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Are shareholders stupid?

On the surprising impact of binding say-on-pay on stock prices *

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Abstract

We study the shareholder value implications of a shift in the corporate balance of power towards shareholders. We find that in response to an unanticipated event that made it likely that an annual *binding* shareholder vote on management pay would become compulsory for Swiss public companies, the shareholders of a large majority of companies reacted strongly negatively. We investigate two reasons for this surprising reaction of the apparent beneficiaries. First, while binding say-on-pay can offer alignment benefits, it can interfere with efficiently managed companies. Consistent with this idea, for example, firms that have performed well and those that pay their CEOs at market levels experienced particularly sharp share price drops. Second, CEOs may anticipate that any extra-contractual human capital investments they make in the firm are unlikely to be rewarded in full when shareholders vote on compensation in the next annual meeting. As a result, shareholders may worry that CEOs distort their specific investments and hence decrease firm value today. Consistent with this idea, for example, firms with younger CEO and firms which incentivize their CEOs only with cash bonuses saw steeper valuation declines.

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1 Introduction

In this paper, we assess the stock market reaction to a law proposal that would shift power towards shareholders by subjecting executive and board compensation to a binding shareholder vote. The striking overall finding is that shareholders in many firms react quite negatively to this enhanced power of binding say-on-pay. Nonetheless, comparing the reactions of firms, we conclude that the answer to the title question is “no.” In particular, the reaction of shareholders can be understood as reflecting the benefits and costs of binding say-on-pay in their respective companies. First, the results suggest that the direct costs to firms of binding say-on-pay are high and outweigh the potential benefits for all but the most inefficiently managed firms. Second, we find evidence consistent with the hypothesis that where shareholders have a negative view on binding say-on-pay, this occurs not despite, but *because* of the additional power it affords them. Specifically, firms where securing firm-specific, extra-contractual investments by CEOs is arguably more difficult suffer more strongly from enhanced shareholder power. In our view, this latter result is of significant interest also beyond the immediate context of say-on-pay; we believe that this paper offers one of the first empirical tests, in a cross-section of firms, of the hitherto mostly theoretical idea that shareholders sometimes can benefit from limits on their own power.

Several recent proposals in the U.S. and elsewhere consider enhancing the power of shareholders. Among these, the question how (and if at all) to design say-on-pay regulation is a particularly topical policy question. In the U.S., a first proposal by Representative Barney Frank to provide shareholders with an advisory vote on executive compensation passed the House in 2007. While it was never picked up by the Senate, a similar proposal later became part of the ‘Dodd-Frank Wall Street Reform and Consumer Protection Act’ of 2010. As a result thereof, the SEC adopted

a rule in January 2011 that requires a shareholders' advisory vote on executive compensation at least once every three years and forces firms to disclose and hold an advisory vote on "golden parachutes" in connection with mergers or going-private transactions. However, proposals for binding say-on-pay rules have also been brought forward, and proposals to further strengthen shareholder power are likely to keep appearing.¹ In Europe, the European Commission has been issuing recommendations in connection with directors' remuneration ever since 2004 (see [European Commission \(2010\)](#) for a review), and in 2011 it released an updated Green Paper on Corporate Governance, in which it specifically raised the question if the remuneration policy and report should be subject to a mandatory shareholders' vote, whether advisory or binding.² A large number of countries is considering or has already implemented a (partially) binding say-on-pay rule.³

The popular attitude towards shareholder power tends to be "more is better." Researchers and practitioners alike emphasize instead that it is not obvious whether shareholders should welcome say-on-pay and enhanced governance rights or rather abhor them.

Most discussions focus on whether alignment benefits or interference costs dominate:⁴ On the one hand, say-on-pay may better align owner-manager interests and improve governance and performance. Allowing shareholders to have a say in executive pay may help to reduce the agency costs between executives, directors and shareholders, resulting in more efficient compensation contracts and thus add value to the firm. To avoid the embarrassment of a low approval vote on

¹For example, the Excessive Pay Shareholder Approval Act (May 2009) would have required a shareholder approval rate of 60% if an individual executive received more than 100 times the average salary within a firm.

²[European Commission \(2011\)](#), Section 1.4 with questions (9) and (10).

³For example, Belgium, the Czech Republic, Denmark, Finland, France, Hungary, Latvia, the Netherlands, Norway, Portugal, and Sweden have introduced laws that require say-on-pay votes with partially binding elements.

⁴See, e.g., [Bainbridge \(2008\)](#), [Bebchuk and Fried \(2004\)](#), [Cai and Walkling \(2011\)](#), [Davis \(2007\)](#), [Deane \(2007\)](#), [Ertimur, Ferri, and Stubben \(2010\)](#), [Ertimur, Ferri, and Muslu \(2011\)](#), [Greenstone, Oyer, and Vissing-Jorgensen \(2006\)](#), [Grundfest \(1993\)](#), [Larcker, Ormazabal, and Taylor \(2011\)](#), [Lo \(2003\)](#), and [Thomas and Cotter \(2007\)](#).

executive compensation, management may be more willing to start dialogues with shareholders and listen to their concerns. Another advantage practitioners sometimes highlight is that having to explain a compensation system to shareholders and win their (advisory) approval forces the board and executives to really think through the system.

On the other hand, say-on-pay may also be costly to implement, and it may be disruptive and interfere with efficient firm management. Opponents to say-on-pay argue that the current governance of most companies is efficient and there is no need for the government to regulate the process of determining executive compensation. They further reason that the bill will distract the management's decision process and reduce the authority of the board. Moreover, critics worry that the shareholder's initiatives will be divisive or driven by special interests of extremely small shareholder groups.

