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Effectiveness of Executive Compensation Cap Law: Evidence from Israel[1]

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יעילות חוק שכר הבכירים: עדות מישראל

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תקציר

הקשר בין תגמול מנהלים לביצועי החברה הוא אנדוגני. מחקר זה עושה שימוש בחוק ייחודי בישראל, המטיל מגבלה על תגמול המנהלים בחברות פיננסיות, כשוק אקסוגני לבחינת השפעותיו על מבנה התגמול, תחלופת מנהלים, ביצועי החברה, נטילת סיכונים ופערי השכר בין המנהלים הבכירים. מכיוון שההגבלה הוטלה רק על חלק מהחברות הפיננסיות ולא על כולן, נעשה שימוש בשיטת הפרש-הפרשים להשגת מטרות המחקר. הממצאים מצביעים על כך שהפחתה משמעותית בשכר המנהלים בעקבות חקיקת החוק לא הביאה לירידה בביצועי החברה או בנטילת הסיכונים. היא כן הובילה לעלייה בתחלופת המנהלים, להפחתה ברכיב המשתנה בתגמול ולצמצום פערי השכר בין המנהלים הבכירים.

מילות מפתח: תגמול מנהלים, מוסדות פיננסים, רגולציה

Effectiveness of Executive Compensation Cap Law: Evidence from Israel

Meital Graham Rozen

Abstract

The relationship between executive compensation and firm performance is highly endogenous. This paper uses a unique Israeli law that imposes a binding upper limit on financial firms' executive compensation as an exogenous shock to examine its effects on compensation structure, executive turnover, firm performance, risk-taking, and top-executive pay disparity. By exploiting the fact that this law only restricts executive pay in certain types of financial firms, a difference-in-difference approach is used. The findings suggest that the significant reduction in executive pay following the law's enactment did not decrease corporate performance or risk-taking. Instead, it led to higher executive turnover, a reduction in variable compensation, and a narrower pay gap among top executives.

Keywords: Executive compensation, Financial Institutions, Regulation

1. Introduction

The level and structure of executive compensation has been a frequently debated topic in recent decades. The public criticism focuses on whether the high level of executive compensation in publicly traded companies is justified, and if it corresponds to the performance of the firms that they manage. The criticism relates as well to the issue of moral hazard, whereby company executives take high risks, produce impressive profits and draw good compensation, but as soon as something goes wrong, they appeal to the authorities to extricate them from the situation in which they find themselves. In such cases, the citizens pay the price through their taxes. Furthermore, the public's savings are invested in some of these companies, mainly in the form of pension funds, insurance plans and mutual funds. Hence, when theses public firms are in financial difficulty, the public's savings are eroded.

The Great Recession of 2007–08 led regulators around the world to propose, and in some cases to implement, regulations that monitor or modify the level and the structure of executive compensation. Israel does not differ from these trends. This crisis along with the rise in inequality in the Israeli economy spurred some regulations to curb executive pay[1], with the encouragement of the media.

In April 2016, the Israeli Parliament (the Knesset) approved the "Remuneration for Office-Holders in Financial Corporations (Special Approval and Inadmissibility of Expenses for Tax Purposes due to Irregular Remuneration) Law, 5776-2016"—the Compensation Capping Act (hereinafter: the Act), which limits the compensation of financial firms' executives to 35 times the compensation of the lowest paid employee at the firm. Firm employees include both direct employees and personnel employed indirectly through outsourcing firms. The compensation under the law includes all components besides allowances and deposits into severance pay and pension funds (including disability insurance) and allowances in respect of past rights that accrued prior to the Act.[2] Executive compensation that is below the cap, but more than NIS 2.5 million would not be tax deductible for the firm. To pay the

[1] See in Section 3.

[2] Salary, bonuses, share-based compensation, management fees, consulting fees, etc.

executive more than NIS 2.5 million also requires the approval of the compensation committee, board of directors, a majority of independent directors, and the shareholders.

This legislation restricts executive pay only in one sector—the financial sector, and in that sector, only in certain types of firms—banks, insurance companies, investment firms, asset management firms and mutual funds[3,4] (hereafter: restricted firms). The Israeli minimum wage is approximately NIS 72,000 a year. In 2016, 13 percent of the workers in the financial sector were paid minimum wage.[5] At the same time, about 41 percent of the five highest paid executives in the restricted firms were compensated above 35 times the Israeli minimum wage (NIS 2.53 million a year). This means that this upper limit might be effective for a considerable percentage of the executives in the restricted firms.

This law is unique because it is the only law worldwide that sets a binding upper limit on total executives' compensation in non-state owned firms.[6] Moreover, the inequality between firms in the financial sector, created by this legislation, made this law a good experiment to examine its consequences.

A fundamental problem in the literature on executive compensation is the endogenous nature of pay (Edmans, Gabaix, and Jenter, 2017). Specifically, compensation contracts are inevitably correlated with unobservable firm, industry and executive characteristics, which in turn affect firm behavior, performance and value. The Israeli executive compensation cap law's passage was unanticipated. In the meeting where the Knesset's Finance Committee voted on the bill, it was the first time a pay limit had been introduced. Until that meeting, it was discussed only

[3] Including parent companies of those firms that hold at least 30 percent of the firm.

[4] Other financial industries such as credit card issuers, private equity funds and hedge funds, for example, are not subject to the law. In addition, the law does not apply to subsidiaries of affected firms engaging in other financial activities, such as investment banking, underwriting companies and insurance agencies. Similarly, the foreign subsidiaries of affected firms are exempt. The Minister of Finance of Israel can apply the law to other financial corporations with the approval of the Knesset Finance Committee.

[5] According to the Israel's Expenditure Survey of 2016.

[6] In 2009, the central government of China introduced a regulation to limit executive salaries for the country's centrally administered state-owned enterprises (CSOEs).

as a threshold of a tax deductibility of executive compensation.[7] Hence, I assume I could use the Act as an exogenous[8] shock to the executive compensation-contracts environment of the financial firms that are subject to the law. I use the introduction of the Israeli executive compensation cap law in 2016 as a laboratory to examine how capping executive compensation affects executive compensation structure, top executives pay disparity, executive turnover, firm performance, and risk-taking in the relevant financial companies.

Philippon and Reshef (2012) point out that the finance industry attracts highly talented workers. They show that the increase in wages in the finance industry (relative to other industries) between 1990 and 2006 is accompanied by an increase in relative education. Their results also suggest that tighter regulation is likely to lead to an outflow of human capital from the financial industry. Using CEO credentials as a measure for talent, Falato et al. (2012) also suggest that the rise in CEO pay over recent decades may be owed at least in part to a rise in the CEO talent premium. Their main finding is that boards' compensation decisions reward several reputational, career, and educational credentials of CEOs, with newly appointed CEOs earning a 5 percent total pay premium for each decile improvement in the distribution of these credentials. Adding to this argument, Gabaix and Landier (2008) suggest that CEOs that are more talented tend to manage larger companies and are more highly paid, as a result of a competitive process. The authors indicate that very small talent differences translate into considerable compensation differentials, as they are magnified by firm size.

Following the indications mentioned above, capping executive compensation in the finance industry could lead to reduced talent. The question is whether reduced talent results in reduced performance. Falato et al. (2012) show that credentials, which capture variation in CEO human capital, are positively related to long-term

[7] For more details, see Abudy et al. (2020).

[8] It can be assumed that the legislation itself is not entirely exogenous, as it reflects a response to the change in financial institutions operations after the 2008 crisis. The crisis was followed by stricter regulation over financial institutions and with much less abilities of their executives to pursue their own agendas – relative to the period before the crisis. This may reflect lower pay-for-talent in these industries.

firm performance. Black (2019), who also analyzes the relationship between CEO quality[9] and firm productivity, finds that a one-standard deviation increase in CEO quality results in a 5 percent increase in firm production. Gabaix and Landier (2008), however, show that if CEOs are ranked by talent, and CEO number 250 is replaced by the number one CEO, the value of his or her firm will increase by only 0.016%.

Referring to the effect of restricting executive compensation on firm performance, Edmans and Gabaix (2016) suggest there are currently two main approaches to explain the correlation between executives' compensation levels and firm performance: the "rent extraction" view and the "shareholder value" view. Under the "rent extraction" view, current compensation practices are in sharp contrast to the predictions of traditional agency models. Thus, contracts are not chosen by boards to maximize shareholder value, but instead by the executives themselves to maximize their own rents. This perspective, espoused most prominently by Bebchuk and Fried (2004)[10], has been taken very seriously by both scholars and policymakers, and led to major regulatory changes.[11] In contrast, according to the "shareholder value" view, CEO contracts are the outcome of shareholder-value maximizing firms that compete with each other in an efficient market for managerial talent.[12] Under this view, an external restriction on compensation contracts, such as a limit on executive pay, might diminish firm value, as affected executives in this setting have alternative employment options. In contrast, under "rent extraction" theories, a pay limit can reduce executive rent extraction, which should boost firm value.

I use Israel's unique law to evaluate the effectiveness of capping executive compensation in restricted firms and to determine if it altered their compensation structure. Specifically, I examine how the regulation was implemented in these firms. Since the law limits total compensation, I assume it led firms to reduce the

[9] CEO quality is measured in this paper by using the CEO's labor market performance (in the private sector) in early career years, before becoming a CEO.

[10] Bebchuk and Fried (2004) called this approach "The Managerial Power Perspective".

[11] I elaborate on those changes in the next section.

[12] This view broadens what is commonly referred to as the "optimal contracting" view.

variable component, which depends on firm performance and could exceed the prescribed threshold. Reducing the variable component might limit the firms' ability to incentivize executives to maximize shareholder value. Therefore, the next question is whether this limitation affected the performance of restricted firms.

I examine this question by considering whether there was an outflow of human capital from the restricted firms to better paying alternatives due to the regulatory shock to compensation. After all, as noted above, the high levels of pay in the finance industry were needed to attract and retain the most skilled human capital (Philippon and Reshef, 2012; Murphy, 2013a, b).

This regulation could potentially decrease CEO rent-extraction, so that the effect on performance would be positive, and at the same time has negative consequences through increased turnover (competitive markets for CEO talent)[13], that would harm firm value. These two hypotheses might not be mutually exclusive and therefore they could both be at play. The net effect would depend on the strength of each economic force.

I use hand-collected data on the compensation of all executives, who were included among the five highest paid executives in the company, of all financial firms in Israel from 2013 to 2019. I implement a difference-in-differences approach and estimate a set of multivariate regressions using ordinary least squares, in which I define as treated firms as those firms that are restricted to the compensation cap, and in which at least two executives in the years before the Act, 2014–16, earned, on average, above NIS 2.5 million (hereafter: the threshold). Those firms that are not restricted to the compensation cap or that do not have at least two executives who earned above the threshold before the Act form my control group. On a position level, "treated executive" is defined as whether the executive is restricted to the compensation cap and there are at least two years over the period 2014-16 in which the compensation paid to the executive who served in this position was

[13] Or by motivating executives to make less effort or to take less risk in order to display better performance.

above the threshold. An executive who does not meet both of these criteria is defined as a non-treated executive.

I choose this threshold—NIS 2.5 million—for two reasons. First, because as mentioned above, executive compensation that is below the cap, but more than NIS 2.5 million would not be tax deductible, and requires the approval of the compensation committee, board of directors, a majority of independent directors, and the shareholders at the annual shareholders' meeting. Second, as mentioned above as well, thirty five times Israeli minimum wage is about NIS 2.5 million on an annual basis. It is also worth noting that after the legislation of the law, the media used NIS 2.5 million as the official cap.

My empirical findings suggest that the policy to cap the executive compensation in firms in the financial sector in Israel did have some implications. First, treated firms reduced their executives' compensation following the Act. The reduction is reflected in each of the industries: banks, insurance and financial services. Moreover, treated executives had a higher variable component in their compensation in comparison to non-treated executives, and following the Act, it declined, as I assume. In other words, their risk-taking incentives had decreased.

Public companies are required to report on the compensation for the five highest paid people in the company. Using this information, I find that in the treated firms the mean compensation of the highest paid executives as well as the standard deviation of compensation between them decreased following the Act. The results also suggest that following the Act there was a narrowing of the difference in compensation between the highest paid executive and the lowest paid employee and also between CEO compensation and the average of deputy-CEO compensation among the treated firms.

Contrary to recent literature (Dittmann et al., 2011; Kleymenova and Tuna, 2021; Bae et al., 2019), I find that restricting executive compensation did not diminish stock market or accounting performance in the first three years after the 2016 Law's implementation. Treated firms exhibited even better stock market performance, as measured by annual cumulative abnormal stock return and Tobin's Q, compared

with non-treated firms, while there was no change in the firms' risk taking.[14] This positive impact was observed in restricted firms, regardless of prior executive compensation levels. Notably, this result is unrelated to executive turnover, which increased among treated firms after the Act.

This result aligns with the "rent extraction" theory and the findings of Abudy et al. (2020). Therefore, it can be argued that reducing executive compensation did not signal to investors that the company was adversely affected by a potential loss of executive talent. Another possible explanation is that executive compensation in these firms includes a very small portion of incentive-based pay, which might weaken pay-performance sensitivity.

The effect of the Act on the accounting performance of treated firms is unequivocal. The estimations indicate that the Act negatively impacted return on equity but had no significant effect on return on assets.

I conducted several robustness tests using alternative period samples, threshold levels, and criteria for classifying treated and non-treated executives, and found consistent results.

The paper contributes to the literature on the economic consequences of regulatory changes in corporate governance and, in particular, executive compensation.[15] As mentioned, the law restricts executive compensation in a specific sector (financial firms) in an advanced economy, which has not been legislated in other country. Abudy et al. (2020) examine how investors reacted to this restriction in a short-term event window around the passage of the law and test change in performance and in turnover following the Act. This paper elaborate Abudy et al. (2020) and analyzes the consequences, as executive compensation structure, top executives pay disparity, executive turnover, firm performance, and risk-taking, of the implementation of the law in the financial sector. Although Israel is a small market and the law was imposed on a small sample of firms, the outcomes observed and the lessons learned may well apply across jurisdictions. Therefore, I believe the

[14] Which is measured by Stock return volatility, Leverage, and EDF.
[15] See Section 2.

findings of the paper are of interest not just to the Israeli regulatory authorities but also to the authorities worldwide considering a cap on executive compensation.

The remainder of the paper is organized as follows. In Section 2, I provide a brief overview of the literature on regulations on executive compensation where I focus on the relation between CEO compensation and employee wages. In Section 3, I present the data used in my analysis. Section 4 describes the methodology and results. Section 5 presents robustness tests, and Section 6 concludes.

2. Overview of the literature on regulation of compensation

In recent decades, especially after the financial crisis of 2007–08, regulators worldwide proposed, and in some cases implemented, regulations that monitor or modify the level and the structure of executive compensation. The main criticism on those regulations is that it will create alternatives and more problematic compensation tracks.

In the United States, the Securities and Exchange Commission (SEC) mandated increased disclosure of compensation in 2006, and say-on-pay legislation was passed as part of the Dodd–Frank Act in 2010. In China, the central government set a cap on the pay gap ratio in 2009, so that the basic salary of executives is to be 5 to 7.5 times the average wage of all CSOE (country's centrally administered state-owned enterprises) employees in the previous year, depending on the management difficulty of the firm. In 2013, the European Union imposed caps on bankers' bonuses, the SEC mandated disclosure of the ratio of CEO pay to median employee pay, and Switzerland held an ultimately unsuccessful referendum to limit CEO pay to twelve times the pay of the lowest-paid worker.

