. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively (two-tailed). The unit of the dependent variable is U.S. dollar. The Galle et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, the change in pension value and nonqualified deferred compensation earnings, and all other compensation. For further information about the variables and reported results please refer to the note below appendix table 1.1. and appendix table A.1.

Table 1.7

Effect of amended §162(m) on the proportion of total compensation comprised by salary.

Panel A: baseline specifications

| | | | | Dependent variable: *Proportion of total compensation comprised by salary* | | | | | | | | | | |
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA	-0.00	-0.01	-0.00	N.A.	-0.01	-0.01	-0.00	-0.00	-0.01	N.A.	-0.02	-0.02	-0.01	-0.01
	(0.012)	(0.025)	(0.012)	N.A.	(0.025)	(0.028)	(0.012)	(0.027)	(0.025)	N.A.	(0.034)	(0.037)	(0.025)	(0.041)
Observations	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888
R-squared	0.370	0.370	0.370	0.370	0.371	0.375	0.370	0.370	0.371	0.370	0.371	0.375	0.370	0.370
Adjusted R-squared	0.346	0.345	0.346	0.345	0.346	0.348	0.345	0.345	0.345	0.345	0.345	0.348	0.345	0.345
Anticipation	No	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
TCJA of 2017	No	No	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Industry & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

Panel B: test for slow moving effect of amended §162(m)

	Dependent variable: *Proportion of total compensation comprised by salary*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_first_year	-0.00	-0.01	-0.00	N.A.	-0.01	-0.01	-0.00	N.A.	-0.01	N.A.	-0.02	-0.02	-0.01	N.A.
	(0.012)	(0.026)	(0.012)	N.A.	(0.026)	(0.028)	(0.012)	N.A.	(0.026)	N.A.	(0.035)	(0.038)	(0.026)	N.A.
TCJA_second_year	-0.00	-0.01	-0.00	N.A.	-0.02	-0.03	-0.00	N.A.	-0.01	N.A.	-0.02	-0.04	-0.01	N.A.
	(0.027)	(0.041)	(0.027)	N.A.	(0.036)	(0.058)	(0.027)	N.A.	(0.042)	N.A.	(0.049)	(0.064)	(0.041)	N.A.

Panel C: test for short lived effect of amended §162(m)

	Dependent variable: *Proportion of total compensation comprised by salary*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_alt_1	0.00	-0.00	0.00	0.00	-0.00	-0.00	0.00	N.A.	-0.00	0.00	-0.00	-0.00	-0.00	N.A.
	(0.008)	(0.009)	(0.008)	(0.018)	(0.013)	(0.015)	(0.008)	N.A.	(0.008)	(0.019)	(0.012)	(0.019)	(0.009)	N.A.

This table presents results from estimating equation (1) and various alterations thereof for the proportion of total compensation comprised by salary. All specifications include two-digit SIC industry fixed effects and (fiscal) year fixed effects. Standard errors are in parentheses and are clustered by firm. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively (two-tailed). For the dependent variable the total compensation definition of DeSimone et al. (2021) was used. For further information about the variables and reported results please refer to the note below appendix table 1.1. and appendix table A.1.

Table 1.8

Effect of amended §162(m) on the proportion of total compensation comprised by performance-based compensation.

Panel A: baseline specifications

	Dependent variable: *Proportion of total compensation comprised by performance-based compensation*													
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA	0.01	0.02	0.01	N.A.	0.02	0.02	0.01	0.02	0.02	N.A.	0.04	0.04	0.02	0.03
	(0.015)	(0.032)	(0.015)	N.A.	(0.031)	(0.035)	(0.015)	(0.032)	(0.032)	N.A.	(0.045)	(0.049)	(0.032)	(0.051)
Observations	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888
R-squared	0.334	0.334	0.334	0.334	0.334	0.337	0.334	0.334	0.334	0.334	0.335	0.337	0.334	0.334
Adjusted R-squared	0.308	0.308	0.308	0.308	0.308	0.309	0.308	0.308	0.308	0.308	0.308	0.309	0.308	0.308
Anticipation	No	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes

TCJA of 2017	No	No	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6	TCJA_1	TCJA_2	TCJA_3	TCJA 2017 months	TCJA_5	TCJA_6
Industry & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

Panel B: test for slow moving effect of amended §162(m)

Dependent variable: *Proportion of total compensation comprised by performance-based compensation*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_first_year	0.01	0.02	0.01	N.A.	0.02	0.02	0.01	N.A.	0.02	N.A.	0.04	0.04	0.02	N.A.
	(0.016)	(0.033)	(0.016)	N.A.	(0.032)	(0.036)	(0.016)	N.A.	(0.033)	N.A.	(0.046)	(0.050)	(0.033)	N.A.
TCJA_second_year	0.02	0.03	0.02	N.A.	0.03	0.04	0.02	N.A.	0.03	N.A.	0.04	0.06	0.03	N.A.
	(0.032)	(0.051)	(0.032)	N.A.	(0.043)	(0.070)	(0.032)	N.A.	(0.051)	N.A.	(0.061)	(0.081)	(0.051)	N.A.

Panel C: test for short lived effect of amended §162(m)

Dependent variable: *Proportion of total compensation comprised by performance-based compensation*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TCJA_alt_1	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	N.A.	0.00	-0.01	0.00	0.01	0.00	N.A.
	(0.008)	(0.009)	(0.008)	(0.020)	(0.014)	(0.017)	(0.008)	N.A.	(0.009)	(0.021)	(0.013)	(0.021)	(0.009)	N.A.

This table presents results from estimating equation (1) and various alterations thereof for the proportion of total compensation comprised by performance-based compensation. All specifications include two-digit SIC industry fixed effects and (fiscal) year fixed effects. Standard errors are in parentheses and are clustered by firm. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively (two-tailed). For the dependent variable the performance-based compensation and total compensation definitions of DeSimone et al. (2021) were used. For further information about the variables and reported results please refer to the note below appendix table 1.1. and appendix table A.1.

Table 2.1.

Additional analysis: difference-in-difference & supplemental test: placebo test.

Analysis		Difference-in-difference								Placebo test	
Variables	*Ln Δ Salary*	*Ln Δ Performance-based compensation*		*Ln Δ Total compensation*			*Salary %*	*Performance %*		*Ln Δ Salary*	*Ln Δ Total compensation*
Definitions		*(DeSimone et al., 2021 definition)*	*(Galle et al., 2021 definition)*	*(DeSimone et al., 2021 definition)*	*(Luna et al., 2020 definition)*	*(Galle et al., 2021 definition)*					*(TOTAL_SEC definition)*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(9)	(10)

*Treatment * TCJA*	0.00	-0.31**	-0.37**	-0.03	-0.11*	-0.09*	0.01	-0.02	0.02**	0.07**
*[Country * TCJA]*	(0.005)	(0.146)	(0.144)	(0.041)	(0.056)	(0.054)	(0.010)	(0.012)	(0.010)	(0.034)
Treatment	0.00	0.32*	0.39**	-0.03	0.01	-0.01	-0.02	0.03	-0.02*	-0.05**
[Country]	(0.006)	(0.179)	(0.198)	(0.041)	(0.057)	(0.055)	(0.031)	(0.035)	(0.009)	(0.025)
Intercept	0.04	-0.30	0.61	3.27***	4.60***	4.75***	0.57***	0.54***	0.04***	0.10***
	(0.100)	(0.982)	(0.857)	(0.522)	(0.487)	(0.481)	(0.143)	(0.166)	(0.009)	(0.026)
Observations	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,736	1,736
# of treated [US] firms	224	224	224	224	224	224	224	224	350	350
# of control [Canadian] firms	84	84	84	84	84	84	84	84	84	84
R-squared	0.127	0.165	0.202	0.307	0.395	0.390	0.390	0.344	0.026	0.013
Adjusted R-squared	0.075	0.115	0.155	0.266	0.359	0.354	0.355	0.306	0.024	0.010
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