Besides these two often-discussed ideas, there is an additional indirect cost that has received little attention in the literature on say-on-pay so far, but that has long been proposed in the theoretical literature on optimal shareholder rights and managerial discretion (see in particular [Burkart, Gromb, and Panunzi \(1997\)](#), [Stout \(2003\)](#) and [Stout \(2007\)](#)). Shareholders may do well to restrict their own power because other stakeholders who make specific investments in the firm fear that too powerful shareholders might "hold them up." Shareholders recognize that even their own "piece of the pie" will be smaller when such specific investments are not made. In the present case, shareholders receive a boost of their power in the annual meeting. If CEOs anticipate that they will not receive the full returns on their firm-specific investments, their incentives to engage in such investments are strongly diminished. Anticipating the fall in firm value, shareholders bid down the stock price.

Our analysis presents two contributions relative to existing work. First, to our knowledge,

this is the first empirical study on the effect of a *binding* say-on-pay rule on shareholder value, whereas two existing studies (Cai and Walkling, 2011; Larcker, Ormazabal, and Taylor, 2011) have considered the alignment versus interference argument in the context of *advisory* say-on-pay.⁵ Second, and related, the stark increase in shareholder power implied by binding say-on-pay allows us to consider a testable implication of the hypothesis that the importance of extra-contractual investments puts limits on what optimal shareholder power should be. Specifically, besides considering the alignment benefits and interference costs of say-on-pay, we investigate whether firms where specific investments by CEOs are more difficult to secure will suffer more from enhanced shareholder power.

We use what we believe to be a clean natural experiment that recently occurred in Switzerland. On February 26, 2008, entrepreneur Thomas Minder publicly announced that more than 100'000 signatures in favor of his "Fat Cat Initiative" ("*Abzocker-Initiative*") had been collected. This meant that the proposed bill was set for a popular vote with potential effects on the Swiss constitution. While the text of the initiative contains several provisions enhancing shareholder rights, the central element is binding say-on-pay for shareholders of all publicly traded firms. The announcement that enough public support in favor of the initiative was gathered to enforce a national vote came suddenly and was hardly predictable. This setting is exceptional, especially compared to the traditional parliamentary vote setting where the date of the vote as well as the distribution of power in favor or against the issue is usually known in advance. Moreover, the Swiss stock market

⁵Cai and Walkling (2011) were the first to recognize the potential of empirically investigating the value of say-on-pay to shareholders with the event study methodology. They found generally neutral to slightly positive stock market effects to the 2007 passage of the U.S. House Act that required advisory say-on-pay, with positive outcomes in firms that paid their CEOs the largest excess compensation. Larcker, Ormazabal, and Taylor (2011) find similar results for this event. They also document, however, small negative market reactions to some other developments that suggest higher probabilities of regulation of corporate governance and executive pay, with more negative reactions in firms with highly paid CEOs.

is highly liquid and open to domestic and foreign investors alike, allowing for information to be reflected in market prices efficiently.⁶

We begin by documenting that there is wide variation in the stock price reactions and that the large majority of firms reacted negatively. The largest one hundred stocks displayed an equal-weighted average cumulative abnormal return during the three day event window of -1.88% when using the Swiss Performance Index (SPI) as the market measure and -1.49% when using the Dow Jones Global Total Stock Market Index.

We then study the notion that binding say-on-pay may improve alignment, but may bring about direct and indirect costs and that the cross-sectional variation in share price reactions can be explained by the variation in benefits and costs. (For our main analysis, we focus on the largest one hundred stocks, because these are most likely experiencing particularly vigilant investor attention so that any abnormal returns are likely attributable to the event. However, our results generally also hold in the full SPI sample.)

We first consider the idea that the direct implementation costs as well as costs due to interference are likely to vary across firms. The largest organizations are better prepared and face lower relative costs in coping with potential new laws on shareholder say-on-pay. Consistent with this idea, we find that the largest companies were economically far less affected than smaller firms. Also, companies with significant foreign assets experienced less abnormal reduction in market value, consistent with the notion that they are able to move operations to less stringent regulatory environments. We do not find significant evidence regarding the role of ownership structure, though there is a tendency for firms with highly concentrated ownership and those with highly

⁶The market capitalization of Switzerland (SIX Swiss Exchange) at the end of February 2008 was US\$ 1'264 billion, which was 2.21% of the world-wide market capitalization. Averaging over the past ten years, SIX Swiss Exchange ranks 10th highest in terms of market capitalization worldwide (World Federation of Exchanges 2010).

dispersed ownership to have seen less dramatic valuation decreases.

Second, we provide various pieces of evidence that binding say-on-pay brings about alignment benefits (but that these rarely outweigh the costs). Firms which outperformed size- or risk-based benchmarks in the past experienced particularly substantial abnormal stock price drops, while poor performers reacted relatively more positively. However, even many poor performers had negative abnormal returns. This suggests that there is a direct cost of interference that strongly disturbs otherwise efficiently run companies and also diminishes the benefits for the less efficiently run firms. Similarly, firms with high leverage (where shareholders benefit from being able to induce managers to take more asset risk to shift risk to debtholders) reacted relatively more positively than those with low leverage, but still largely negatively overall. Also, the stock prices of firms that paid their CEOs amounts close to the estimated normal salary tended to drop the most during the event, whereas firms where abnormal executive pay was either highly positive or negative only moved slightly. This finding is consistent with the idea that in firms where pay is set according to competitive market requirements anyways, binding shareholder engagement in the pay-setting process may be too costly relative to its benefits.

Third, as a novelty in the empirical literature on shareholder rights legislation, we consider various tests of the idea that enhancing shareholder power may worsen hold-up problems and distort firm-specific investment incentives of CEOs in firms where CEOs have opportunities and incentives to invest in general human capital and thus improve their outside options. While there is no obvious direct measure of the intensity of the hold-up problem, we argue that shareholders of firms which use only cash bonuses – which, unlike equity-based compensation programs would be subject to an ex-post shareholder vote in case the board wishes to reward extraordinary performance in the previous year – may worry about a distortion of the ex-ante incentives for executives.

Moreover, shareholders of firms with younger CEOs and those with CEOs of a shorter tenure at the respective firm are likely to worry the most that CEOs will have less incentives to make firm-specific investments once shareholders have the power to decide whether they are paying the CEOs the full returns to their human capital investment in the future. Indeed, we find that stock price declines were much more pronounced in these three groups of firms.