Murphy (2013) and Edmans et al. (2017) present an extensive discussion of the existing regulatory and legal restrictions worldwide on executive compensation, which include, among other things, taxation, change in accounting regulations, creation of compensation committees, and change in the voting process in the shareholders meetings, say-on-pay[16] and more. Core and Guay (2010) broadly

[16] Cai and Walkling (2011), Larcker, et al. (2011), Ferri and Maber (2013) and more analyzed the consequences of say-on-pay regulation.

agree with regulators' views on the principles that should guide executive compensation practices, but they believe that many of these principles are already engrained in the typical executive compensation plan. Furthermore, the authors have serious reservations about whether several of the regulatory proposals (such as restrictions on severance and change in control payments, as well as on the level and composition of executive compensation and incentives) would achieve their stated objectives. The authors add that it may be that the final implementation of regulations emphasizes the stability and low risk taking favored by government claimholders over the value creation favored by stockholders. Murphy (2013) argues that government intervention has been both a response to and a major driver of time trends in executive compensation over the past century.

Dittmann et al. (2011) find that many restrictions on executive compensation would have unintended consequences. Restrictions on total realized (ex-post) payouts lead to higher average compensation, higher rewards for mediocre performance, and lower risk-taking incentives. In addition, some CEOs would be better off with a restriction than without it. Restrictions on total ex-ante pay lead to a reduction in the firm's demand for CEO talent and effort. Restrictions on particular pay components, and especially on cash payouts, can be easily circumvented. While restrictions on option pay lead to lower risk-taking incentives, restrictions on incentive pay (stock and options) result in higher risk-taking incentives.

There is a widespread recognition that pay arrangements that reward executives for short-term results can produce incentives to take excessive risks. Bebchuk and Fried (2010) examine how best to ensure that the compensation of public company executives is tied to long-term results, in part to avoid incentives for excessive risk taking, while focusing on equity-based compensation, "the most important component of executive pay arrangements". The authors claim that managers should be "blocked" from cashing out the equity for a specified period of time after vesting. Moreover, they recommend that firms should avoid retirement-based holding requirements that could distort executives' decisions to retire, as well as undermine their incentive to focus on long-term value as they approach retirement.

Instead, equity-based awards should be subject to grant-based and aggregate limitations on unwinding.

Quite a few papers examine the consequences of regulating executive compensation at financial institutions in Europe. Kleymenova and Tuna (2021) examine the introduction of the UK Remuneration Code and the EU bonus cap regulation. Their analysis indicates that while the initial reaction to the Remuneration Code was positive, the stock market reacted negatively to the EU bonus cap regulation, suggesting that equity market investors perceive at least some costs from regulating executive compensation. In line with the intent of regulation, they find that UK banks defer more bonuses and reduce risk. However, when compared to their US counterparts and other UK firms, UK banks also experience higher CEO turnover.

Thanassoulis (2014) studied the impact of a cap on total remuneration for bankers in the EU in proportion to the risk-weighted assets they control. The analysis demonstrates that a variable pay cap in proportion to assets leans against the competitive externality that drives pay up. Such a cap acts to lower aggregate remuneration. Hence, banks will have increased resilience to shocks on the value of their assets due to their reduced cost base. This reduction in bank risk is achieved while increasing bank values.

Akron et al. (2017) show that following a regulatory act, such as the 2002 Sarbanes-Oxley Act (SOX), shareholders' respond to post-regulation managerial conservatism by increasing optimal managerial stock awards. The regulatory act's negative effect on managerial incentives is then alleviated by stock award increases. Nevertheless, post-regulation corporate performance depends on which effect is the most dominant. The authors empirically examine these effects on US markets between 1992 and 2014. They observe a significant, fundamental long-term change in the composition of executive compensation schemes following the SOX Act, while acknowledging the crucial impact of the FAS 123R complementary regulatory act. While stock-award compensation significantly increases post-SOX, they notice a significant decrease in the (convex) risk taking inducing components,

such as bonuses and stock options. At the same time, they find that post-SOX corporate performance diminishes significantly. Specifically, the performance effect of the (FAS 123R adjusted) managerial equity compensation is significantly lower following the 2002 SOX Act.

Colonnello et al. (2018) show that capping the variable-to-fixed compensation ratio for bank executives did not induce executives to abandon the industry. Banks indemnified executives sufficiently for the shock to retain them by raising fixed and lowering variable compensation while complying with the cap. At the same time, banks' risk-adjusted performance deteriorated due to increased idiosyncratic risk. Collateral damage for the financial system as a whole appears modest though, as average co-movement of banks with the market declined under the cap.

Outside of Europe, Fried et al. (2020) exploit a 2011 regulatory reform in Israel that gave the minority the ability to veto pay packages of controllers and their relatives ("controller executives"). They find that the reform curbed the pay of controller executives and led some controller executives to quit their jobs, or work for free, in circumstances suggesting their pay would not have received approval.

In conclusion, according to the literature above, the regulations implemented to curb executive pay worldwide had both direct and indirect effects on executive compensation and firm performance. There is no unequivocal conclusion on the efficiency of these kinds of regulations. They should be examined on a case by case basis.

2.1 The relation between CEO compensation and employee wages

Akerlof and Yallen (1990) argue that a possible reference group to which employees can compare their wages are agents with a higher income within the firm. Dittmann et al. (2018) find evidence that higher CEO compensation is positively related to employee wages across firms and across time. When CEO compensation increases by 1 percent, the median employee's wage increases by about 0.04 percent. Their conclusion is that relative wealth concerns of employees are an important driver of wages and significantly increase the costs of executive compensation. Cronqvist et al. (2009) work with Swedish data and relate managerial entrenchment to the wages

of regular employees. They find that CEOs with more control pay higher employee wages, especially for employees close to the CEO (geographically and hierarchically).

Wade et al. (2006) and Bloom and Michel (2002) show that CEO overpayment is related to higher pay for other managers. The authors also argue that wide pay gaps between CEOs and other employees are associated with higher employee turnover, which can adversely affect a company's performance and thereby shareholder interests.

Concerns about income inequality have led politicians, regulators, and pressure groups to focus on the pay gap between CEOs and rank-and-file employees (Core and Guay (2010)). As a measure of income inequality, Frydman and Saks (2010) use the ratio of managerial pay to company payroll—they show that this ratio increased from 1:30 in 1970 to 1:120 in 2000. In addition, Piketty and Saez (2003) examine the taxpayer's income tax rate and show a rise of this rate from 33 percent in the mid-1970s to nearly fifty percent in 2006.

The 2010 Dodd-Frank Act requires that US firms disclose the total pay for the CEO, the total pay for the median employee excluding the CEO, and the ratio of these two numbers. The EU's Shareholder Rights Directive (accepted in July 2015) initially proposed mandating a similar disclosure, but this proposal was eventually dropped. Edmans, Gabaix and Jenter (2017) have several concerns with such a disclosure. First, pay ratios are a misleading metric. The relevant determinants of CEO pay are not the pay of the average worker, but the CEO's value added and outside options. Supporting the idea that high pay indicates talented executives rather than rent extraction.

Mueller, Ouimet, and Simintzi (2017) suggest that firm growth, especially of large firms, may contribute to rising wage inequality in UK firms. Kale et al. (2009) find that in the group of US top managers, the pay gap between CEO and senior managers, which represent tournament incentives, increases firm performance. In addition, Faleye, Reis, and Venkateswaran (2013) find that in the US, pay ratios are not negatively correlated with employee productivity, in contrast to concerns that

they demoralize workers; instead, they are positively correlated in firms with fewer employees, where employees are informed about executive pay, and where promotion decisions are merit-based, consistent with high ratios providing tournament-based incentives. According to this study, firm value and operating performance both increase with relative pay. In contrast, Rouen (2020) finds no statistically significant relation between the ratio of CEO-to-mean employee compensation and performance.

Edmans, Gabaix and Jenter (2017) explain that pay ratios depend on the labor market for rank-and-file employees, which may vary considerably between firms. For example, the pay ratio is typically lower in investment banks than in supermarkets, not because investment bank CEOs are poorly paid but because rank-and-file bankers are relatively scarce and thus well paid. The pay ratio is not comparable even within an industry, as it depends on a firm's capital-labor ratio, franchising policy, and other strategic decisions. For example, it is lower in InterContinental Hotels than in Hilton, because the former franchises its hotels while the latter does not. Second, disclosure of the pay ratio may tie CEO pay more to median worker pay and decouple it from firm performance. A CEO may be able to justify a high level of pay, despite poor firm performance, by claiming that employees remain well-paid and his ratio is still not excessive. Conversely, disclosure of the pay ratio may tie median worker pay excessively to CEO pay and thus to firm performance, even though workers are much less responsible for overall firm performance and are likely significantly more risk-averse. Third, the pay ratio can be easily manipulated. The numerator of the ratio can be lowered by worsening other dimensions of CEO compensation. For example, shortening vesting periods will reduce the CEO's risk and lead to him or her requiring lower pay, but encourage short-term outlooks. The denominator can be artificially increased, by substituting capital for labor, outsourcing, or hiring part-time rather than full-time employees if only the latter are considered in the ratio. The firm may also shift employee compensation away from non-pecuniary forms (such as on-the-job training, flextime working policies, and superior working conditions) toward salary.

In 2009, the Chinese government imposed an executive pay regulation on CSOEs, which sets a cap on the ratio of executive compensation to employee compensation. Bae et al. (2019) find that this limitation backfires because CEOs respond to it by consuming more perks and tunneling more firm resources, which in turn destroys firm performance. The authors claim that properly designed CEO compensation can better align the interests of shareholders and managers so that managers have less incentive to engage in rent-seeking. Their findings provide evidence that reducing CEO compensation may induce more rent-seeking behavior, at least in the Chinese setting.

In conclusion, according to most of the studies mentioned above, relating executive compensation to the employee compensation and\or decreasing the pay ratio between these two might decrease firm performance. Furthermore, there is little theoretical basis for this kind of regulation.

3. Characterization of the data

I use a panel of Israeli publicly traded (listed on the Tel-Aviv Stock Exchange (TASE)) financial companies with available information on executive compensation over the period 2013 to 2019 (annual data) in the following four industries: Banks, Insurance, Financial Services and Investments and Holdings (in accordance with Tel Aviv Stock Exchange catalog of subindustries). My data also contains three credit card issuers that are not public, which were subsidiaries of the banks in this period and were not restricted to the law. The sample is an unbalanced panel. This is due to the de-listing of some firms from Tel Aviv Stock Exchange during the relevant period, or because of the non-publication of periodic/financial reports in one year or another.

I hand-collect data on all executives who were included with the five highest paid in the company. The database contains information on the executive compensation (total compensation and its components[17]), their personal characteristics (age,

[17] Until 2007, most of the firms had not specified compensation components (base salary, social provisions, bonuses and share-based payments - the value of options granted to the CEO) of their

tenure, education, equity holdings, etc.), firm characteristics (industry, number of trading years, etc.), accounting data (total assets, net profit, etc.), and stock market data. The data also contain information on the turnover of executives and directors since 2004. Appendix A provides details of the variables in the database and their sources. In years when two or more executives serve in the same position in the same company (for example, if there was a turnover of the executives in the middle of the year, in cases of Co-CEO or Co-Chairperson, etc.), I omit the newer executive from the data.[18]

Public companies in Israel are required to report the compensation of the five highest paid employees in the company. The compensation is composed of two parts: fixed compensation, which includes salary, social provisions and other benefits, and variable compensation, which includes the performance-sensitive part - bonuses and equity-based compensation.

As mentioned in the introduction, the Act restricts executive pay only in certain kinds of firms that belong to the financial sector—banks, insurance companies, investment firms, asset management firms and mutual funds, including parent companies of those firms (hereafter: restricted firms). It was legislated in 2016, and the restricted firms were required to apply it as of 2017. Furthermore, this restriction can be translated into an effective upper limit on total pay of NIS 2.5 million a year. As I show later on, before the Act, some of the restricted firms paid above NIS 2.5 million to their executives and some below.

The data include 54 financial companies. I first exclude all companies that were absent from the data in pre-Act years (2013–16) and/or in the years after the Act (2017–19). As a result, the final data set contains 36 financial institutions.[19] Second, I distinguish between restricted and non-restricted firms. This division is at both the firm level and at the individual executive level. The reason is that there are

executives. This is because the firms were required by the Israel Securities Authority to present those components only from 2008.

[18] In cases of turnover, I also made compensation adjustments to the remaining executive, so that the salary part in his\her compensation is adjusted to annual terms. For example, if an executive is retired in the end of October, his\her reported salary is multiplied by 12/10 in that year.

[19] I omit two CEOs whose compensation dropped by over 80 percent in one year, because of a turnover.

executives within a restricted firm, who themselves are not subject to the law (11 percent of them, for example, CEOs of subsidiaries abroad) and also the opposite case—executives to whom the law applies who work in a non-restricted firm (3 percent of them, for example, if the company reports among the five highest paid wage-earners in the company, the compensation of executives in its subsidiaries, which are not subject to a cap on the compensation they pay).

My next step is to examine who among the executives in my data has the potential to be affected by the law. To do so, I have set two criteria—one at the company level and one at the position level. At the company level, I classify each company according to whether there were at least two executives in the years before the Act, 2014–16, who earned above NIS 2.5 million. At the position level (CEO, Chairperson of the board and other executives such as deputy-CEO), I classify each position according to whether there were at least two years during the three year period 2014–16 in which the compensation paid to the executive who serves in this position was above NIS 2.5 million.

Table 1 reports the distribution of the financial companies (number of companies) in my data by industry, by restricted/non-restricted firms and by firms who paid/did not pay more than NIS 2.5 million in the years before the Act, according to the first criterion mentioned above (hereafter: Above firms/executives). It seems that 70 percent of the restricted firms and 50 percent of the non-restricted firms paid more than NIS 2.5 million to their executives in the years before the Act.

Table 2 reports summary statistics for the main executive variables—age, tenure in position, equity holdings in the company, proportion of executives who have a Master degree or higher, total compensation, and fixed compensation—and for the main firm-level variables, total assets, market value, ROE, ROA, stock return, leverage and executive turnover rate. The table is divided into executives belonging to the treated firms (restricted firms, which have at least two executives in the years before the Act, 2014–16 (on average), who earned above the threshold – 17 firms, Panel A) and those who belong to non-treated firms (firms that are not subject to

the law and/or firms that do not have at least two executives in the years before the Act, 2014–16, on average, who earned above the threshold – 19 firms, Panel B).

I further distinguish between the period before (2014-2016) and after (2017-2019) the introduction of the Act. According to my baseline treatment definition, there are 223 executives from 17 treated firms in my sample. Executives in treated firms, as one would expect, are characterized by overall higher levels of compensation, more performance-based pay, and are employed at larger firms.