***, **, and * indicate significance at 1%, 5%, and 10%, respectively (two-tailed). Standard errors are clustered by firm. In the specifications in columns 1 through 8 industry fixed effects (two-digit SIC) and my set of control variables are included. In the specifications in columns 9 and 10 industry-fixed effects and my set of control variables are not included. All specifications include (fiscal) year fixed effects. Note that the variables without brackets (Treatment * TCJA and Treatment) pertain to columns 1 through 8 and the variables within brackets (Country * TCJA and Country) pertain to columns 9 and 10. For columns 1 through 8, Treatment is an indicator variable equal to one if CEO salary was below or equal to $1 million U.S. dollars over the pre-amended §162(m) period ((fiscal) 2015-2017). For columns 9 and 10, Country is an indicator variable equal to 1 if the CEO is from the United States (and zero if the CEO is from Canada). TCJA is an indicator variable equal to one for the post-amended §162(m) period ((fiscal) 2018-2019). Salary% and Performance% respectively represent the proportion of total compensation comprised by salary and performance-based compensation. For the proportion of total compensation comprised by respectively salary and performance-based compensation the DeSimone et al. (2021) definitions of performance-based and total compensation were used. All other variables are defined in appendix table A.1. (Where I refer to the salary% and performance% variables as respectively: "proportion of total compensation