While our study is specific to Switzerland, the results (whose implications we further discuss in the conclusion) may also inform current policy debates in other countries.⁷

Section 2 describes the legislative setting and the say-on-pay proposal that we study. In Section 3 we discuss our empirical strategy and data. Section 4 presents the findings. Section 5 concludes.

2 Legislative setting and the binding say-on-pay initiative

To provide a better understanding of the setting in which the event study is conducted, we first describe the political environment that surrounds it. Second, we describe the major points of the binding say-on-pay initiative.

2.1 Legislation process

The Swiss political system knows, roughly speaking, two ways of enacting new laws (see Klöti, Knoepfel, Kriesi, Linder, Papadopoulos, and Sciarini (2007) for a more detailed summary of the Swiss system). The common way is through a consensus decision between parliament and senate. In case the proposal does not interfere with the Swiss constitution, these decisions turn into law. The second way is through the public itself, by means of an initiative which can be started by

⁷To our knowledge, this is the first study to analyze the market perception towards say-on-pay legislation outside the U.S. Studies such as Ferri and Maber (2009) and Conyon and Sadler (2009) instead look at the impact of legislation on executive pay (see also Deane (2007)) and how legislation changed shareholder activism.

every Swiss citizen. If an initiative receives the backing of at least 100'000 Swiss citizens (about 2% of the electorate of around 5'000'000) within 18 months, it must be put on the agenda for a national vote. In case the public vote supports the initiative, it will turn into an amendment to the Swiss constitution. This makes initiatives an important instrument for the public to set policies in case parliament does not address an issue of public interest.⁸

We consider the so-called “*Abzocker-Initiative*” (“Fat Cat Initiative”). On February 26, 2008, the announcement was made that the threshold of 100'000 signatures in favor of the initiative had been collected. Unlike many initiatives that are rather a general call for action to parliament and senate than original proposals to turn into law, the present initiative had a clear program that it aimed at turning into legislation. It offered a specific text to be adopted as law, discussed in the next section. Due to the unfavorable public mood concerning management compensation and the strong backing it received from important political parties, the initiative furthermore stood, at the time of its public announcement, a strong chance of successfully passing a national vote quickly. This is illustrated by a representative national public poll conducted in November/December 2007, shortly before the announcement of the initiative’s success became public. In this poll, 85% of the people questioned were in favor of a stringent say-on-pay law for Switzerland (Vimentis, 2007). We consider these circumstances as serious enough to catch the attention of the stock market participants. Nonetheless, the fact that the initiative only represents a step towards a possible law implies that by studying stock market reactions to the initiative we likely underestimate the true economic impact it would have upon enactment. (Indeed, political discussions have delayed a vote on the initiative, but this does not take away from the fact that ex-ante the probability of the initiative passing into law quickly was considerable.)

⁸Indeed, Switzerland is well-known for the lively tradition of direct democracy. See, for example, Frey (1994).

2.2 Say-on-pay initiative

The full text of the initiative is in Appendix A. The initiative affects all public Swiss limited liability companies, independent of their size. Most of the claims are directly related to management and board compensation, demanding a *binding* annual vote on total compensation for the board of directors (BOD), the executive board (EB) as well as the advisory council. The shareholders vote ex-ante for the the different compensations packages of each body and furthermore have the right to vote ex-post on all compensation that is paid in excess of what has been approved at the previous general assembly. For example, shareholders may approve an equity plan (where the amount approved is determined according to some valuation model) and a bonus pool for management for the coming year. To the extent that the board of directors wishes to hand out bonuses covered by this bonus pool, no additional vote is necessary ex-post. However, if the board of directors wishes to grant higher bonuses, the difference needs to be approved ex-post. In either case, contracts with new management would be conditional on their pay packages being approved at the next general assembly, with obviously high uncertainty for management and the board. (One interpretation of the initiative is that if the incoming management's compensation package is similar to the leaving manager's package, the previously approved package may be used for the incoming management as well.) In case shareholders vote against a proposal, management has to schedule a new assembly to vote on a revised proposal.

The compensation committee is also required to be elected anew on an annual basis with an individual vote for each member. Furthermore, all monetary benefits (loans, pension benefits, etc.), as well as the relative composition of the variable, performance-related pay (e.g., the proportions of pay conveyed in shares, options, and cash, as well as the maturities and vesting periods for

options, etc.) to the BOD and the EB need to be included in the firm's articles of association. Once in the articles of association, these rules stay in place until the general assembly decides to change them. The initiative also prohibits any kind of termination pay or advance payments to the BOD or EB. Other requirements concern the election of the BOD, the transparent voting of a firm's pension fund, and the individual liability of BOD and EB members. The initiative not only demands binding annual votes, but also closes all known loopholes to evade these votes. For example, it prohibits companies to delegate a firm's management to a foreign company.

In short, the initiative implies a significantly more intense effort to strengthen shareholders power within the firm than advisory say-on-pay laws in some other countries.

3 Empirical strategy and data

3.1 Event study

The event study methodology applied in this research follows standard practices as described, for example, in [Kothari and Warner \(2007\)](#) or [MacKinlay \(1997\)](#) and further incorporates a recently improved test statistic ([Kolari and Pynnönen, 2010](#)). Based on the event described in the previous section, we defined an event window that spans ± 1 day around the event-day to capture early information leakages as well as lagged reactions to the news. The initiative committee went public without leaking information previously to obtain the highest possible impact. Extending the event window would, therefore, only dilute the results. For the length of the estimation-window, we chose the well-established duration of 250 trading days ending two days before the event.