Panel C of Table 2 shows tests for the difference between the mean change between the periods in the treatment and control group for the main variables. Following the implementation of the Act, the alteration in the age of executives was observed to be both positive and statistically significant for both the treatment and control groups. The reported estimates show a significant decrease in executives' total compensation, with an increase in the fixed portion, in treated firms around the introduction of the Act[20]. Moreover, the average change in total compensation for executives post-Act revealed a statistically significant negative difference between the treatment and control groups. Concurrently, the CEO turnover rate increased in treated firms and decreased significantly in non-treated firms, with the post-Act variation in CEO turnover rates between the treatment and control groups being positive and statistically significant. No significant changes were detected in other primary executive or firm-level variables. Accordingly, the t-test results displayed in Panel C indicate that the significant difference in executive compensation change post-Act between treated and non-treated firms coincided with a significant change solely in CEO turnover. Below, we revisit this prima facie evidence in a regression framework to adequately account for observable and unobservable factors that may also affect the changes in the relevant outcome variables.

[20] Executive characteristics presented in Table 2 encompass all executives from the various groups without making distinctions between treated and non-treated executives.

4. Empirical approach and results

I utilize the implementation of the Israeli executive compensation cap law in 2016 as a framework to investigate the impact of capping executive compensation levels on their compensation structure, firm performance, and risk-taking. To do so, I implement a difference-in-differences (DiD) approach, in which I define as treated, as noted in Section 3, those firms that are restricted to the compensation cap, and at least two of their executives in the years before the Act, 2014–16 (on average), earned above NIS 2.5 million (the threshold). Those firms that are not restricted to the compensation cap or do not have at least two executives who earned above NIS 2.5 million before the Act form my control group. The treated and the control groups are quite different in their Characteristics, as mentioned in Section 3. The use of the Difference-in-Difference approach come to remove biases in post-Act period comparisons between the treatment and control group that could be the result from permanent differences between those groups, as well as biases from comparisons over time in the treatment group that could be the result of trends due to other causes of the outcome.

At the position level, treated executive is defined as whether he\she is subject to the law and there were at least two years during the three-year period 2014–16 in which the executive who serves in his\her position was compensated above NIS 2.5 million. An executive who does not meet both of these criteria is defined as non-treated executive. To determine if the control and the treated groups are comparable, Fig. 1(a) presents the average total compensation of treated and non-treated executives in the period between 2013 and 2019. The figure quite supports the parallel trend assumption that corroborate the validity of my difference-in-difference tests. It indicates that there was a downward trend in the compensation in both groups in the pre-Act period (2013-16) - 20 percent decrease among treated executives and 12 percent among non-treated executives[21]. However, in the period after the Act, the trends in compensation were in opposite directions: among treated executives it substantially decreased (in 27 percent) whereas among non-

[21] It should be noted that I find that there was an increase in the compensation in 2016, ahead of the regulation among Above executives in non-restricted firms.

treated executives it increased (in 5 percent). It is worth noting that in 2019, there was a shift in the compensation trend for both groups. Fig. 1(b) exhibits kernel densities summarizing the distribution of total compensation before (2014-16) and after (2017-19) the Act for treated executives. The figure signifies that their compensation was shifted towards the threshold level from both directions.

4.1 Compensation structure

I start by investigating the effects of the executive compensation cap on the level and structure in the financial firms. In other words, how treated firms adjust their executive compensation packages to comply with the new regulation. The adjustment of compensation structure is a key for understanding the strength of the executive incentive to make less\more effort or to take less\more risk for displaying better performance.

A visual inspection of executives' compensation around the introduction of executive compensation cap confirms that treated firms reduced their executives' compensation following the new regulation (Figures 1(a) and 1(b)). Figure 2 presents the structure of executive compensation by exhibiting the fixed compensation to total compensation ratio for treated and non-treated executives before and after the Act. For non-treated executives this ratio declined slightly after the Act, whereas in treated firms after it rose significantly in the period between 2013 and 2016 (from 62 percent in 2013 to 77 percent in 2016), it increased slightly in the years after the Act to 83 percent in 2019.[22]

Given this prima facie evidence, I adopt a triple difference-in-difference approach and estimate a set of multivariate regressions using ordinary least squares where the unit of observation is executive i at firm j in year t as follows:

$$y_{ijt} = \beta_0 + \beta_1\big(Post\ 2016_t\ x\ Restricted\ Executive_{ij} \backslash Restricted\ Firm_j\ x\ Above\ intensity_{ij}\big) + \gamma E_{ijt} + \delta F_{jt} + \alpha_j + Ind + \varepsilon_{ijt} \quad (1)$$

[22] The decline in the variable part in the compensation of treated executives was mainly through the shared-based compensation component.

y_{ijt} is the dependent variable of interest (natural log of total compensation, fixed comp. to var, etc.), Post 2016 is a dummy variable that equals 1 if the year is later than 2016 (After Act), so that I compare the years 2013–16 and the years 2017–19. $Restricted\ Executive_{ij}$ ($Restricted\ Firm_j$) variable is a dummy that is equal to 1 if the executive (the firm) is restricted to the 2016 law, and as mentioned before, a given executive is classified as an "Above executive" if the compensation paid to the executive who serves in his\her position was above NIS 2.5 million at least two years over the years 2014–16. Hence, $Above\ intensity_{ij}$ variable is i) equal to zero for non-Above executives, and ii) equal to the natural logarithm of the distance (difference) between average total compensation paid to the executive who served in this position in the years 2014–2016 and NIS 2.5 million. The reason that I choose to use $Above\ intensity$ variable instead of a dummy variable is that there is a large variance in the variable between executives. Among the executives for which the variable $Above\ intensity_{ij}$ is different from zero, the median is 0.37, the minimum is 0.05 and the maximum is 1.2. Hence, it can be assumed that the effect of the Act on executive compensation, its structure, turnover or firm performance is different between an executive who experienced a bigger pay cut and an executive who experienced a smaller pay cut.

E_{ijt} is a vector of executive control variables such as age, tenure, education (a dummy variable that equals 1 if the executive holds a Master's degree or higher and zero otherwise), executive's equity stake in the company, turnover (a dummy variable that equals 1 if it is the first year of the executive in his/her position and zero otherwise) and the appointment percentage variable (full time or part time). F_{jt} represents firm-level controls such as size (natural logarithm of total assets[23]), and performance (lagged stock return or lagged ROA or lagged ROE[24]) and firm's business group affiliation. The regressions run with dummy variables both for

[23] According to Gabaix and Landier (2008), the best proxy for company size is the total assets (debt + shareholders' equity)

[24] I used stock return\ROA\ROE in $t-1$ and not in t to avoid endogeneity. Using the variables in t do not change the results.

firms (α_j) and for industries (Ind)[25] in order to control for unobserved effects caused by specific characteristics of the industry and the firm over time. I do not add year fixed effects, because the explanatory variable (*Post 2016*) already includes time dummy variables that reflect the period of the application of 2016 regulation. Thereby, the variable *Post 2016* would reflect the change in the dependent variable after the Act (2017-19) in comparison to the period before the Act (2013-16).[26] Across all of the specifications, errors are clustered within firm. The data in all specifications are at 2016 prices. Estimations that examine changes in firm characteristics, such as performance, run in a firm level, while estimations that examine changes in executive characteristics, such as the structure of compensation and executive turnover, run in a position level.

To describe the change in executive compensation in the financial sector following the Act in a regression framework, I now introduce in Table 3 the difference-in-difference approach in stages. As mentioned above, the difference-in-differences estimation will examine the differences in the averages of the outcome variables between the treated and the untreated groups, between before and after the Act. Column 1 reports the first difference, which compares changes in the dependent variable, natural log of total compensation, before and after the Act. In column 2, I present the second difference, which compares changes in the executive compensation before and after the Act for executives that are subject to the 2016 law and executives that are not. Column 3 exhibits the third difference – between "Above executives" and "non-Above executives", regardless of whether the executive/firm is imposed to the law or not. Column 4 presents the difference between treated executives and non-treated executives before and after the Act. Table 3 exhibits the results where both Above int. variable and "Restricted" variable refer to the position level[27].

[25] I put dummy variables for both firms and industries because there are firms that change industries over time.

[26] Placing year dummies did not change the results.

[27] Appendix B provides the results for different criteria: 1) "Restricted" variable refers to the firm level and Above int. variable refers to the position level (Panel B). The aim of this estimate is to determine if an executive's compensation is influenced by their company's legal obligations or solely by the executive's own legal compliance. This specification applies exclusively to non-

I find a significant negative effect of the Act on the average of the executives' compensation in the financial sector (the coefficient of the post 2016 variable in column 1 is negative and significant). Moreover, when dividing the executives into restricted and non-restricted ones, I find a significant effect of the Act on the average of the restricted executives' compensation (the coefficient of the interaction term $Post\ 2016_t\ x\ Restricted\ Executive_{ij}$ in Column 2 is negative and significant). In restricted firms, I identify two key findings among executives classified as restricted and non-restricted (see Appendix E)[28]: First, the level of compensation is higher among non-restricted executives, and second after the Act it continued to increase among non-restricted executives (even though the level was higher than NIS 2.5 million) while among restricted executives it continued to decrease.

Column 3, as mentioned, exhibits the difference between "above executives" and "non-above executives", regardless of whether the executive is subject to the law or not. Here, I find that the coefficient of the interaction $Post\ 2016_t\ \ x\ Above\ intensity_{ij}$ is negative and statistically significant. This result indicates that "Above executives" received lower compensation following the Act, regardless the fact if they are subject to the law or not. Comparing the compensation of treated and non-treated executives before and after the Act (column 4), it is observed that treated executives, on average, received lower compensation following the Act, as expected.

One of the requirements for the difference-in-difference analysis is ensuring that control and treated firms are not different from each other in the pre-period sample.

CEO/board chairperson executives, as there are no cases where the firm is subject to the law and the CEO/chairperson is not, or vice versa. 2) "Restricted" variable refers to the position level and Above int. variable refers to the firm level (Panel C). In this specification, I am trying to realize whether the belonging of an executive to a firm that is an "above" firm determines if the executive's compensation is affected by the law or not, or is it just the question of whether the executive himself is an "Above" executive, 3) both the Above int. variable and the "Restricted" variable refer to the firm level (Panel D).

[28] It should be mentioned that non-restricted executives in restricted firms are classified as "other executives" (CEO of subsidiary, deputy CEO, etc.). Firms annually report on the five highest-paid individuals, roles that may vary in each report (excluding the CEO and the board chairperson). Therefore, it is uncertain what happened to these managers' wages after the Act. However, it can be noted that the average wage of these managers was higher post-law compared to those previously in this category.

To increase the similarity between the treated group and control group and to understand if the results presented above are reflected in all industries, I now estimate the same basic regression in dividing into industries. Table 4 presents the estimation results for banks[29] (column 1), insurance companies (column 2) and the financial services industry (column 3). There were not enough observations to estimate it also for Investments and Holdings industry. The dependent variable in all specifications is the natural log of total compensation. The estimations include all executives serving in each of the industries where I describe this effect on specifically treated executives in comparison to non-treated executives. The estimated period is again 2013 to 2019.

According to the results, treated executives in banks, as expected, received lower compensation following the Act. Not only had the average of the level of executives' compensation in banks decreased, but also its standard deviation.[30] For illustration, fig. 3(a) exhibits the distribution of CEOs and chairperson of the board compensation in banks before the Act (2016) and after the Act (2017). It can be seen that following the Act, compensation's dispersion had decreased significantly and converged to the range between NIS 1.6 million and NIS 3.3 million (for comparison, in 2016 their compensation was between NIS 1.6 million and NIS 10 million).

The conclusion for insurance companies is not different in comparison to previous estimations – treated executives received lower compensation following the Act. However, in contrast to the previous results for banks, it seems that the non-treated executives who were compensated below the threshold received higher compensation after the Act in insurance companies, what means that the Act has influenced not only the treated executives, but also non-treated ones. Ideally, the control group in an analysis of this type should be unaffected by the Act. This result demonstrates that the Act has spillover effects, because there is a single market for top executives, what violates this assumption. Therefore, the results obtained from the difference-in-difference analysis might suffer from a potential bias: it might be

[29] In this estimation, Credit Card Issuers are classified as Banks.
[30] From NIS 2.1 million in 2016 to about NIS 1.2 million in 2017.

that the reduction in treated executives' compensation as reflected in the results is higher than the actual decline. Moreover, I can also argue that the comparison I make in the paper is between executives (firms) who were directly affected by the law and executives (firms) who were indirectly affected by the law.

Fig. 3(b) demonstrates the executives' compensation in Insurance companies before the Act (2016) and after the Act (2017). It can be seen that the variance of the compensation decreased in this period, but it did not decrease significantly as we saw for banks executives' compensation. For executives in the financial services industry the results are slightly different (Column 3 in Table 4). The compensation of treated executives decreased in comparison to non-treated executives, but it was not found significant.

To analyze the effect of the Act on the structure of the executive compensation, I now estimate equation (1) again in a position level, where the dependent variable is the ratio of executives' fixed compensation to total compensation. Table 5 reports the results. Treated executives had a higher variable component in their compensation in comparison to non-treated executives, and following the Act it substantially decreased. As mentioned before, a possible explanation for this is that the firms managed by those executives wanted to have the ability to control the total amount of compensation so that they could cap it. Another explanation for the post-2016 increase in fixed compensation is that changing to a higher proportion of fixed pay raises the certainty-equivalent of executive pay, what may compensate restricted executives for the drop in their total pay.

Another question I examine is the effect of capping executive compensation level on top executives pay disparity. Table 6 presents the effect of the Act on the mean compensation among the highest paid executives in the company, according to the firm's report (column 1), on the difference between the highest paid executive and the lowest one (still among those executives, column 2), on the standard deviation of the compensation in this group (column 3) and on the difference between the CEO's compensation and the average compensation of deputy CEOs (column 4). These specifications were estimated at a firm level by using 2013–19 data. The

compensation in this estimation is adjusted to the appointment percentage of the executive, because I could not add this variable as a control variable as I did in previous estimations since the unit of observation is now firm j in year t and not executive level. Here again I estimate the effect of the treatment specifically on those the treatment group, compared with those not in the treatment group. According to the results in column 1, the mean compensation of the highest paid executives decreased following the Act in the treated companies. The coefficient of the difference between the highest paid executive and the lowest one in treated companies was also found to be negative and significant. This means that there was a narrowing of the gap in treated companies following the Act (see also Figure 4a). These results could also be seen in the next estimation (Column 3), which describes what happened to the standard deviation of compensation between executives in the company. The conclusion does not change also when looking at the estimation results in column 4, where the dependent variable is the difference between CEO's compensation and the average of deputy CEO's compensation in the company. Following the Act, deputy CEOs' compensation converged with CEO compensation in treated firms due a decrease (in 11%) in CEO compensation and an increase (in 7%) in deputy CEOs' compensation. Figure 4(b) shows the difference in trends in both treated and non-treated firms. It appears that the gap among treated firms has shown a negative trend since 2013, which increased after the Act. However, among non-treated firms, the gap has shown a positive trend since the Act.

4.2 Firm performance and risk-taking

The reduction in variable compensation, as mentioned earlier, may suggest that restricted firms had less ability to incentivize executives to maximize shareholder value. Here, I will examine whether this limitation on executive compensation affected firm performance.