comprised by salary" and "proportion of total compensation comprised by performance-based compensation). Where applicable, the unit of the dependent variable is U.S. dollar. The DeSimone et al. (2021) definition of performance-based compensation includes non-equity performance pay, share grants, and option grants. The Galle et al. (2021) definition of performance-based compensation includes bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, and the grant date fair value of options granted. The DeSimone et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, share grants, and option grants. The Luna et al. (2020) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, and all other compensation. The Galle et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, the change in pension value and nonqualified deferred compensation earnings, and all other compensation. Execucomp describes the "TOTAL_SEC" definition of total compensation as the total compensation reported in SEC filings. To my understanding this variable equals the amount reported in the total column of the summary compensation table in DEF 14A (proxy) filings. The "TOTAL_SEC" definition of total compensation is used for U.S. firms, whereas the total amount of compensation reported in the summary compensation table of the management information circular was used for Canadian firms. The sample for this analysis was constrained to December (31st) fiscal year-end firms.
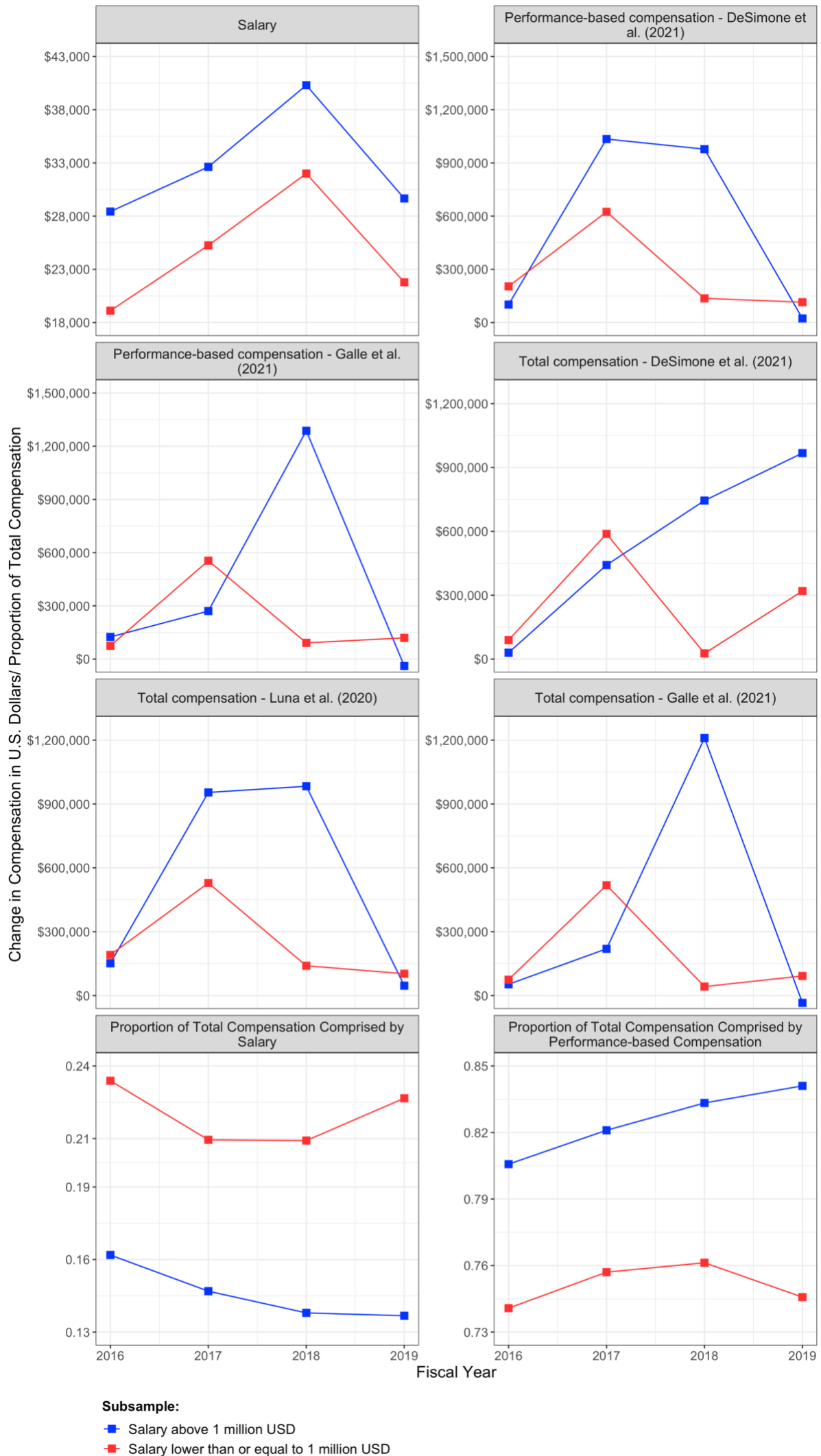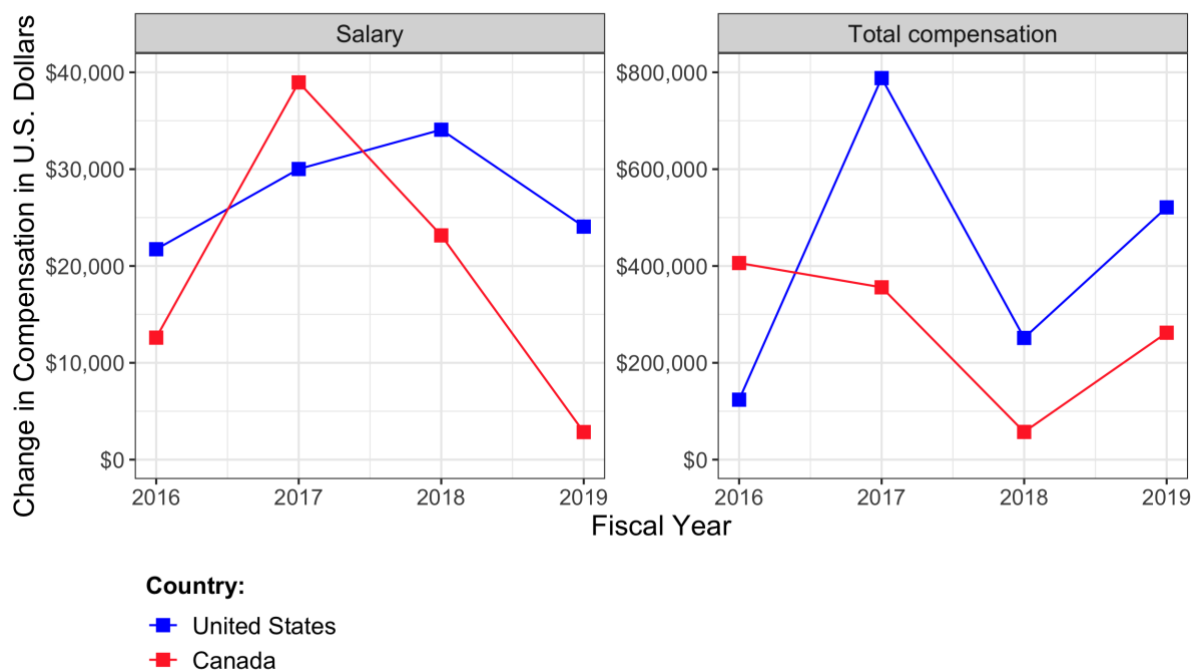
Figure 1.1.