To calculate abnormal returns (AR), we applied the commonly used market model that relates

market returns to individual stock returns:⁹

$$R_{i,t} = \alpha_i + \beta_i(R_{m,t}) + \epsilon_{i,t},$$

with $R_{i,t}$ being the risk-free rate adjusted return of company i on day t ($r_{i,t} - r_{f,t}$). In the main analysis, $R_{m,t}$ is the daily risk-free adjusted return of the SPI at date t and β_i is the sensitivity measure of stock i to movements of the SPI. $\epsilon_{i,t}$ is a zero-mean disturbance term and α_i a stock specific constant. The difference between the effectively observed return ($R_{i,t}$) and the estimated normal return ($\widehat{R}_{i,t}$) is the *abnormal return*. Alternatively, we use the Dow Jones Global Total Stock Market Index as the market return, but all our results hold virtually unchanged (both qualitatively and quantitatively) with this broader approach.

We use two different methods for studying the cross-sectional variation in stock price reactions:

(1) We compare mean CARs within portfolios formed based on relevant characteristics of interest, and (2) we run regressions with CARs as the dependent variable. The former approach has the benefit that we can make use of the maximum number of observations for each variable, while the latter has the advantage that we can hold certain important control variables constant.

In the case of means comparisons across portfolios, for the main presentation, we use the resulting CAR-variance to draw inference.¹⁰ We also employ an adjustment to the [Boehmer](#),

⁹In short-run event studies, the gains from employing multifactor models for event studies are limited. See, for example, the discussion in [MacKinlay \(1997\)](#), p. 18.

¹⁰When testing the impact of legislative events on a cross-section of companies, event-time clustering (a common event window for companies) can potentially complicate inference because it implies a violation of the assumption of independence of abnormal returns in the cross-section of analyzed firms ([Bernard, 1987](#)). However, even for our basic testing procedure, this problem is typically much attenuated in studies like ours that use very short event windows in connection with daily return data (see, for example, [Kothari and Warner \(2007\)](#)).

Musumeci, and Poulsen (1991) test statistic, suggested by Kolari and Pynnönen (2010).¹¹ By taking into account the average sample cross-correlation of abnormal returns in the test-specific variance, they show that their adjusted test statistic not only stays robust in case of an event-induced variance increase, but also to event-time clustering.¹² (For details, see Appendix B.)

Finally, we further follow proposals by Kolari and Pynnönen (2010) and Campbell, Cowan, and Salotti (2010) and complement the parametric tests mentioned above with a non-parametric test, in our case the generalized sign test (Corrado and Zivney, 1992). The generalized version of the sign test was calibrated according to the binomial distribution of positive and negative abnormal returns, either of single stocks or in case of portfolios of all stocks within, during the estimation window. Campbell, Cowan, and Salotti (2010) show that this test generally performs better compared to parametric tests as it does not rely on assumptions regarding correlations (and is, as such, free from the clustering issue), yet has a drawback in case the event induced variance change is large. Since the variance increase in our sample is only 30% instead of the doubling assumed in their test environment, we believe that the generalized sign test is a reliable complement to the parametric tests.

¹¹Both test statistics account for event-time clustering by using scaled cumulative abnormal returns (SCARs), as suggested by Patell (1976). Scaled abnormal returns reduce noise by weighting abnormal returns by the inverse of their standard deviation and hence make it more likely to detect the true statistical significance of the data. The test proposed by Boehmer, Musumeci, and Poulsen (1991) not only takes into account event induced variance changes, but also has better properties vis-a-vis the standard test to deal with event time clustering.

¹²As with all test-statistics based on SCARs, the authors point out that it is important to only consider SCARs to detect statistical significance of abnormal returns, but to rely on standard CARs for the interpretation of economic effects. Hence, when comparing the difference in reaction between various portfolios, we rely on the measures of basic CARs.

3.2 Event

In every event study, the crucial point is to carefully examine and define the date at which the significant event took place. In case of a legislative change (as considered here), it is especially important to determine which milestone is likely to have the largest impact, either because it was the least expected and/or the most important one. We conducted a national keyword-search in the vast news-database of LexisNexis for the time period of July 2006 to March 2010, the timeline during which the initiative has been developing.

The main results of this search are collected in Table 1, and we discuss them briefly here. The initiative was initially mentioned in the first week of August 2006, officially verified in mid-October 2006, and the collection of signatures started on the last day of October 2006. As these first three steps all carried a lot of uncertainty about the outcome and implication of the initiative, it seems very unlikely that they had a significant impact on the stock market.

TABLE I ABOUT HERE

The main event we focus on in this paper, taking place on February 26, 2008, was the announcement that the threshold of 100'000 signatures in favor of the initiative had been collected. The news were released shortly before mid-day and communicated widely through various channels, i.e., radio, television, news networks such as Bloomberg as well as through the internet. The coverage was further extended on the following day by the print media.¹³ The timing of this event was hardly predictable for market participants since there was no publicly available signatures count. According to different sources of the Swiss press, the announcement was chosen to be re-

¹³We screened LexisNexis as well as some additional important newspapers (e.g., Neue Zürcher Zeitung) and data sources (e.g., Bloomberg) for news on this announcement.

leased right before the reporting season of the largest Swiss corporations started. By doing so, Mr. Minder aimed at increasing the pressure on companies to voluntarily introduce advisory votes. This is another indication that the news release was new to the market, as this strategy would not have had the anticipated impact otherwise.

To determine the extent to which the likely driving force of the observed stock market reaction was, in fact, the respective news announcement, we screened the data during the event window for possible confounding events, considering the same media as in the main event search. One noteworthy event occurred on February 24, 2008, when a corporate tax reform (the “*Unternehmenssteuerreform II*”) was accepted in a referendum by the Swiss electorate. We argue in the robustness section below that this event, if at all, is likely to lead to a positive bias in the estimated abnormal returns. An additional search for other national and international news during the time frame of the event yielded no further relevant confounding event. Particular events that potentially impact single firms specifically (e.g., earnings announcements), were controlled for separately and are discussed in Section 4.3. Overall, we expect that any abnormal return during this period can be attributed to the initiative.

For the estimation-window, we also searched for news in connection to the initiative that may potentially lead to a biased event window return estimator. For our event, we could not identify significant news content that was directly connected to the legislation, though we comment on one possible confounding event in the robustness section.