Restricting executive compensation can affect firm performance through various mechanisms: 1) It may motivate executives to exert less effort or take fewer risks, negatively impacting performance, 2) It could lead to executives leaving for more

rewarding companies, resulting in either a less talented executive, which harms performance, or a highly motivated one, which improves performance, 3) Reducing executive compensation may signal to investors that the company is increasing efficiency, potentially boosting stock returns (consistent with the "rent extraction" theory and Abudy et al., 2020) 4) It can reduce payroll expenses, increasing net profit, 5) Nothing changes. Company performance may not depend on the CEO's identity or performance but on the routine operations and the broader workforce. The management team might not be significantly affected by the Act, even if some individuals are. Additionally, in regulated industries with limited competition, executive effort may have minimal impact.

Figures 5(a) and 5(b) show the evolution of firm performance, measured by annual cumulative abnormal stock returns[31] and ROE. The differences in ROE between the treatment and control groups expanded until the Act's introduction and then gradually narrowed. In 2017, this narrowing was mainly due to a significant increase in the ROE of treated firms. The differences in cumulative abnormal returns also varied over time. Between 2014 and 2017, the difference decreased, increased in 2018 (due to a higher rate of decrease in treated firms), and remained unchanged in 2019. The stock performance and ROE of treated firms improved following the Act, whereas there was little change for non-treated firms.

To estimate the effect of the Act on treated firms' performance, given this prima facie evidence, I follow again a difference-in-differences approach similar to specification (1). I use again the common difference-in-difference approach, so that I could estimate the effect of the treatment specifically on those who got the treatment. My outcome variables y_{jt} comprise the Sharpe ratio, annual cumulative abnormal stock return, ROE (natural log of one plus ROE), ROA (natural log of one

[31] To calculate the annual cumulative abnormal stock returns, I first remove market effects on stock prices by regressing each firm's stock return from January 2010 to December 2022 on the local market index (TA-All-Shares Index): $R(i,t) = \alpha(i) + \beta R(m,t) + \varepsilon(i,t)$. Then, I compute the abnormal stock return, which is the excess return of an individual stock i on date t ($R(i,t) - \hat{\alpha}(i) - \hat{\beta} R(m,t)$). Using this variable, the annual cumulative abnormal stock return for year t is computed over January to December. The results are insensitive to the choice of the reference market index.

plus ROE) and Tobin's Q.[32] Notably, I conduct my analysis at the firm-level, because I do not observe the performance and risk-taking of individual executives. Hence, in these specifications I use the variable and the firm-level Above intensity, which is the average of Above intensity of the executives in the firm (those whose compensation is reported). The firm-level controls include size (natural logarithm of total assets) and lagged Leverage of the company, which is used as an indicator of the level of firm's risk[33]. The estimations include dummy variables for firms and years.

Table 7 reports the results. The dependent variables in column 1-2, 3-4, 5-6, 7-8,9-10 are the Sharpe ratio, annual cumulative abnormal stock return, ROE (natural log of one plus ROE), ROA (natural log of one plus ROA) and Tobin's Q, respectively. The results that appear in the odd columns describe the effect of the law on restricted firms in comparison to non-restricted firms, while the results that appear in the even columns describe this effect specifically on treated firms in comparison to non-treated firms.

Considering the results in the 1-4 and 9-10 columns, treated firms did not perform worse in the stock market compared to non-treated firms following the Act[34]. Specifically, a positive impact was observed in the CAR ratio and the level of Tobin's Q of restricted firms, regardless of whether executives were compensated above the threshold before the Act. This result is consistent with the "rent extraction" theory mentioned above and with Abudy et al.'s (2020) findings. Therefore, it can be argued that reducing executive compensation did not signal to investors that the company was negatively affected by a potential loss of executive talent. Accordingly, the market did not differentiate between firms where executives were compensated above the threshold before the Act and those where executives were compensated below it. It should also be noted that I made these

[32] At its most basic level, Tobin's Q expresses the relationship between market valuation and intrinsic value. In other words, it is a means of estimating whether a given firm is overvalued or undervalued.

[33] Adding CEO-level controls, such as tenure, did not alter the results.

[34] Adding market-wide economic parameters of the Israeli economy, such as GDP growth, as control variables does not change the results.

estimations per industry[35] and concluded that firm performance did not worsen in any industry after the Act. Another possible explanation for the result according to which restricting executive compensation did not diminish firm performance is that executive compensation in these firms consists, as mentioned above, of a very small portion of incentive-based compensation, what might weaken the pay-performance sensitivity. To exhibit a visual look of the correlation between executive compensation and firm performance, Figures 6(a) and 6(b) present TA-Banks Index[36] (Insurance Index[37]) and executive compensation components (the fixed part, bonuses part and the shared-based compensation) in the banks (insurance companies) that are included in the Index from 2013 to 2018, all in 2016 fixed prices and normalized to 100 in 2013. These graphs demonstrate the detachment of CEO compensation, in all its components, from firm stock performance in these industries from 2013 to 2019.

The third and fourth estimations indicate that the Act had a negative effect on a company's accounting performance in treated firms—significant on ROE and not significant on ROA. Regarding these results, the reduction in payroll expenses that occurred as a result of the restriction, did not lead to an increase in treated firms' ROE (in contrast to what is implied from figure 5). One explanation for this result is that the Act affected only a small number of individuals. Another explanation is that companies increased compensation for other workers. This argument is supported by the law, which limits executive compensation to 35 times that of the lowest-paid employee. Firms may have raised lower-paid employees' compensation to avoid significantly reducing executive pay.[38]

As mentioned above, the effect of the 2016 law on firm's performance can also be through executive turnover. It might be that putting a cap on executive compensation in certain kinds of firms had resulted in a departure of skilled

[35] See robustness tests section.

[36] The TA -Banks Index (which is called Ta-Banks5 Index from February 2017) is an index comprised of five commercial bank shares with the highest market capitalization, all of which are included in the treated firms group.

[37] The exact name is the Insurance Shares and Convertibles Index.

[38] An argument that was pronounced by the opponents of the law.

executives to better paying firms, and this could have led to a decline in the performance of the firm, or vice versa, a young executive full of motivation entered the position and led the company to an improvement in its performance.

To understand this channel of transmission, I will first examine how many executives have been replaced every year. Figure 7 describes the percentage of CEOs and board chairpersons who were replaced out of all the CEOs and board chairpersons in the sample in the years 2013–19 divided into treated and non-treated executives. The sample contains an average of 60 CEOs and board chairpersons in each year, where an average of 12 percent is replaced every year[39]. The graph shows that there is a significant difference in the rate between treated and non-treated executives following the Act. While there was a gradual increase in the turnover rate of treated executives after the Act, there was no obvious trend in the rate for non-treated executives. It should be noted that there was no obvious trend also in the rate for all CEOs and board chairpersons in the financial sector – it fluctuated around the average and there is no significant change in it right after the Act.[40]

In 2016 - after the introduction of the executive compensation cap in April 2016 - three CEOs and three board chairpersons who are included in the treated firms group resigned (a much higher rate in comparison to the annual average in this group). In 2017, no treated top executive left his position. In 2018, however, three treated CEOs resigned, and two CEOs and one board chairperson, who are included in the treated firms, ended their term in office. Moreover, comparing the number of all executives (managers and directors) in treated firms who resigned from their job before (January 2013 – March 2016) and after the Act (April 2016 – June 2019) shows a 17 percent increase (in numbers: from 48 to 56 executives, in percent: from 8.7 percent to 10.3 percent of the executives) following the Act[41].

[39] The percentage of CEOs replaced is the percentage of new CEOs that same year.

[40] Note that I also examined the turnover rate as a function of only year fixed effect and found that no variable has a significant effect.

[41] It should be noted, that this finding is inconsistent with Abudy et al. (2020) that show that the Act did not increase executive turnover. This dissimilarity may stem from different comparisons – Abudy et al. (2020) count all departures that were reported in an immediate filing while here I count only executives that quit their office. Moreover, I compare between different periods and

Comparing only the managers and directors that are included in the five highest paid in the company shows a much higher increase rate – 80 percent (from 15 to 27 executives[42]). When comparing only the managers and directors that were paid above NIS 2.5 million before they resigned their job, the increase rate arrives to 88 percent (from 8 to 15 executives).

To corroborate the validity of this description I now estimate equation (1) using Logit regression where the dependent variable is a dummy variable that equals 1 if year t is the executive's last year in office and 0 otherwise[43]: . The firm-level controls include size (natural logarithm of total assets), and relative performance (as measured by the stock return of the firm in excess of the value weighted return of all stocks in the industry[44]), and the executive-level controls include tenure variable and an education variable. The regressions were run using 2013-2019 data, with dummy variables for firms and industries. The "Post 2016" variable refers to the period after April 2016.[45]

Table 8 presents the results, comparing the probability of executive turnover between treated and non-treated executives before and after the Act, including data for both CEOs and board chairpersons. As shown in Figure 6, the probability of turnover for treated executives is higher following the Act.

To determine whether the change in firm performance is due to executive turnover, I estimate the specifications from Table 7, where the relevant explanatory variable was found to be significant, for companies whose CEOs were not replaced after the Act. Table 9 presents the results. In firms with unchanged CEOs, restricted and treated firms did not show lower stock performance compared to non-restricted and non-treated firms following the Act. Therefore, the stable or improved stock

different firms (Abudy et al. (2020) refer to all financial institutions that fall under the scope of the executive compensation law, while in this analysis I refer to treated firms only).

[42] There is no difference in the initial number of executives in each group. In other words, the dominator is the same.

[43] See Jensen and Murphy (1990) and Gibbons and Murphy (1990).

[44] Using ROA instead does not change the results.

[45] The month which in the 2016 regulation was enacted.

performance is not related to executive turnover.[46] However, the decline in return on equity is likely related to executive turnover, as firms where the CEO did not change after the implementation of the Act did not experience a change in return on equity as a result of the Act.

Carlson and Lazrak (2010) suggest that higher safe compensation can act as insurance for risk-averse executives, potentially encouraging them to take more risks. Similarly, the increase in fixed compensation following the Act might have led executives to take more risks, as their pay is secured from volatility. Table 10 reports the results of the estimations in which the dependent variables are stock return volatility in percent (columns 1 and 2), Leverage (columns 3 and 4), and Expected Default Frequency (EDF[47], columns 5 and 6). As in the previous estimates, the results in the odd columns describe the effect of the law on restricted firms compared to non-restricted firms, while the results in the even columns describe the effect on treated firms compared to non-treated firms. None of the coefficients in these specifications were found to be significant. In other words, there was no change in firms' risk-taking following the Act.

5. Robustness

In this section, I conduct stress tests on the previous results. One concern is that the results may be influenced by changes in sample years or estimation criteria. To address this, I re-estimate the main regressions by: 1) changing the sample years to 2015-18 (instead of 2013-18), 2) adjusting the "threshold" level to NIS 2.8 million instead of NIS 2.5 million[48], and 3) redefining the "Above" criterion at the position level, classifying each position based on whether there is at least one year (instead of two) between 2014-16 where the executive's compensation exceeded NIS 2.5

[46] It is worth mentioning that to understand the impact of executive turnover on firm performance, I should examine whether there was a change in executive talent following the Act. The only available variable I could use to measure executive talent is the executive education degree, and I found that there was an increase in the level of education of executives in the treated firms following the Act.

[47] EDF as calculated by Moody's based on a Merton-type model with real default data adjustments.

[48] I explained at the beginning of the paper why I chose this number, but it is important to show that it is variable, not fixed.

million. Table 11 presents the coefficient of the "Post x Restricted Executive x Above int." variable, with columns corresponding to each change described and rows showing the dependent variables used previously. The results remain generally robust.

Second, I use a binary treatment indicator (based on NIS 2.5 million, as previously mentioned) rather than my baseline treatment intensity variable. Table 12 shows regression estimates for performance using a dummy variable instead of the "above" intensity variable. The results remain consistent.

6. Conclusion

The 2008 Global Financial Crisis prompted regulators worldwide to propose and sometimes implement regulations to monitor or modify executive compensation. Israel followed this trend. The crisis, coupled with rising inequality in the Israeli economy and media encouragement, led to regulations aimed at curbing executive pay. In 2016, Israel enacted a unique law setting a binding upper limit on total executive compensation.

I use this law as a case study to examine how capping executive compensation affects compensation structure, executive turnover, firm performance, and corporate risk-taking. My results indicate that the law significantly reduced the compensation of restricted executives in the financial sector, accompanied by a significant decrease in the variable component. This may be because firms wanted to control the total compensation amount to comply with the cap. Additionally, I find that the law narrowed pay disparity among top executives. The convergence of deputy CEOs' compensation to that of CEOs in treated firms, due to a higher rate of decrease in CEO compensation, raises questions for future research. For example, how does this affect deputy CEOs' motivation to become CEOs or their sense of partnership with other executives?

My findings suggest that restricting executive compensation has not diminished firm performance or risk-taking but has led to higher executive turnover. This supports the rent extraction view of executive compensation.

A promising question for future research is whether executives received excess compensation, higher than their marginal output, due to poor corporate governance before the restriction. Given that the banking and insurance industries in Israel, which were affected by the law, are concentrated, this research could relate to Giroud and Mueller (2010), who argue that strong corporate governance is crucial in non-competitive (concentrated) industries to reduce managerial slack.

This paper examines the impact of the Act in the first three years after its implementation. Examining the long-term impact is an important question for future research.