Development of the Change in Compensation/ Proportion of Total Compensation Comprised by Salary and Performance-based Compensation over Fiscal Years 2016-2019
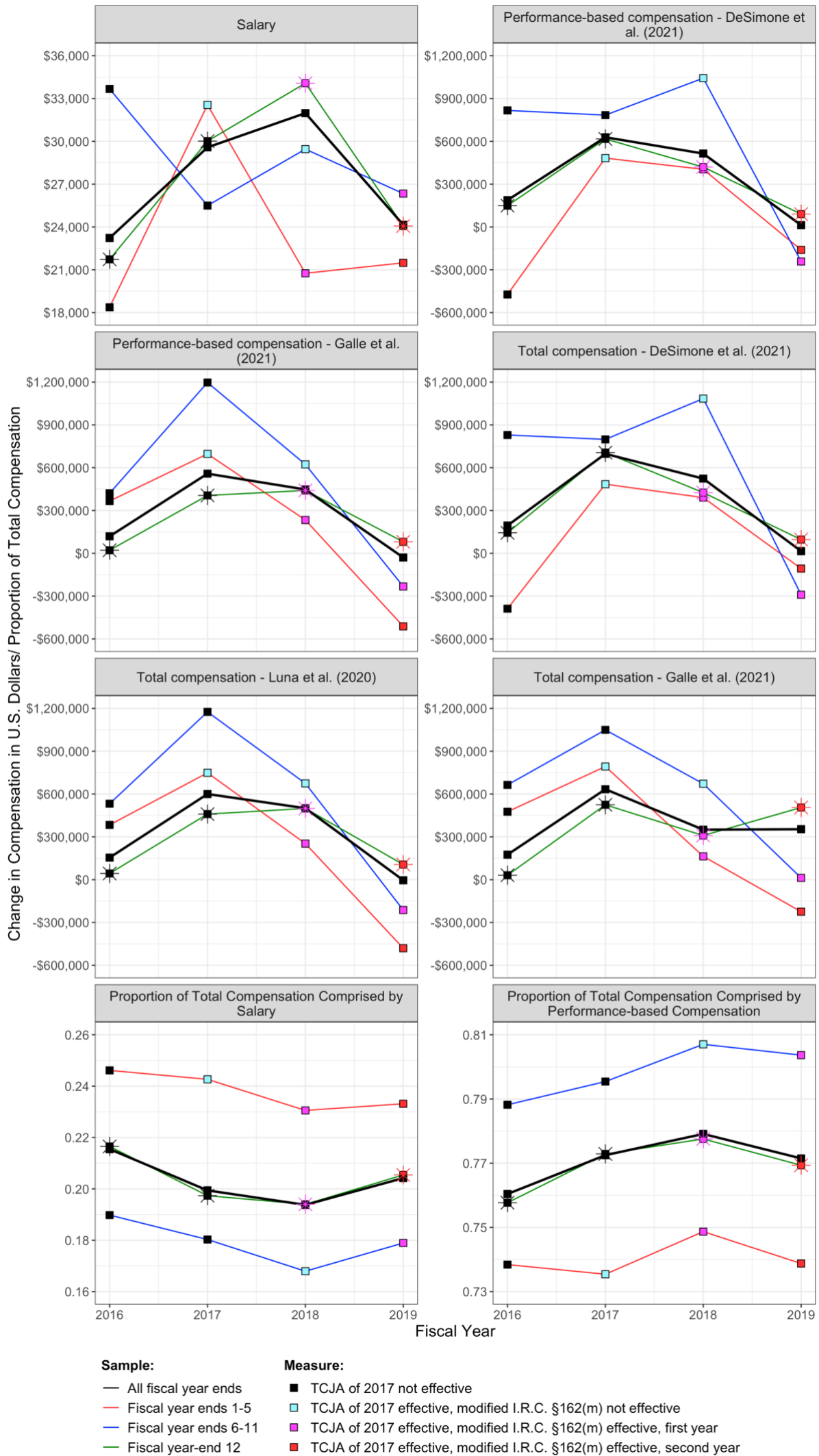
Note. For information about this figure, please refer to the note of figure 3.