3.3 Data

Our sample in principle consists of all the companies that were listed in the Swiss Performance Index (SPI), the overall Swiss market index, during the respective event window and that had a

long enough price history to cover the estimation-window. For the main analysis, we focus on the one hundred largest companies. Information is more quickly reflected in stock prices for large firms (Hong, Lim, and Stein, 2000; Hou and Moskowitz, 2005; Peng, 2005). However, our results largely also hold in the full sample of 225 stocks, and some additional results we find in the expanded sample are reported in the robustness section.

To calculate firm-level stock returns, we used data of the official daily closing prices of the SPI constituent companies as available on the Thomson Reuters Datastream database. We screened the data following the recommendations of Ince and Porter (2006).

The free-float adjusted market value (*Market Capitalization* in what follows), the total market value of the SPI companies,¹⁴ other price data for the Swiss Performance Index (which we used to calculate the market return), trading volume, the SPI size-segment indices (each SPI stock is assigned to either the small-size, medium-size, or large-size stock index), and the long-term Swiss government bond rate (a proxy for the risk-free interest rate) were also collected from Thomson Reuters Datastream. *Abnormal Trading Volume* is the difference between trading volume in the event window and the median trading volume of the respective firm in the previous year, taken as a percentage of the the median trading volume of the respective firm in the previous year.

Return data for the SPI size-segment subsidiaries was used to obtain each stock's size-index adjusted one-year performance (*Relative Performance*). Furthermore, we used monthly stock returns to calculate a risk adjusted performance measure, *CAPM Alpha*. CAPM Alpha is the residual from a one-year predicted return, based on a two year, quarterly rolling CAPM model return estimate, and the observed annual stock return.

Data on the firm's *Leverage*, measured as total debt to total assets, a CEO's *Tenure* at the

¹⁴In four cases where free-float adjusted market value was not available, we used total market value instead.

current firm, and the *CEO Age* were obtained from Bloomberg.

As a consequence of the Transparency Act which came into force in 2007, detailed compensation data is now available for Switzerland. Compensation data for 2007 is from [PricewaterhouseCoopers \(2008\)](#) for the largest 48 companies and expanded by hand-collection.¹⁵ Companies also document the *Cash Incentives*, which is the portion of variable compensation conveyed in cash (and not in equity).

In the spirit of [Bebchuk, Cremers, and Peyer \(2011\)](#), we calculated abnormal compensation as difference between total compensation paid and remuneration granted by the average comparable firm (*Abnormal CEO Compensation* and *Abnormal Board Compensation*). The parameters for the prediction of normal compensation were estimated separately for CEOs and board members to account for their different status inside the firm with respect to remuneration. For CEOs, the prediction of the normal wage was mainly based on the log of market capitalization, $\ln(MCap)$, and on the one year, size-index adjusted firm performance, with a further control for executive turnover, *Months*, the number of months an executive worked in the firm during 2007, as well as *Dual*, a dummy variable in case the CEO holds the position as chairman of the board at the same time:¹⁶

$$\ln(\text{Comp})_i = \beta_0 + \beta_1 \ln(\text{MCap})_i + \beta_2 \text{Relative Performance}_i + \beta_3 \text{Months}_i + \beta_4 \text{Dual}_i + \epsilon_i \quad (1)$$

¹⁵Most companies provide company reports in the period January - March of the following year. As such, at the end of February 2008, strictly speaking, information on compensation in all companies in 2007 may not yet have been publicly available. Reliable compensation data for 2006 is not available for Switzerland, however, as firms were not required to disclose compensation data before 2007.

¹⁶The analysis was also conducted with further controls, such as industry fixed effects or leverage of the firm. Including these and other further variables did not improve the precision of the estimates which is why we chose to include only the variables with the most explanatory power.

In case of board members, we further control for the number of members on the board, *Board Size*.¹⁷ Thus, we used the following regression to compute normal board pay:

$$\ln(\text{Comp})_i = \beta_0 + \beta_1 \ln(\text{MCap})_i + \beta_2 \text{Relative Performance}_i + \beta_3 \text{Months}_i + \beta_4 \text{Board Size}_i + \epsilon_i \quad (2)$$

Based on the coefficient estimates from Equations (1) and (2), we predicted total normal compensation for each executive and board member individually. Abnormal compensation was then defined as the gap between predicted normal and effectively paid compensation. To construct the portfolios used in the event study, individual abnormal compensation was aggregated by firm.

We also hand-collected, from firms' annual reports, the fraction of *Management Shareholdings* in the firm, a firm's *Foreign Assets*, whether a firm has a *Staggered Board*, and which election procedure of board members a company employs (*Single Election* votes vs. in-corpore). The variable *Largest Shareholder* captures the percentage of equity owned by the largest shareholder. A dummy variable *Company Event* is equal to one in case a firm communicated their 2007 figures to the media within five days around the time of the event window.

The summary statistics for the most important variables are collected in Table 2. Correlations are in Table 3. Due to the sometimes limited availability of certain data, the working sample is smaller for some parts of the analysis. We note that the correlations of the variables of interest in the sample are overall fairly low. The only correlation higher than 0.5 (other than between the two performance measures) is between market capitalization and foreign assets.

¹⁷In the main analysis we left aside chairmen of boards. Data on chairman compensation are noisy as the chairman role is not defined as clearly as the one of board members or the CEO. It is, in particular, not clear if the compensation provided in the report only covers the job as chairman or if further tasks within the firm are compensated through this amount, too. For 12 chairmen we have no reported salary and an additional 9 chairmen hold a dual function as CEO. Including chairman data did not materially affect the results.

TABLE 2 ABOUT HERE

TABLE 3 ABOUT HERE

4 Results

4.1 Overall results

In the three-day window bracketing the announcement day, the equal-weighted portfolio of all stocks in the Swiss Performance Index showed an average abnormal return of -1.49%; see the top of Table 4. The largest 100 stocks, on which our cross-sectional analysis focuses, had an average abnormal return of -1.88%. The development of the average cumulative abnormal return around the event date is depicted in Figure 1. As can be seen in the Figure, on each of the three relevant days (the day before the event, the event day, and the day after the event), considerable negative abnormal returns were realized on average. In the days before and after the event window, cumulative abnormal returns remained fairly stable.