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Appendix A. Variable Definitions

Variable	Definition	Source
Firm's Issuer Number	Company number (according to Stock Exchange symbol)	TASE data
Executive's position	Indicator Variable which takes the value of 0 if the executive is the chairperson of the board; 1 - if he is the CEO; 2 - if he both the chairperson and the CEO; 3 - otherwise	Manually collected from the periodic and immediate annual reports
CO_CEO	Dummy variable, which takes the value of 1 if the office holder is a co-CEO or co-Chairperson and 0 otherwise.	Manually collected from the periodic and immediate annual reports
Deputy CEO	Dummy variable equal to 1 if the office holder is a Deputy CEO and 0 otherwise.	Manually collected from the periodic and immediate annual reports
Name	Executive's name	Manually collected from the periodic and immediate annual reports
ID	Executive's id number	Manually collected from the periodic and immediate annual reports
Age	Executive's age	Manually collected from the periodic and immediate annual reports
Education	Indicator Variable equal to 0 if the executive has 12 years of education, 1 if he has a Bachelor's degree, and 2 if he has a Master's degree or higher.	Manually collected from the periodic and immediate annual reports
Membership in the Board of Directors	Indicator Variable equal to 0 if the executive is not a member of the Board of Directors, 1 if he is a member of the Board of Directors, and 2 if he is the Chairperson of the Board of Directors.	Manually collected from the periodic and immediate annual reports

Family Relation	Dummy variable equal to 1 if the executive is a relative of a party at interest, and 0 if not.	Manually collected from the periodic and immediate annual reports
Tenure in the Company	Executive's tenure measured as the number of years spent with a given firm	Manually collected from the periodic and immediate annual reports
Tenure in position	Executive's tenure measured as the number of years spent with a given position	Manually collected from the periodic and immediate annual reports
Turnover	Dummy variable equal to 1 if there is a change of the executive in a given year	Manually collected from the periodic and immediate annual reports
Appointment percentage	The percentage of appointment in executive position (part or full time employment)	Manually collected from the periodic and immediate annual reports
Holdings	The executive's rate of holdings in the company	Manually collected from the periodic and immediate annual reports
Total Compensation	Total compensation paid to the executive in a given year in current prices (in shekels)	Manually collected from the periodic and immediate annual reports
Of which: Salary	Base salary paid to the executive in a given year in current prices (in shekels)	Manually collected from the periodic and immediate annual reports
Of which: Social Provisions	Social provisions paid to the executive in a given year in current prices (in shekels)	Manually collected from the periodic and immediate annual reports
Of which: Bonuses	Bonuses paid to the executive in a given year in current prices (in shekels)	Manually collected from the periodic and immediate annual reports

Of which: Share based compensation	Share based compensation paid to the executive in a given year in current prices (in shekels)	Manually collected from the periodic and immediate annual reports
Of which: Other benefits	Other benefits paid to the executive in a given year in current prices (in shekels)	Manually collected from the periodic and immediate annual reports
Within Law Total Compensation	In 2017_2018 some of the restricted firms reported also on the total compensation of an executive without the compensation's components which should not be included in the calculation of the total compensation which is subjected to the Act (deposits and allowances for severance pay, including loss of work capacity, and past rights accrued prior to the Act).	Manually collected from the periodic and immediate annual reports
ROE	Return on Equity computed as the ratio of equity and total assets	Annual financial statements data
ROA	Return on Assets computed as the ratio of net income and total assets	Annual financial statements data
CAR	To calculate the annual cumulative abnormal stock returns, I first purge market effects on stock prices by regressing each firm stock return in the period between January 2010 and November 2019 on local market index (TA-All-Shares Index): $R(i,t)=\alpha(i)+\beta R(m,t)+\varepsilon(i,t)$. Then, I compute the abnormal stock return which is the excess return of an individual stock i on date t ($R(i,t)-\hat{\alpha}(i)-\hat{\beta}R(m,t)$). Using this variable, the annual cumulative abnormal stock return in year t is computed over January-December of year t.	Computed by author using TASE data
Size	Natural logarithm of total assets	Computed by author using annual financial statements data
Market Value	Natural logarithm of market value (at the end of the year)	Computed by author using TASE data
Industry	Industry of the firm	Annual financial statements data

Business Group Affiliation	Dummy variable equal to one if the firm is a business group-affiliated and 0 otherwise.	Computed by author using Bank of Israel data
Industry ROE	Average Return on Equity in the Industry (weighted average by total assets)	Computed by author using annual financial statements data
TA 100 index	Dummy variable equal to one if the company belongs to the TA 100 Index and 0 otherwise.	Computed by author using TASE data
Trading Years	Number of company's years of trading on the Tel Aviv Stock Exchange	Computed by author using annual financial statements data
Leverage	Ratio of book value of liabilities to book value of assets	Computed by author using annual financial statements data
EDF	Expected Default Frequency	Computed by Moody's based on a Merton-type model with real default data adjustments.
Stock Return	Company stock return	Computed by author using TASE data
Stock Return volatility	Annual standard deviation of the stock return	Computed by author using TASE data
Industry stock return	Industry stock return (weighted average by market value)	Computed by author using TASE data
Sharpe ratio	Annual Sharpe ratio. Method of calculation: (annual average monthly stock return-MAKAM yield)/(annual standard deviation of daily stock return)	
Tobin's Q ratio	Method of calculation: (book value of debt + market value)/ (book value of assets)	Computed by author using TASE data
Public	Dummy variable equal to 1 if the company's stock is traded in TASE and 0 otherwise (only bond or other instrument is traded)	Computed by author using TASE data

Restricted firm	Dummy variable equal to 1 if the company is subject to the law and 0 otherwise.	Computed by author using the law definition
Restricted executive	Dummy variable equal to 1 if the person is subject to the law and 0 otherwise.	Computed by author using the law definition
Above threshold in company level (2)	Dummy variable equal to 1 whether there is at least two executives in the years before the Act, 2014-2016 (on average), who earns above 2.5 million ILS, and 0 otherwise.	Computed by author using annual reports data
Above threshold in company level (1)	Dummy variable equal to 1 whether there is at least one executives in the years before the Act, 2014-2016 (on average), who earns above 2.5 million ILS, and 0 otherwise.	Computed by author using annual reports data
Post 2016	Dummy variable equal to 1 if the year is after 2016 (after Act) and 0 otherwise	Computed by authors
Above threshold in person level	Dummy variable equal to 1 whether there is at least two years over the years 2014-16 in which the compensation paid to the executive who serves in this position is greater than NIS 2.5 million, and 0 otherwise.	Computed by author using annual reports data
Ta 125 Index Return	TA 125 Index annual return	Computed by author using TASE data
All Stocks Index return	All Stocks Index annual return	Computed by author using TASE data

Appendix B. Extension to Table 3

Panel B: Above int. Position level, Restricted firm

Dependent Variable:	Log (Total Compensation)			
	(1)	(2)	(3)	(4)
Post 2016	-0.1920***	-0.2254	-0.0354	-0.0534
	(0.055)	(0.154)	(0.058)	(0.058)
Restricted firm		0.2233		
		(0.141)		
Post x Restricted firm		0.0588		
		(0.161)		
Above. int			1.5610***	
			(0.123)	
Post x Above. int			-0.8632***	
			(0.117)	
Restricted Firm x Above. int				1.5130***
				(0.123)
				-0.7835***
Post x Restricted Executive x Above. int				(0.115)
Constant	9.4103***	9.9416***	9.5049***	9.3896***
	(1.331)	(0.315)	(1.312)	(1.319)
Observations	743	743	743	743
R-squared	0.655	0.452	0.699	0.696
Firm and executive controls	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	No	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel C: Above int. Firm level, Restricted Executive

Dependent Variable:	Log (Total Compensation)			
	(1)	(2)	(3)	(4)
Post 2016	-0.1920***	0.0025	-0.0979	-0.0614
	(0.055)	(0.121)	(0.068)	(0.062)
Restricted Executive		0.3759*		
		(0.207)		
Post x Restricted Executive		-0.2385*		
		(0.124)		
Above. int			1.7821***	
			(0.183)	
Post x Above. int			-1.1134***	
			(0.192)	
Restricted Executive x Above. int				0.6624***
				(0.238)
Post x Restricted Executive x Above. int				-1.1562***
				(0.152)
Constant	9.4103***	9.7183***	10.4759***	9.5183***
	(1.331)	(1.334)	(0.340)	(1.321)
Observations	743	743	743	743
R-squared	0.655	0.658	0.496	0.667
Firm and executive controls	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	No	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel D: Firm Level

Dependent Variable:	Log (Total Compensation)			
	(1)	(2)	(3)	(4)
Post 2016	-0.2048***	-0.2058	-0.0965	-0.1269*
	(0.054)	(0.152)	(0.068)	(0.069)
Restricted firm		0.2405*		
		(0.141)		
Post x Restricted firm		0.0335		
		(0.159)		
Above. int			1.7330***	
			(0.181)	
Post x Above. int			-1.1082***	
			(0.190)	
Restricted Firm x Above. int				1.3490***
				(0.160)
Post x Restricted Firm x Above. int				-0.8324***
				(0.176)
Constant	9.0331***	9.8068***	10.2844***	10.1804***
	(1.322)	(0.301)	(0.322)	(0.333)
Observations	757	757	757	757
R-squared	0.655	0.462	0.503	0.483
Firm and executive controls	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	No	No	No

Robust standard errors in parentheses

Appendix E. The level of compensation (in millions of Shekels) among restricted and non-restricted executives in restricted firms

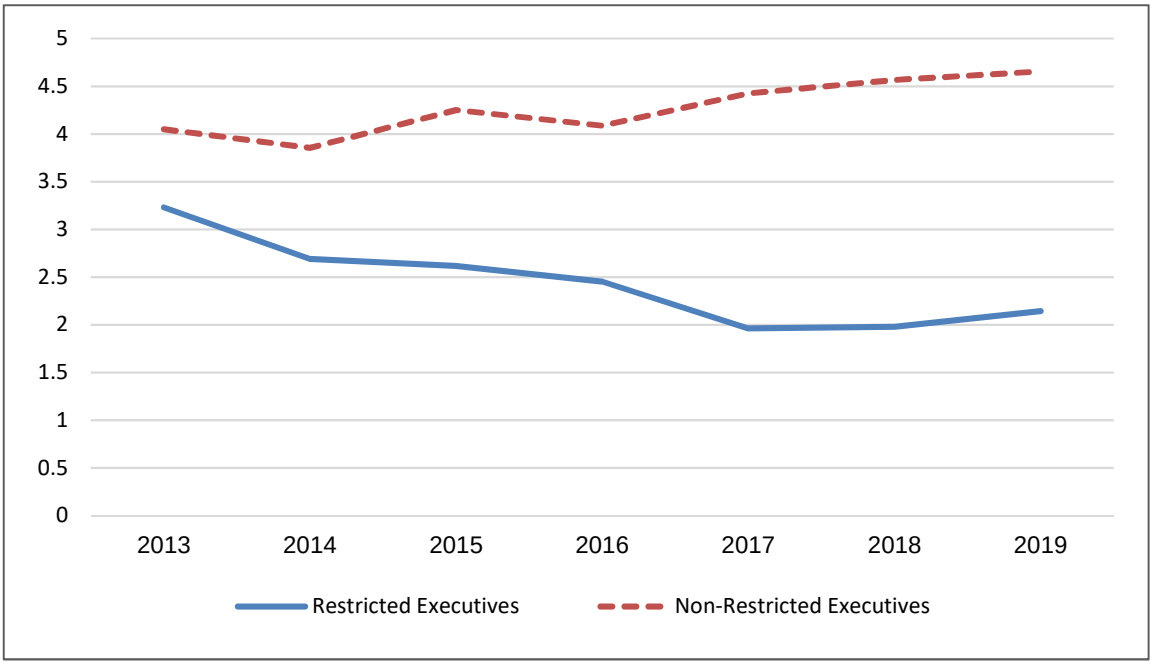

Figure 1: Mean Executive's Total Compensation in Financial Companies

Fig. 1(a) presents the average total compensation of treated executives (blue line) and non-treated executives (red line) in the period between 2013 and 2018. The 2013 total compensation level is normalized to 100. The dashed vertical lines denote the point in time at which the Act (2016) was introduced. Figure 1(b) presents kernel densities summarizing the distribution of total compensation before (2014-16) and after (2017-18) the Act treated executives.

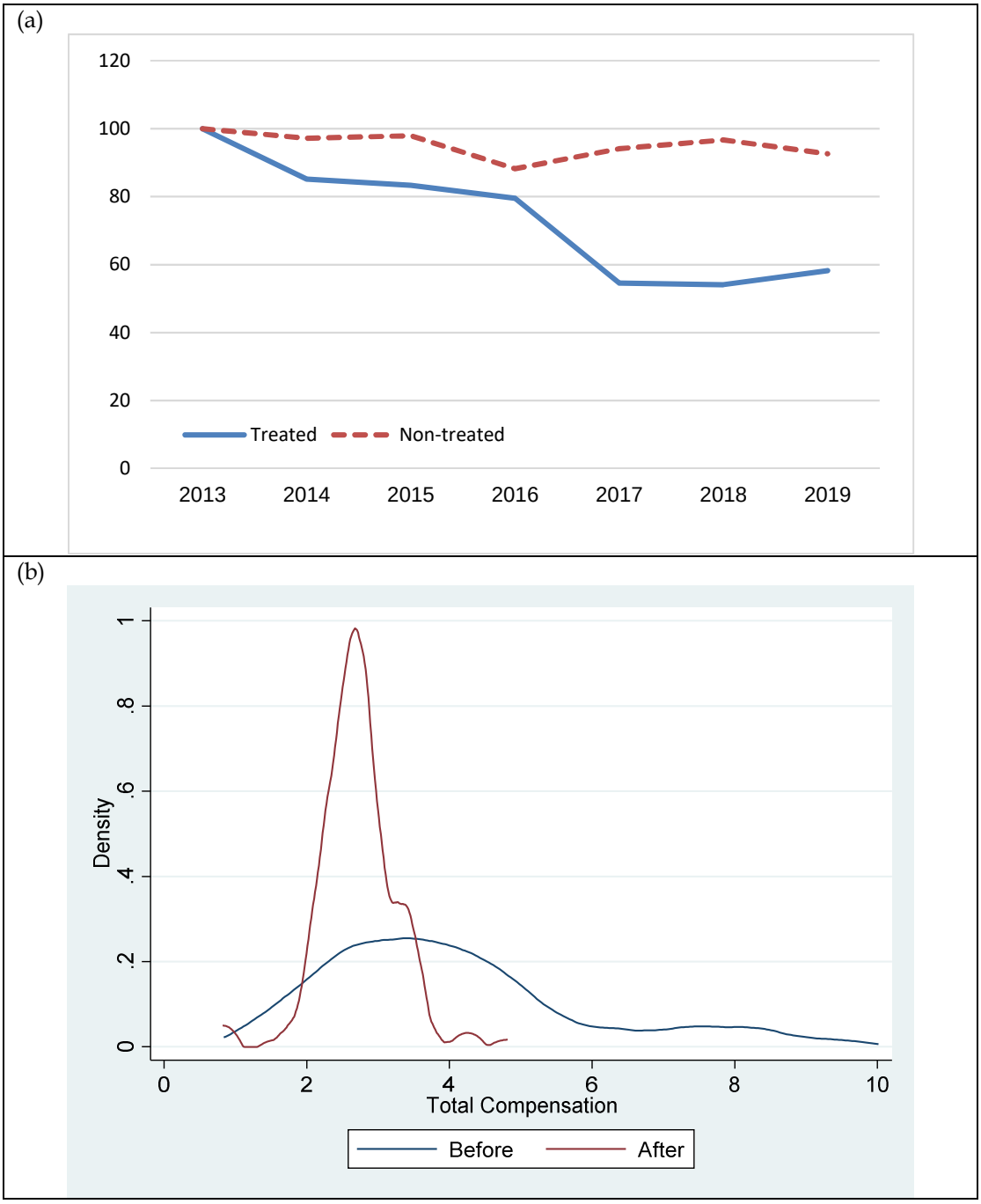

Figure 2: Executive Compensation Structure in Financial Companies

The figure presents the level and the structure of executive compensation by exhibiting the median fixed compensation to total compensation ratio of treated and non-treated executives before and after the Act. The blue lines represents executive compensation of treated executives, and the red lines represents executive compensation of non-treated executives. Solid lines present fixed compensation to total compensation ratio (in percent) while dashed lines present the total compensation (in millions of 2016 fixed prices Shekels). The dashed vertical line denote the point in time at which the Act (2016) was introduced.