Figure 2.1.

Development of the Change in Compensation/ Proportion of Total Compensation Comprised by Salary and Performance-based Compensation over Fiscal Years 2016-2019

Note. For information about this figure, please refer to the note of figure 3.

Figure 3.1.

Development of the Change in CEO Salary and Total Compensation over Fiscal Years 2016-2019 for the U.S. and Canada

Note. This note contains information about figures 1, 2, and 3 (above).

Figure 1 (above) displays the development of the change in CEO salary, performance-based compensation (DeSimone et al., 2021 and Galle et al., 2021 definitions), and total compensation (DeSimone et al., 2021, Luna et al., 2020, and Galle et al., 2021 definitions) over fiscal years 2016-2019. Figure 1 (above) in addition displays the development of the proportion of total compensation comprised by respectively salary and performance-based compensation over fiscal years 2016-2019. In figure 1, the respective black lines represent my full sample of firms. The red, blue, and green lines respectively represent firms with fiscal year ends 1-5 (January through May), 6-11 (June through November), and 12 (December). In figure 1, the colors of the squares (stars) indicate for each subsample for each fiscal year whether the firms were subject to the TCJA of 2017, the TCJA of 2017 and amended §162(m) for the first year, or the TCJA of 2017 and amended §162(m) for the second year.

Figure 2 (above) displays the development of the change in CEO salary, performance-based compensation (DeSimone et al., 2021 and Galle et al., 2021 definitions), and total compensation (DeSimone et al., 2021, Luna et al., 2020, and Galle et al., 2021 definitions) over fiscal years 2016-2019. Figure 2 (above) in addition displays the development of the proportion of total compensation comprised by respectively salary and performance-based compensation over fiscal years 2016-2019. In figure 2, the blue line represents the subsample of CEOs with a salary above 1 million USD for each of the years of the pre-amended §162(m) period 2015-2017. The red line represents the subsample of CEOs with salaries equal to or lower than 1 million USD for each of the years of the pre-amended §162(m) period 2015-2017. The sample for this analysis was constrained to December (31st) fiscal year-end firms.

Note that in figures 1 and 2 for the proportion of total compensation comprised by respectively salary and performance-based compensation I used the DeSimone et al. (2021) definitions of performance-based and total compensation. The DeSimone et al. (2021) definitions of performance-based and total compensation respectively include and excludes bonus, therefore the lines in panels 7 and 8 are not necessarily perfect mirror images.

In figures 1 and 2 (above) I use two definitions for performance-based compensation (DeSimone et al., 2021 and Galle et al., 2021) and three definitions for total compensation (DeSimone et al., 2021, Luna et al., 2020, and Galle et al., 2021). I here enumerate the definitions of these various definitions. The DeSimone et al. (2021) definition of performance-based compensation includes non-equity performance pay, share grants, and option grants. The Galle et al. (2021) definition of performance-based compensation includes bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, and the grant date fair value of options granted. The DeSimone et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, share grants, and option grants. The Luna et al. (2020) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, and all other compensation. The Galle et al. (2021) definition of total compensation includes salary, bonus, non-equity performance pay, the grant date fair value of stock awarded under plan-based awards, the grant date fair value of options granted, the change in pension value and nonqualified deferred compensation earnings, and all other compensation.

Figure 3 (above) displays the development of the change in CEO salary (left panel) and total compensation (right panel) over fiscal years 2016-2019 for the U.S. and Canada. In figure 1, the blue line represents the subsample of U.S. CEOs whereas the red line represents the subsample of Canadian CEOs. The sample for this analysis was constrained to December (31st) fiscal year-end firms. For U.S. total compensation I used the Execucomp variable "TOTAL_SEC". Execucomp describes this variable as the total compensation reported in SEC filings and to my understanding, this variable equals the amount reported in the total column of the summary compensation table in DEF 14A (proxy) filings.