FIGURE 1 ABOUT HERE

More interesting than the average reaction (which could be due to a few very negative abnormal returns) is the distribution of reactions. When looking at stocks individually, 70% of them reacted negatively during the event window. An overview of the distribution of the individual three-day cumulative abnormal returns (CARs) for the full sample is provided in Figure 2.

The same pattern, both in terms of the cross-sectional variation and the overall average, also holds when using the Dow Jones Global Total Stock Market Index as the market portfolio. Here, the equal-weighted average abnormal return for the largest 100 stocks was -1.49%. The effects are

large, especially taking into account that the successful initiative alone does not guarantee that the proposal would ultimately become law.

FIGURE 2 ABOUT HERE

4.2 What explains the variation in CARs across firms?

4.2.1 Structure of the discussion

We structure our discussion along the three main lines of argument we presented in the Introduction: The idea that binding say-on-pay may come at direct compliance and interference costs; the idea that binding say-on-pay may improve alignment with shareholder value; and the idea that part of the costs may be indirectly linked to a distortion of firm-specific investment incentives. These channels are likely to overlap, and so the presentation we choose serves the purpose of providing a framework for organizing a number of interesting empirical regularities, rather than testing one hypothesis against the other.

We use two different approaches for studying the cross-sectional variation in stock price reactions. (1) We compare mean CARs within portfolios formed according to relevant characteristics of interest. These results are in Table 4. Panels A.1 to A.3 deal with the compliance cost argument. Panels B.1 to B.6 study whether variation in CARs can be explained by variation in alignment benefits. Panels C.1 to C.3 concern the extra-contractual investment incentives idea. (2) We run regressions with CARs as the dependent variable. Baseline results for each variable of interest are in Table 5, while Table 6 contains regressions with a larger set of control variables (which somewhat reduces the number of observations). Fortunately, our variables of interest are not highly correlated. As such, it is not surprising, but still reassuring, that the results we find in

the portfolio analysis in Table 4 carry over to the regression results in Tables 5 and 6.

TABLE 4 ABOUT HERE

TABLE 5 ABOUT HERE

TABLE 6 ABOUT HERE

4.2.2 Direct interference costs: Company Size, Foreign Assets, and Shareholder Structure

As a proxy for direct compliance costs, we first use company size. Most of the very large Swiss firms had already partially conformed to an increase in shareholder power and introduced advisory say-on-pay in 2007.¹⁸ Furthermore, it seems reasonable to assume that fixed costs associated with binding say-on-pay will weigh less for the largest firms which, as a result, get a comparative advantage out of this legislation.¹⁹

Panel A.1 of Table 4 shows the results for a quartile split according to Market Capitalization. We find that below-median sized firms had significant abnormal returns. As can be seen in the columns for the t-statistic and z-statistic, respectively, this result holds for both the parametric and the non-parametric test.²⁰ As can be seen in Tables 5 and 6, we generally obtain a strongly positive relationship between firm-size and CARs throughout.

¹⁸Another indicator for this increased awareness of large firms is their significantly higher percentage of executive and board positions that have to be confirmed through individual elections.

¹⁹For example, large firms generally already have an established public relation department that is in constant contact with shareholders. The fixed costs may also be more subtle in the form of an increased effort by management to keep off large investors who aim at exchanging leading executive and board positions.

²⁰Furthermore, these results become even more pronounced if we value-weight the firms within each quartile. This size effect becomes even stronger if the sample is split along the lines of the SIX Swiss stock exchange size definitions. On average, the 20 largest firms in terms of market capitalization (the firms comprising the SMI index) only dropped by 0.31% while the average company in the medium-size index (the top 100 excluding the top 20 firms) had a cumulative abnormal return of -2.28%.

A second proxy of interference costs is the percentage of assets a firm holds abroad. Firms that are more mobile in switching operations could move headquarters to countries where regulation is less strict. (This issue is widely discussed in Switzerland. For example, UBS has publicly threatened to relocate elsewhere in the light of tightening pay and capital requirements regulation in Switzerland.) We would, therefore, expect firms with a higher asset mobility to relocate in order to keep talent and be unaffected by the law. Indeed, Panel A.2 of Table 4 and column (2) of Table 5 provide support in favor of this hypothesis. (Firm size and foreign assets are highly positively correlated (see Table 3), which is why in the regressions in Tables 5 and 6 we generally only include one of them at a time. In regressions that include both measures, multicollinearity tends to confound inferences; see column (11) of Table 6.)

A third measure of direct interference costs is the percentage the largest single shareholder holds in a company. If there is only one shareholder with majority voting power, it is very unlikely that the new say-on-pay regulation will change anything in the corporate governance structure of this company. If say-on-pay were value-enhancing for such a firm, it would have already been implemented by the majority shareholder. On the other hand, a single majority shareholder can commit credibly to a payment schedule agreed upon with management, reducing the uncertainty of an ex-post salary reduction. Absent this majority shareholder, uncertainty prevails, leading to higher interference costs of say-on-pay. Panel A.3 of Table 4 provides only modest empirical evidence in favor of this idea, however. Firms where a single shareholder owns a stake of 50% and more indeed tend to drop significantly less than firms with a more dispersed shareholder base, but the most dispersed firms also experience a smaller drop than the middle quartile firms. This suggests that firms with a dispersed shareholder structure may benefit from the enhanced opportunities for shareholders to express their collective opinion on management pay. However, these differences

are not generally statistically significant, neither in the non-parametric tests nor in the regression analysis; see also column (3) of Table 5.