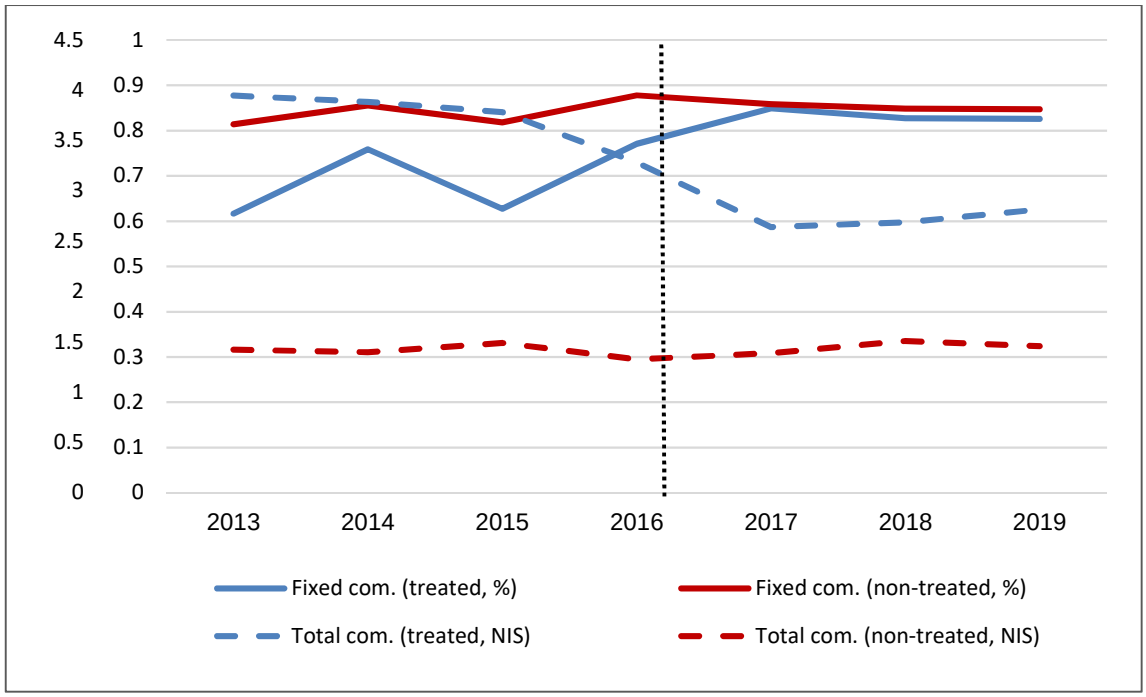

Figure 3: Executive Compensation in Banks and Insurance Companies

Figures 3(a) and 3(b) exhibit the distribution of CEO and chairperson of the board compensation in banks and insurance companies before the Act (2016, blue dots) and after the Act (2017, red dots). Each point is a different executive.

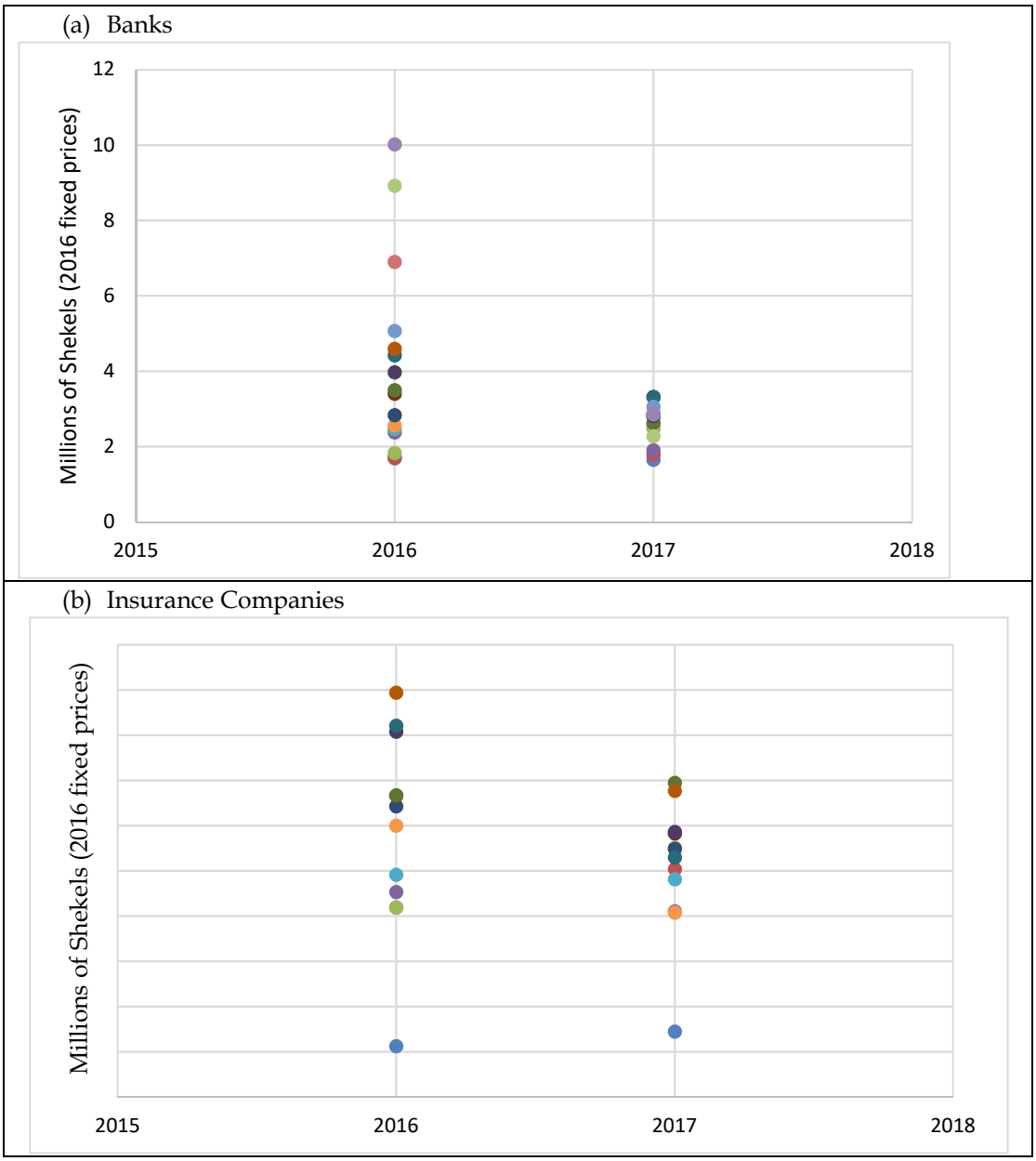

Figure 4: Compensation Disparity among Top Executives

Figure 4(a) presents the difference between the highest paid executive and the lowest (among five highest paid in the company) in treated (blue line) and non-treated (red line) companies**.** Figure 4(b) exhibits the difference between CEO's compensation and the average of deputy CEO's compensation in the company.

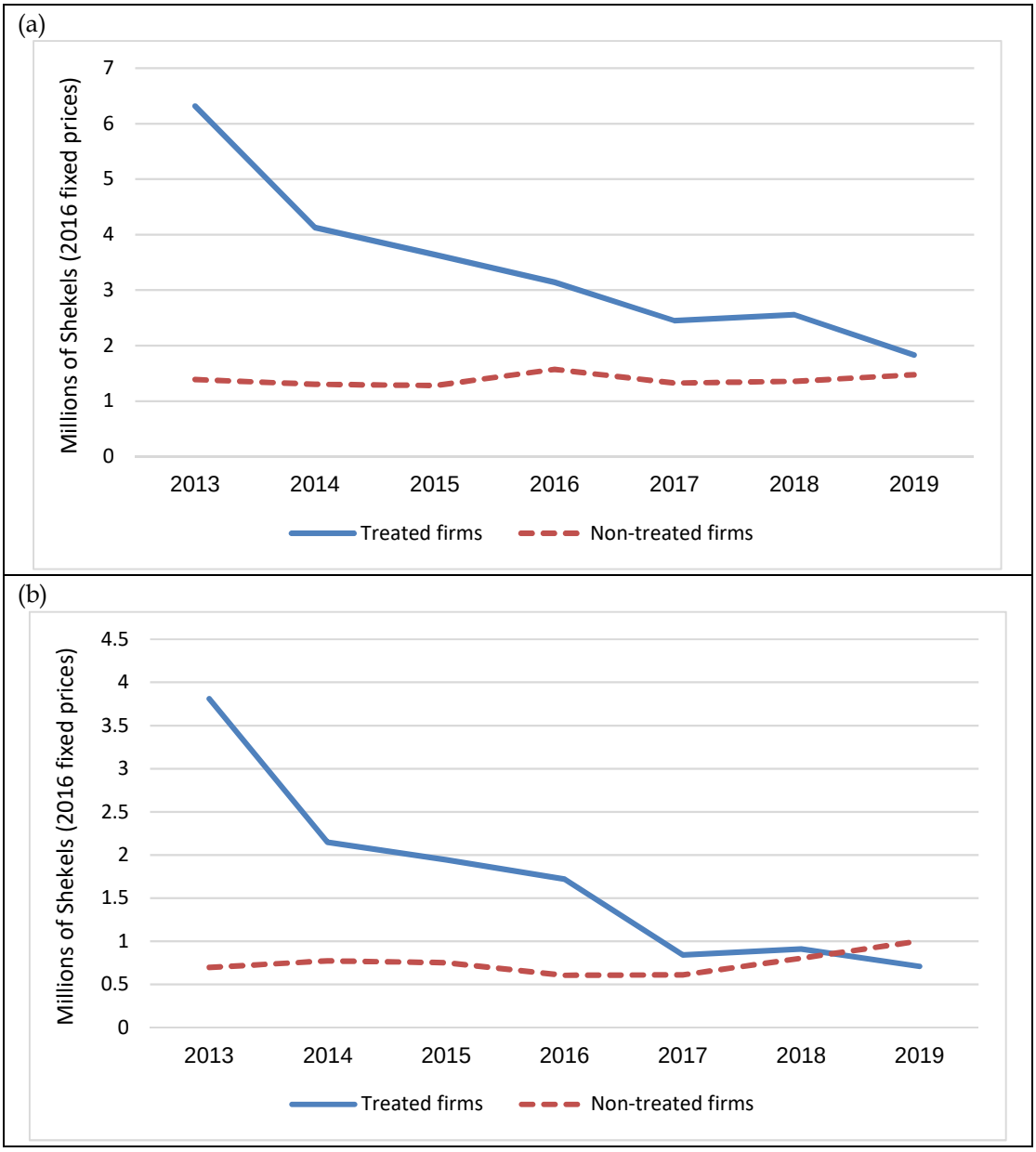

Figure 5: Evolution of firm performance around the Introduction of the Act

Figures 5(a)-5(b) show the evolution of the annual cumulative abnormal stock returns (which is computed relative to TA-All-Shares Index for the period between January 2010 and December 2022) and ROE in the years between 2014 and 2019. The blue line represents treated firms, i.e., restricted firms which have at least 2 executives in the years before the Act, 2014–16 (on average), who earned above the threshold. The red line represents non-treated firms, i.e., firms which are not subject to the law and/or firms that do not have at least executives in the years before the Act, 2014–16 (on average), who earned above the threshold. Figures 5(c)-5(d) present in bars the differences in the annual cumulative abnormal stock returns and ROE between the period before the Act (2014-2016) and the period after the Act (2017-2019) in treated firms and non-treated firms. The dashed vertical line denote the point in time at which the Act was introduced (2016).

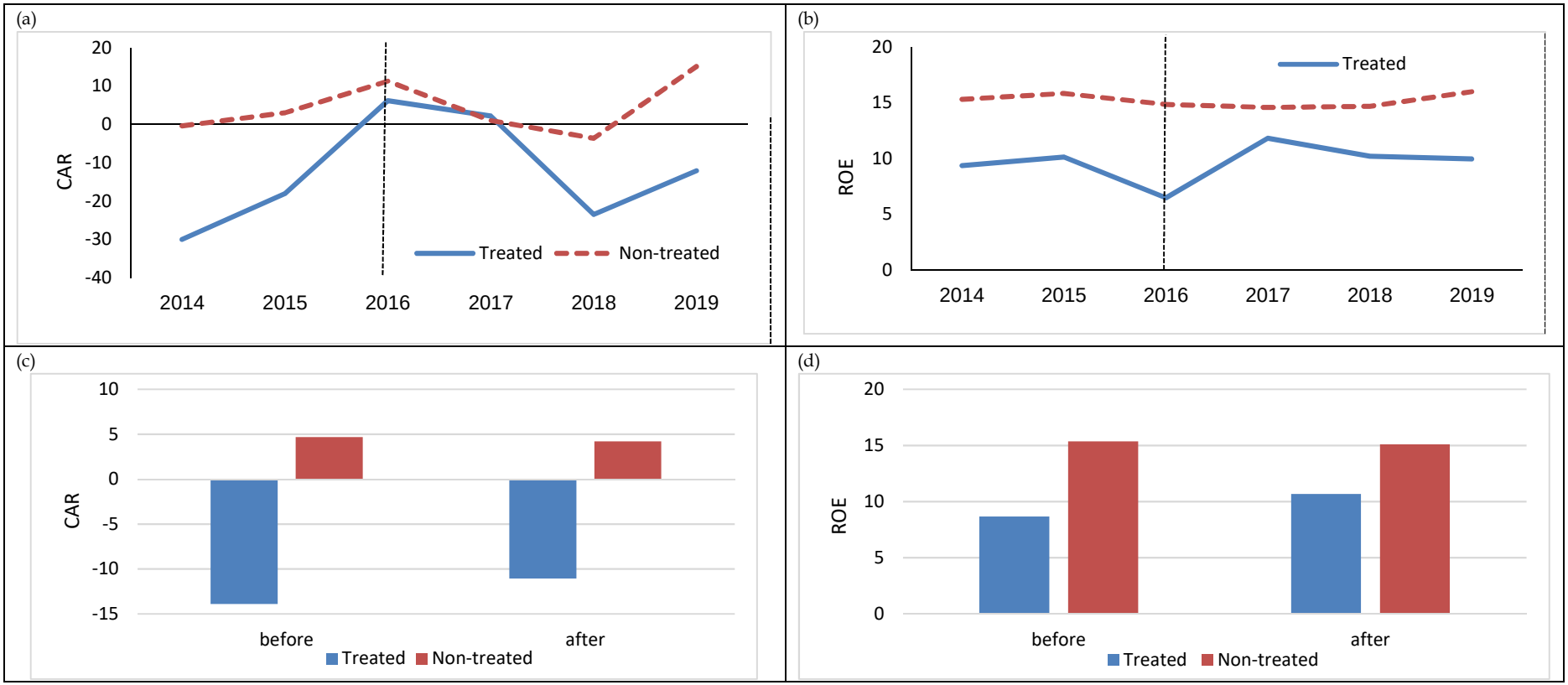

Figure 6: CEO compensation structure and firm performance

The graph presents CEO compensation components, the fixed part of compensation, the bonuses part and the shared-based compensation in banks (fig. 6(a)) and insurance companies (fig. 6(b)) and industry performance. Industry performance is exhibited by: (1) for banks - TA-Banks Index (which is called Ta-Banks5 Index from February 2017). This index is comprised of five commercial bank shares with the highest market capitalization, all of which are included in the treated firms group, (2) for insurance companies - Insurance Shares and Convertibles Index, which includes all the TASE shares, which are listed in the insurance sector. 2013 compensation and the Indices are normalized to 100. The dashed vertical lines denote the point in time at which the Act (2016) was introduced.