4.2.3 Alignment benefits: Leverage

In more highly levered companies, shareholders have a higher incentive to take asset risk, i.e., to engage in asset substitution (Jensen and Meckling, 1976). However, in such companies, CEOs may also be more reluctant to take risk because bankruptcy is very costly for a CEO in terms of reputation. Therefore, in highly levered firms, shareholders wish to grant higher incentives to take risk. Consistent with this notion, Coles, Daniel, and Naveen (2006) document that higher leverage causes higher vega, i.e., a higher sensitivity of CEO wealth to stock price volatility. This is more easily done when shareholders have more power. In particular, from the shareholders' point of view, the board of directors may not sufficiently take the shareholders' preferences into account because the board, if it is acting according to the requirements of Swiss corporate law, is acting as a steward for the whole firm (i.e., including other stakeholders, in particular, bondholders). From this perspective, having a more direct say-on-pay may be good news in particular for shareholders of highly levered companies due to better risk-taking alignment, whereas for firms with little leverage the inference costs may just be too high. Alternatively, shareholders may benefit more in firms with low leverage, because in those with high leverage the agency costs of free cash flow are already lower.

Panel B.1 in Table 4 show that CARs are much more negative for firms with little leverage, and these results also hold in the regression setting; see column (4) in Table 5 and the regressions in Table 6. This finding suggests the risk-taking alignment benefits effect is stronger than the agency costs of free cash flow benefits effect.

4.2.4 Alignment benefits: Performance

If management is not working in the interest of shareholders, firm-specific stock performance is likely to be poor. According to the hypothesis that binding say-on-pay helps improve alignment of managerial with shareholder interests, we should observe that firms with poor performance in the past benefit more from say-on-pay than those with the best performance.

To test this hypothesis, we use two measures of firm performance, Relative Performance and CAPM Alpha. The results in Panel B.2 of Table 4 display a negative relationship between the one year Relative Performance and the cumulative abnormal return. Firms that had beaten the market on average over the past year generally dropped more than underperforming shares. As shown in Panel B.3 of Table 4, we find similar results for the risk-adjusted performance measure (CAPM Alpha).

In column (5) in Table 5 and in all regressions of Table 6, we find a strongly negative relation between past performance and reaction to the binding say-on-pay initiative. (The results hold for both performance measures, but for expositional reasons are only shown for one.)

These findings confirm that, indeed, binding say-on-pay is relatively more attractive for shareholders of firms that have performed poorly than for those that have performed well. As such, these results are in line with the alignment hypothesis. However, the net effect is still negative even for the poor performers (both in terms of abnormal returns relative to the SPI and to the Dow Jones Global Total Stock Market Index). Overall, this suggests that if binding say-on-pay has powerful alignment effects, these come at even greater costs.

4.2.5 Alignment benefits: Management Abnormal Compensation and Shareholdings

An obvious central point of interest is variation in share price reactions depending on the current pay level.²¹ Due to a multitude of factors determining the absolute level of compensation, we focus on a standardized pay measure which is abnormal compensation. One interpretation of this measure is that, if a company consistently overpays or underpays its management, it suggests poor governance.

We find that the middle 50% of firms in terms of abnormal CEO compensation on average lost in excess of a full percentage point more than the two corner quartiles, with the corner quartiles not showing a positive effect, see Panel B.4 in Table 4. This result, even though economically relevant, is not statistically significant on a regular level, with a t-statistic of 1.43.²² However, when we control for the noise coming from firms that communicate their 2007 figures to the media around the event (c.f. Section 4.3), the difference is statistically significant (untabulated; the middle two quartiles drop 1.72% more than the corner quartiles, t-statistic of 1.81).

To capture the non-monotonic relationship in the regression framework, we control for abnormal compensation with a linear and a squared term. As column (4) in Table 5 shows, the point estimates are of the correct sign, but the t-statistics indicate that these findings are not significant at conventional levels. However, controlling for other variables, significance of this finding is enhanced; see Table 6. We find similar results for board compensation; see Panel B.5 in Table 4 and the regressions in Tables 5 and 6.

It is interesting to note some differences to the U.S. experience. When advisory say-on-pay

²¹Ertimur, Ferri and Muslu (2011) document that in the U.S. activists target firms with high CEO pay, but voting support is high and subsequent pay changes occur only at firms with excess CEO pay.

²²The generalized sign test suggests significance only for the second quartile.

became more likely to turn into law in the U.S., those firms with the highest abnormal pay benefited substantially, while the other companies reacted relatively neutrally (Cai and Walkling, 2011) which is consistent with the alignment hypothesis. The evidence from Switzerland instead suggests that the market perceives firms currently operating with abnormal compensation close to 0, as being potentially forced to adjust to individually inefficient corporate policies.

A direct measure of alignment may also be found in the fraction of management shareholdings. The results, in Panel B.6 of Table 4 suggest that firms with very little and very high managerial ownership fared relatively better than those with ownership that approximated the median. This could reflect two effects: Firms with very low ownership benefit from better alignment, which outweighs most of the interference costs of binding say-on-pay; firms with very high ownership do not benefit much, but also have very low compliance costs because managers and shareholders are often identical. However, in the regression setup, we find that firms with higher management shareholdings tended to have more positive CARs, suggesting that the fact that for them the interference costs were smaller ultimately dominated. (Using dummies for the various quartiles or quadratic terms does not yield significant results.)

4.2.6 Distortion of extra-contractual investment incentives: Cash Bonuses, CEO Age, and CEO Tenure

Burkart, Gromb, and Panunzi (1997) and Stout (2003), among others, develop the idea that shareholders may prefer not to be too powerful because with greater power comes a greater temptation to ex-post expropriate those stakeholders that have made firm-specific investments. Burkart, Gromb, and Panunzi (1997) study optimal shareholder ownership dispersion; Stout (2003) deals with the relationship between the board and shareholders. Although their papers do not explicitly

cover the pay-setting process, their basic intuition extends to the present case: In the context of the Swiss say-on-pay initiative, compensation packages are agreed upon at the beginning of the year. However, if the board wishes to reward a CEO for particular, unanticipated achievements during the year, it would need to put a corresponding motion to shareholders at the following year's shareholder meeting. At that point, shareholders may "hold up" the CEO if the effort the CEO made (for example, getting to know a particular, unique product line of the firm particularly well) was firm-specific. The CEO, in turn may anticipate this problem and, therefore, not make the firm-specific investments that maximize firm and shareholder value.