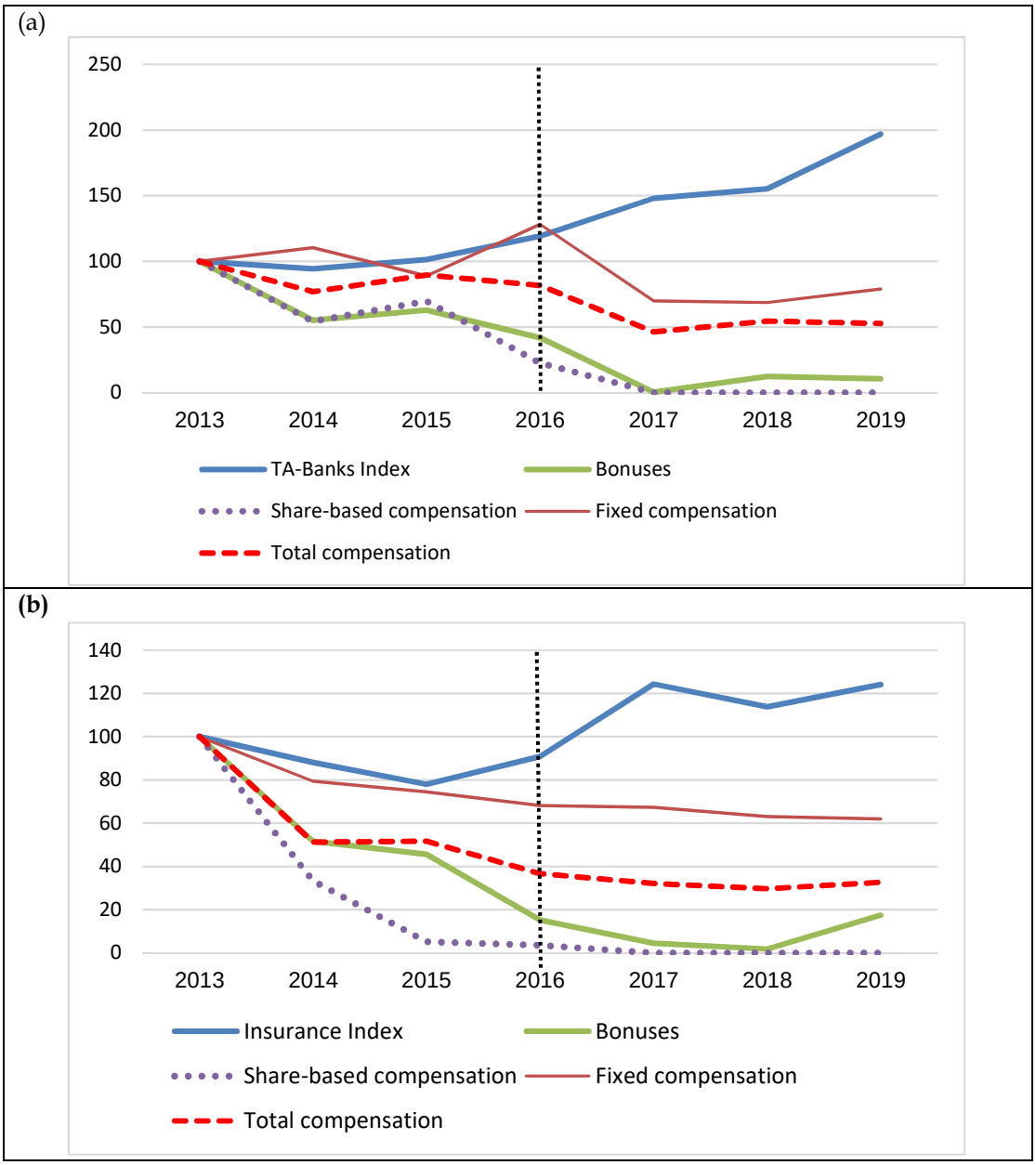

Figure 7: Executive Turnover
The graph exhibits the percentage of CEOs and board chairpersons who were replaced out of all the CEOs and board chairpersons in the sample in the years 2013–19 divided into treated and non-treated executives.

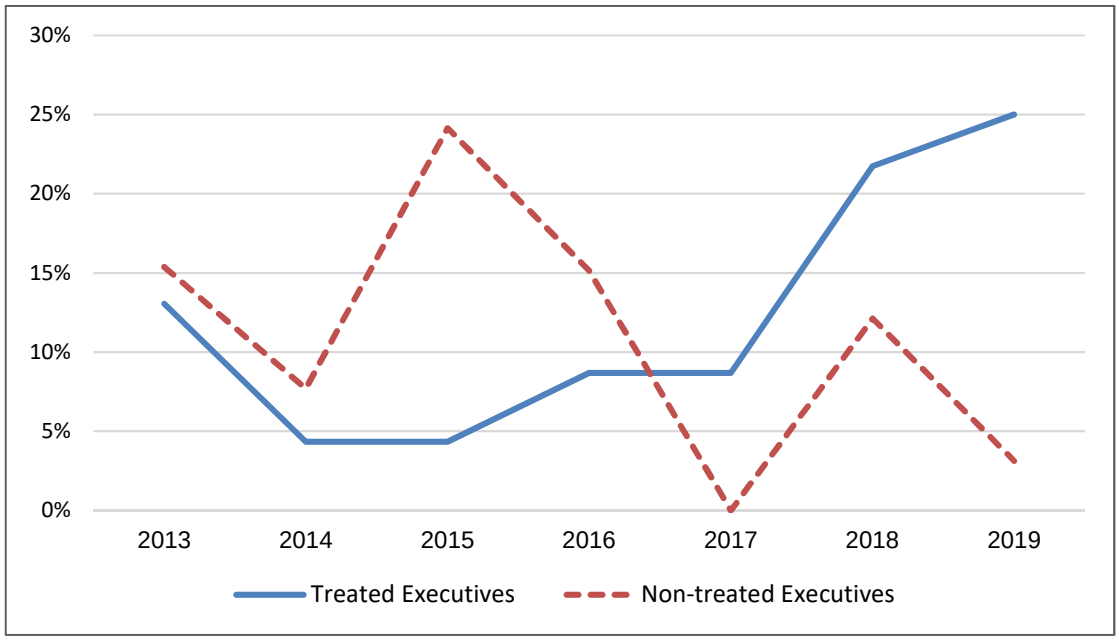

Table 1: Distribution of the financial companies included in the final database

This table reports the distribution of the financial companies (# of companies) in my data by industry, by restricted/non-restricted firms and by firms who paid/did not pay more than NIS 2.5 million in the years before the Act, according to the first criterion mentioned in the text.

	Restricted firms	Of which: have at least 2 above executives	Of which: does not have at least 2 above executives	Non-Restricted firms	Of which: have at least 2 above executives	Of which: does not have at least 2 above executives
Banks	9	6	3	0	0	0
Insurance Companies	9	7	2	0	0	0
Financial Services	4	2	2	9	4	5
Investments and Holdings	2	2	0	0	0	0
Credit Card Issuers	0	0	0	3	2	1
Total	**24**	**17**	**7**	**12**	**6**	**6**

Table 2: Summary statistics

This table reports summary statistics for the main executive variables over 2014-2019 —age, tenure in position, executive's holdings rate in the company, proportion of executives who have a Master's degree or higher, total compensation, and fixed compensation—and for the main firm-level variables, total assets, market value, ROE, ROA, stock return, leverage and executives' turnover rate. The table is divided among executives belonging to the restricted firms (Panel A) and of-which firms which comply with the NIS 2.5 million criterion (hereafter: treated firms, Panel A1), and firms which are not (hereafter: RaB firms, Panel A2), and non-restricted firms (Panel B). Panel C reports average differences between 2014-2016 and 2017-2018 for treated and non-treated firms, as well as the difference-in-differences for the main variables. Each panel distinguish between the period before (2014-2016) and after (2017-2019) the introduction of the Act.

Panel A: Restricted Firms - above NIS 2.5 million criterion (treated firms)								
	2014-2016				2017-2019			
	N	Mean	S.E.	Median	N	Mean	S.E.	Median
Executive characteristics:								
Age	281	55.7	9.9	54.0	253	57.4	10.1	55.0
Tenure in position (in years)	190	6.3	7.7	4.0	198	7.1	7.3	5.0
Executive's equity (%)	342	1.5	7.8	0.0	333	1.2	4.7	0.0
Executives with a Master degree or higher (%)	280	58.6	49.3	100.0	242	64.5	48.0	100.0
Compensation Structure:								
Total Compensation (in 2016 fixed prices, NIS, millions)	342	3.1	1.8	2.9	334	2.6	1.3	2.5
Fixed comp. (%)	342	74.3	23.5	78.7	334	79.7	49.0	82.0
Firm-level information:								
Total assets (NIS, millions)	51	114,818	130,689	89,998	50	129,476	143,763	102,185
Market value (NIS, millions)	51	5,530	7,516	2,627	50	8,147	10,787	3,390
ROE (%)	51	8.7	6.4	7.7	50	10.7	8.9	9.1
ROA (%)	51	2.2	4.4	0.4	50	3.2	5.2	0.6
Stock return (%)	51	8.1	21.9	3.9	50	13.0	23.7	15.2
Leverage (%)	51	89.9	13.2	93.7	50	88.5	14.6	93.0
CEO turnover (%)	46	13.0	33.7	0.0	46	21.7	41.2	0.0

Panel B: Non-Restricted Firms and\or under 2.5 million criterion (Non-treated firms)								
	2014-2016				2017-2019			
	N	Mean	S.D.	Median	N	Mean	S.D.	Median
Executive characteristics:								
Age	183	48.9	9.8	46.0	220	50.9	10.1	49.0
Tenure in position (in years)	157	4.6	5.7	3.0	212	4.5	4.8	3.5
Executive's equity (%)	236	3.5	11.2	0.0	275	3.7	11.5	0.0
Executives with a Master degree or higher (%)	228	55.3	49.8	100.0	244	57.8	49.5	100.0
Compensation Structure:								
Total Compensation (in 2016 fixed prices, ILS, millions)	236	1.3	1.2	1.0	275	1.2	0.9	1.0
Fixed comp. (%)	236	82.1	21.1	86.7	275	84.3	18.0	87.0
Firm-level information:								
Total assets (ILS, millions)	51	11,648	28,761	470	53	12,920	31,182	705
Market value (ILS, millions)	36	439	560	215	38	585	907	263
ROE (%)	54	15.3	11.3	12.3	56	15.1	11.2	11.8
ROA (%)	54	6.7	6.3	3.2	56	6.8	6.4	2.9
Stock return (%)	54	29.2	25.9	32.9	56	28.5	29.1	38.7
Leverage (%)	51	69.0	29.8	81.3	53	65.7	32.8	78.7
CEO turnover (%)	49	14.3	35.0	0.0	49	4.1	19.8	0.0

Panel C: Difference-in-differences			
	Δ Treated	Δ Nontreated	Δ (Δ)
Executive characteristics:			
Age	1.659*	2.032**	-0.374
	(0.867)	(0.999)	(1.323)
Tenure in position (in years)	0.796	-0.114	0.910
	(0.760)	(0.551)	(0.949)
Executive's holdings (%)	-0.306	0.177	-0.483
	(0.495)	(1.010)	(1.045)
Executives with Master degree or higher (%)	5.891	2.524	3.368
	(4.275)	(4.574)	(6.255)
Compensation Structure:			
Total Compensation (in 2016 fixed prices, ILS, millions)	-0.577***	-0.101	-0.476***
	(0.122)	(0.092)	(0.162)
Fixed comp. (%)	5.440*	2.197	3.244
	(2.946)	(1.730)	(3.712)
Firm-level information:			
Total assets (ILS, millions)	14,658	1,272	13,385
	(27,328)	(5,888)	(27,584)
Market value (ILS, millions)	2,618	146	2,472
	(1,847)	(176)	(2,167)
ROE (%)	2.017	-0.254	2.272
	(1.538)	(2.149)	(2.685)
ROA (%)	1.049	0.024	1.025
	(0.962)	(1.210)	(1.560)
Stock return (%)	4.927	-0.647	5.574
	(4.534)	(5.262)	(7.003)
Leverage (%)	-1.449	-3.239	1.791
	(2.767)	(6.149)	(6.810)
CEO turnover (%)	8.696*	-10.204*	18.901**
	(4.977)	(5.826)	(7.374)

Table 3: The effect of the Act on executives' compensation

This table presents results for regressions in a difference-in-difference setting (specifications 1-4) with the natural logarithm of total compensation as the dependent variable. The sample covers executives of the financial firms in Israel between 2013 and 2019. Post 2016 is a dummy variable that equals 1 if the year is later than 2016 (After Act) and variable is a dummy that is equal to 1 if the executive is restricted to the 2016 law. A given executive is classified as "Above executive" if the compensation paid to his/her position was above NIS 2.5 million at least two years over the years 2014–16. Hence, variable is i) equal to zero for non-Above executives, and ii) equal to the natural logarithm of the distance (difference) between average total compensation paid to the executive who served in this position in the years 2014–2016 and NIS 2.5 million. All specifications include firm and executive control variables (natural logarithm of total assets, lagged ROA, firm's business group affiliation, executive tenure in position, squared executive tenure in position, executive's holdings in the company, MA indicator, turnover and appointment percentage) as well as firm and industry fixed effects. Errors are clustered within firm.

Dependent Variable:	Log (Total Compensation)			
	(1)	(2)	(3)	(4)
Post 2016	-0.1920***	0.1126	-0.0354	-0.0293
	(0.055)	(0.132)	(0.058)	(0.058)
Restricted Executive		0.3602*		
		(0.209)		
Post x Restricted Executive		-0.2146*		
		(0.126)		
Above. int			1.5610***	
			(0.123)	
Post x Above. int			-0.8632***	
			(0.117)	
Restricted Executive x Above. int				1.3408***
				(0.141)
Post x Restricted Executive x Above. int				-0.9509***
				(0.117)
Constant	9.4103***	9.5083***	9.5049***	9.5218***
	(1.331)	(1.341)	(1.312)	(1.306)
Observations	743	743	743	743
R-squared	0.655	0.659	0.699	0.694
Firm and executive controls	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 4: The effect of the Act on executive compensation, by industry

This table presents results for regressions in a difference-in-difference setting with the natural logarithm of total compensation as the dependent variable. The sample covers all executives serving in each of the industries, banks (columns 1), insurance companies (columns 2) and financial services (columns 3) in Israel between 2013 and 2019. Post 2016 is a dummy variable that equals 1 if the year is later than 2016 (After Act) and variable is a dummy that is equal to 1 if the executive is restricted to the 2016 law. A given executive is classified as "Above executive" if the compensation paid to his/her position was above NIS 2.5 million at least two years over the years 2014–16. Hence, variable is i) equal to zero for non-treated executives, and ii) equal to the natural logarithm of the distance (difference) between average total compensation paid to the executive who served in this position in the years 2014–2016 and NIS 2.5 million. All specifications include firm and executive control variables (natural logarithm of total assets, lagged ROA, firm's business group affiliation, executive tenure in position, squared executive tenure in position, executive's holdings in the company, executive MA indicator, executive turnover and executive appointment percentage) as well as firm and industry fixed effects. Errors are clustered within firm.

Dependent Variable:	Log (Total Compensation)		
	Banks	Insurance companies	Financial Services
	(1)	(2)	(3)
Post 2016	-0.0221	0.1884**	-0.0711
	(0.062)	(0.088)	(0.100)
Restricted Executive x Above. int	0.8593***	1.5301***	2.4625***
	(0.133)	(0.180)	(0.484)
Post x Restricted Executive x Above. int	-0.8306***	-1.0864***	-0.6984
	(0.108)	(0.177)	(0.687)
Constant	8.4434**	27.9989***	8.7095***
	(4.138)	(5.835)	(1.174)
Observations	333	177	272
R-squared	0.679	0.662	0.597
Firm and executive controls	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5: The effect of the Act on the structure of executive compensation

This table presents results for regressions in a difference-in-difference setting (specifications 1-4) and a triple-difference setting (specification 5) with the ratio of executives' fixed compensation to total compensation as the dependent variable. The sample covers all executives of the financial firms in Israel between 2013 and 2019. Post 2016 is a dummy variable that equals 1 if the year is later than 2016 (After Act) and variable is a dummy that is equal to 1 if the executive is restricted to the 2016 law. A given executive is classified as "Above executive" if the compensation paid to his/her position was above NIS 2.5 million at least two years over the years 2014–16. Hence, variable is i) equal to zero for non-treated executives, and ii) equal to the natural logarithm of the distance (difference) between average total compensation paid to the executive who served in this position in the years 2014–2016 and NIS 2.5 million. All specifications include firm and executive control variables (natural logarithm of total assets, lagged ROA, firm's business group affiliation, executive tenure in position, squared executive tenure in position, executive's holdings in the company, executive MA indicator, executive turnover and executive appointment percentage) as well as firm and industry fixed effects. Errors are clustered within firm.

Dependent Variable:	Fixed comp. to total comp.				
	(1)	(2)	(3)	(4)	(5)
Post 2016	0.0332**	0.0218	-0.0052	0.0040	0.0140
	(0.013)	(0.019)	(0.013)	(0.012)	(0.019)
Restricted Executive		-0.0076			-0.0318
		(0.057)			(0.095)
Post x Restricted Executive		0.0166			-0.0296
		(0.023)			(0.024)
Above. int			-0.0936*		-0.1740
			(0.054)		(0.124)
Post x Above. int			0.2944***		0.2404**
			(0.049)		(0.120)
Restricted Executive x Above. int				-0.0947*	0.0805
				(0.052)	(0.137)
Post x Restricted Executive x Above. int				0.2900***	0.0701
				(0.051)	(0.130)
Constant	1.1655***	1.1286***	1.0905***	1.1285***	1.1941***
	(0.181)	(0.202)	(0.181)	(0.190)	(0.206)
Observations	834	834	834	834	834
R-squared	0.463	0.464	0.499	0.490	0.501
Firm and executive controls	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6: The effect of the Act on the pay disparity among top executives

This table reports results from difference-in-difference regressions for pay disparity among top executives in the firm around the introduction of the Act. The dependent variables are the natural logarithm of mean compensation among the highest paid executives in the company (column 1), the natural logarithm of the difference between the highest paid executive and the lowest one (still among those executives, column 2), the natural logarithm of the standard deviation of the compensation in this group (column 3), and the difference (in millions of shekels) between the CEO's compensation and the average compensation of deputy CEOs (column 4). The sample covers executives of the financial firms in Israel between 2013 and 2019. Post 2016 is a dummy variable that equals 1 if the year is later than 2016 (After Act). My analysis is at the firm level. In these specifications, I use the variable and the firm-level Above intensity, which is the average of Above intensity of the executives in the firm (as defined in table 3). All specifications include firm control variables (natural logarithm of total assets and lagged ROA) as well as firm and industry fixed effects. Standard errors are clustered within firm.

Dependent Variable:	log(average compensation in company)	log(Compensation difference between highest paid and lowest)	log(compensation standard deviation in company)	Compensation difference between CEO and his deputies
	(1)	(2)	(3)	(4)
Post 2016	-0.0788	-0.2552***	-0.2737***	-0.2740
	(0.050)	(0.092)	(0.088)	(0.185)
Restricted Firm x Above. int	7.7142***	15.2163***	13.2228***	15.3095*
	(1.359)	(5.087)	(4.737)	(8.528)
Post x Restricted Firm x Above. int	-0.6513***	-0.9721***	-0.9900***	-4.4388**
	(0.122)	(0.343)	(0.324)	(1.801)
Constant	10.2653***	10.5898***	10.1330***	5.8451
	(1.634)	(1.707)	(1.751)	(4.818)
Observations	227	225	225	126
R-squared	0.883	0.646	0.594	0.547
Firm and executive controls	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7: The effect of the Act on firm performance

This table reports results from difference-in-difference regressions for firm performance of financial firms in Israel around the introduction of the Act. The dependent variables are the Sharpe ratio (columns 1 and 2), annual cumulative abnormal stock return (columns 3 and 4), ROE (natural log of one plus ROE, columns 5 and 6), ROA (natural log of one plus ROE, columns 7 and 8) and Tobin's Q (columns 9 and 10). The sample period is 2013-2019. The results appear in the odd columns describe the effect of the law on restricted firms in comparison to non-restricted firms, while the results that appear in the even columns describe this effect specifically on treated firms in comparison to non-treated firms. Post 2016 is a dummy variable that equals 1 if the year is later than 2016. My analysis is at the firm-level. In these specifications. I use the variable and the firm-level Above intensity, which is the average of Above intensity of the executives in the firm (as defined in table 3). All specifications include firm control variables (natural logarithm of total assets and lagged Leverage of the company) as well as firm and year fixed effects. Standard errors are clustered within firm.

Dependent Variable:	Sharpe ratio (in %)		CAR (in %)		Log (1+ROE)		Log (1+ROA)		Tobin's Q	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Post 2016	-3.541	-0.936	-10.741***	-3.876	-0.018	0.178**	-0.010	0.125	-0.182**	-0.035
	(4.626)	(3.903)	(3.174)	(2.655)	(0.126)	(0.091)	(0.295)	(0.150)	(0.077)	(0.053)
Restricted firm	-21.392**		-15.752***		-1.253***		-0.821**		-0.238***	
	(8.839)		(5.828)		(0.135)		(0.416)		(0.088)	
Post x Restricted firm	6.143		12.017***		0.187		0.085		0.236***	
	(6.605)		(4.235)		(0.163)		(0.326)		(0.088)	
Restricted Firm x Above. int		440.559		-246.450***		5.808***		10.026***		-3.269***
		(287.415)		(26.744)		(0.740)		(2.186)		(0.374)
Post x Restricted Firm x Above. int		15.494		18.805*		-0.433*		-0.575		0.266
		(13.619)		(9.972)		(0.229)		(0.401)		(0.180)
Constant	-41.720	-52.033	-48.734	-44.465	3.896***	3.015*	2.620	2.077	0.021	0.195
	(74.751)	(76.623)	(51.288)	(54.473)	(1.257)	(1.571)	(4.149)	(4.429)	(0.711)	(0.753)
Observations	205	205	205	205	205	205	212	212	205	205
R-squared	0.1560	0.1572	0.3097	0.3033	0.6645	0.6653	0.6938	0.6963	0.7530	0.7490
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses *** <0.01, ** p<0.05, * p<0.1

Table 8: The effect of the Act on executive turnover

This table presents results from a Logit regression on executive turnover around the introduction of the Act. The dependent variable is a dummy that equals one if year t is the executive's last year in office and 0 otherwise. The sample includes top executives—CEOs and board chairpersons—in financial firms in Israel from 2013 to 2019. The estimation compares the probability of turnover between treated and non-treated executives before and after the Act. The "Post 2016" variable refers to the period after April 2016. "Restricted Executive" and "Above int." variables are defined in Table 3. All specifications include firm control variables (natural logarithm of total assets and relative performance, measured by the firm's stock return in excess of the industry value-weighted return) and executive control variables (tenure and executive MA variables), as well as firm dummies.

Dependent Variable:	Probability of Executive Turnover
Post 2016	-1.2979**
	(0.605)
Restricted Executive x Above. int	1.2768
	(2.370)
Post x Restricted Executive x Above. int	3.3012**
	(1.298)
Constant	-1.7448*
	(0.916)
Observations	225
Firm and executive controls	Yes
Firm Dummy	Yes
Pseudo R-squared	0.164

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 9: The effect of the Act on stock performance in companies with unchanged CEOs post-Act

This table presents results from difference-in-difference regressions on firm performance around the introduction of the Act, focusing on companies whose CEOs remained unchanged post-Act. The dependent variables are Tobin's Q (columns 1 and 2), annual cumulative abnormal stock return (columns 3 and 4) and natural log of one plus ROE (columns 5 and 6). The sample includes financial firms in Israel from 2013 to 2019. Odd columns show the effect of the Act on restricted firms versus non-restricted firms, while even columns show the effect on treated firms versus non-treated firms. "Post 2016" is a dummy variable set to 1 for years after 2016. Th analysis is at the firm level, using the variable and the firm-level Above intensity (average of executives' Above intensity as defined in Table 7). All specifications include firm control variables (natural logarithm of total assets and lagged leverage) and industry fixed effects. Specifications 1 and 3 also include firm fixed effects. Standard errors are clustered within firms.

Dependent Variable:	Tobin's Q		CAR (in %)		Log (1+ROE)	
	(1)	(2)	(3)	(4)	(5)	(6)
Post 2016	-0.1608**	-0.0660	-8.3426	-4.7918	-0.0971	0.1668
	(0.065)	(0.068)	(6.169)	(3.581)	(0.176)	(0.142)
Restricted firm	-0.0822		-1.9505		-1.3359***	
	(0.199)		(12.043)		(0.421)	
Post x Restricted firm	0.1988*		9.9539		0.3706	
	(0.105)		(7.815)		(0.229)	
Restricted Firm x Above. int		-0.4557		-34.0879*		0.7909
		(0.353)		(19.665)		(0.631)
Post x Restricted Firm x Above. int		0.5240		44.0769**		0.1352
		(0.385)		(21.225)		(0.762)
Constant	1.3088***	1.0070**	3.9035	-16.9307	1.7065**	2.6817***
	(0.427)	(0.462)	(27.194)	(34.727)	(0.709)	(0.919)
Observations	111	111	111	111	107	107
R-squared	0.058	0.041	0.072	0.053	0.426	0.138
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	No	No	No	No	No	No

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 10: The effect of the Act on risk taking

This table reports results from difference-in-difference regressions for risk taking around the introduction of the Act. The dependent variables are Stock return volatility in percent (columns 1 and 2), Leverage (columns 3 and 4), and EDF (columns 5 and 6). The sample covers the financial firms in Israel between 2013 and 2018. The results appear in the odd columns describe the effect of the law on restricted firms in comparison to non-restricted firms, while the results that appear in the even columns describe this effect specifically on treated firms in comparison to non-treated firms. Post 2016 is a dummy variable that equals 1 if the year is later than 2016 (After Act). My analysis is at the firm level. In these specifications. I use the variable and the firm-level Above intensity, which is the average of Above intensity of the executives in the firm (as defined in table 7). All specifications include firm control variables (natural logarithm of total assets) as well as industry and firm fixed effects. Standard errors are clustered within firm.

Dependent Variable:	Stock return volatility (in %)		Leverage		EDF	
	(1)	(2)	(3)	(4)	(5)	(6)
Post 2016	-0.1365	-0.0185	-8.5629	-4.5177*	1.6891	0.7222
	(0.276)	(0.172)	(6.390)	(2.593)	(2.074)	(0.653)
Restricted firm	0.6953		-6.8420		1.4241	
	(0.577)		(5.564)		(1.303)	
Post x Restricted firm	0.2224		6.1445		-1.8256	
	(0.242)		(6.248)		(2.060)	
Restricted Firm x Above. int		40.6259*		36.9106*		1.6831
		(24.312)		(21.139)		(1.468)
Post x Restricted Firm x Above. int		0.3547		4.4811		-1.7519
		(0.291)		(5.273)		(1.380)
Constant	12.1384**	13.1967**	-162.7643***	-158.9266***	4.4106	6.4774
	(5.982)	(6.516)	(39.276)	(42.690)	(5.907)	(5.828)
Observations	207	207	223	223	169	169
R-squared	0.636	0.635	0.939	0.937	0.513	0.502
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 11: Robustness - changes in the sample years or in the various estimates criteria

I re-estimate the main estimations by changing: 1) the sample years to 2015-2018 (instead of 2013-2019), 2) the "threshold" level to NIS 2.8 million in place of NIS 2.5 million, and 3) the "Above" criterion on a position level - I classified each position according to whether there is at least one (instead of two) years over the years 2014-2016 in which the compensation paid to the executive who serves in this position was above NIS 2.5 million. The results exhibited in the table present the "Post x Restricted Executive x Above int." variable coefficient (as defined in table 3), where the numbers of columns match to the number of change I described above, and the rows present each of the dependent variables I used in the previous tables.

	Sample years changed to 2015-2018	"Threshold" level changed to 2.8 million ILS	"Above" criterion changed to 1 year
Log (Total Compensation) - all executives, position level	-0.876***	-1.051***	-0.853***
	(0.147)	(0.130)	(0.111)
fixed comp. to var	0.225***	0.345***	0.261***
	(0.073)	(0.061)	(0.047)
log(average compensation in company)	-0.664***	-0.759***	-0.652***
	(0.156)	(0.144)	(0.128)
log(Compensation difference)	-0.815**	-0.915**	-0.989***
	(0.411)	(0.379)	(0.351)
log(compensation standard deviation in company)	-0.875**	-0.986***	-1.018***
	(0.376)	(0.358)	(0.332)
log(Compensation difference between CEO and his deputies)	-3.884***	-5.938**	-1.650***
	(1.295)	(2.444)	(0.380)
Probability of CEOs and chairman turnover	3.342*	3.287**	3.269**
	(1.875)	(1.362)	(1.285)
CAR (in %)	30.468*	20.794*	18.805*
	(17.922)	(12.725)	(9.972)
Log (1+ROE)	-0.216	-0.549**	-0.433*
	(0.245)	(0.272)	(0.229)

Table 12: Robustness - binary treatment indicator to estimate the effect of the Act on firm performance

This table presents the same results as Table 7, but uses a dummy variable instead of the "above" intensity variable to categorize firms based on whether their executives were compensated above or below the threshold before the Act.

Dependent Variable:	Sharpe ratio (in %)		CAR (in %)		Log (1+ROE)		Log (1+ROA)		Tobin's Q	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Post 2016	-3.541	-0.995	-10.741***	-5.586*	-0.018	0.042	-0.010	-0.026	-0.182**	-0.089
	(4.626)	(4.259)	(3.174)	(3.171)	(0.126)	(0.087)	(0.295)	(0.177)	(0.077)	(0.073)
Restricted firm	-21.392**		-15.752***		-1.253***		-0.821**		-0.238***	
	(8.839)		(5.828)		(0.135)		(0.416)		(0.088)	
Post x Restricted firm	6.143		12.017***		0.187		0.085		0.236***	
	(6.605)		(4.235)		(0.163)		(0.326)		(0.088)	
Restricted firm x Above		-19.577**		-38.322***		1.282***		1.141***		-0.538***
		(8.456)		(5.482)		(0.130)		(0.338)		(0.086)
Post x Restricted Firm x Above		3.345		6.898		0.145		0.140		0.150*
		(6.788)		(4.716)		(0.155)		(0.250)		(0.088)
Constant	-41.720	-36.189	-48.734	-16.254	3.896***	1.411	2.620	0.547	0.021	0.486
	(74.751)	(71.204)	(51.288)	(51.241)	(1.257)	(1.351)	(4.149)	(4.205)	(0.711)	(0.717)
Observations	205	205	217	217	205	205	217	217	217	217
R-squared	0.156	0.154	0.396	0.302	0.665	0.694	0.948	0.695	0.267	0.260
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1