To test this idea, we require proxies for how worried shareholders are about their CEO's incentive to begin engaging in general (or outside) human capital investments, rather than in firm-specific investments. These proxies are not easy to come by, but we consider three possibilities.

First, as explained in Section 2.2, if the board wishes to award extra bonuses after a year (which is especially the case if effort and performance by management in the elapsed year were high), a new shareholder vote would have to be held. This is almost a prototypical case of the hold-up problem: Ex-post, shareholders have little incentive to approve the awards.²³ We expect the resulting distortions to be greatest where executives are mostly compensated with cash bonuses. (According to the initiative, equity-plans that reward them for performance need to be implemented in the articles of incorporation and from then on are simply executed.) Consistent with this prediction, Panel C.1 of Table 4 shows that the CARs were particularly negative in firms that only use cash bonuses as variable compensation.

Second, younger CEOs have a relatively higher incentive, under binding say-on-pay-rules, to

²³In particular, the shareholders' incentives are considerably smaller than the board's: Boards of Swiss companies are explicitly charged to act for the benefit of the overall corporation. Also, their benefits from expropriating management are significantly lower than the shareholders'.

invest in general skills rather than firm-specific skills than older CEOs because young CEOs wish to retain their option to secure a different position. Consistent with this argument, we find that firms with young CEOs reacted much more negatively to the say-on-pay initiative than those with older CEOs; see Panel C.2 of Table 4.

Third, CEOs who have had a long tenure at the respective company are likely to already have acquired substantial firm-specific knowledge. By contrast, CEOs who have only relatively recently joined the company face the choice whether to engage in firm-specific or general human capital investments, i.e., whether to fully contribute to their current firm's fortunes or whether to at least partially work on their outside options. In Panel C.3 of Table 4 we find that shareholders of firms with CEOs in the shortest tenure quartile were more worried about the value consequences of binding say-on-pay: CARs were about 1.75 percentage points lower in this quartile than in the other three quartiles, though the difference is statistically not highly significant.

Importantly, these results are largely confirmed in the regression analysis. Controlling for the central measure of direct compliance costs (firm size), pay structure and CEO age remain significant determinants of the stock price reaction to binding say-on-pay, while CEO tenure is only borderline significant (see columns (9)-(11) of Table 5). Adding further controls reduces the number of observations and decreases significance on the three proxies, though the overall tendency remains the same. In particular, as can be seen in Table 6, CEO tenure turns insignificant, but CEO age and pay structure mostly retain their significance even in these demanding regressions. Only in the final regression – which includes all controls and consequently has the smallest number of observations, and in which the highly correlated variables size and foreign assets are both included – does the significance drop below conventional levels. Overall, the evidence is not ironclad, but the data do suggest that shareholders anticipate that some CEOs may have particularly depressed

incentives to engage in firm-specific human capital investments in the presence of binding say-on-pay.

4.2.7 Other governance variables

Finally, we consider cross-sectional variation according to various general governance quality attributes. These include a control for whether a firm has a CEO-chairman or whether it uses staggered boards and a measure of the election procedure of board members.

None of these variables is significantly associated with CARs, but the other variables retain their significance as before (not shown). The insignificance of the findings for the governance variables is interesting in itself, especially in the light of significant findings for other firm characteristics: In particular, the results suggest that the market reacted specifically to the proposed say-on-pay rules (and not to some other, far less publicized, elements of the initiative, which concerned methods of electing directors, for example), and did not interpret the initiative as a more generic push towards features often regarded as reflecting good governance.

4.3 Additional results and robustness

This section discusses several sets of additional results and robustness checks.

First, we comment on the results for two control variables we included in our regression analysis. The first concerns the dummy variable which indicates whether a firm announced its 2007 results within 5 days of the event window. Announcements of business results can be accompanied by substantial share price movements, so they may affect our results. The directional effect on the cumulative abnormal return is not clear as the reactions of these firms are diverse, yet test statistics including them are likely to be underestimated as they increase the sample's standard deviation.

Previous studies found that announcement effects usually fade quickly, making our choice of a five-day window a rather prudent one. As seen in Tables 5 and 6, firms that were announcing their results in this window generally had relatively more positive abnormal returns. Omitting the firms with earnings announcements did not materially affect the results. By excluding these firms, we reduce noise and hence improve the precision of our results. As already mentioned above, for abnormal CEO compensation we now also find a statistically significant difference between the middle and the corner portfolios in the regressions equivalent to those in Table 5.

Our regressions also show that CARs tended to be particularly negative where there was an abnormally large volume of trading. This implies that indeed the overall negative abnormal returns we observe in the event window was due to particularly active trading, arguably driven by information processing by shareholders regarding the the say-on-pay initiative's progress.

Second, our main analysis has focused on large firms where liquidity is high. Naturally, smaller firms are not traded much, and their shareholders may not react quite as quickly to news as those of larger firms. However, we confirm that the results generally are very similar in the full 225 company sample, comprising the entire SPI.²⁴ We also find one additional result in the expanded sample, relating to firm size and interference costs. The very smallest companies are unlikely to be vulnerable to excessive shareholder-activism as the major shareholders are usually tightly involved in the firm's business. (For example, the lowest quartile has an average (median) share of management shareholdings of 27.74% (19.55%) while the largest quartile only has 11.23% (0.7%).) Indeed, we find that the smallest firms experienced, on average, relatively less negative abnormal

²⁴In the full sample, firms that have no completed trades during the event window may confound our results. While a non-trade can be informative in the sense that investors did not perceive a need to alter their stock holdings due to the event, including no-trade firms may lead us to underestimate the standard deviation and therefore overestimate the test statistic. However, when excluding these firms, we find very similar results.

returns than the median-sized firms (where the latter are the relatively smaller firms in the main analysis). In the regression framework, we find a significant u-shape by including both a linear and a squared term of (log) Market Capitalization.

Third, we winsorized the event window CARs at the 5%-level to check for robustness against outliers. We find that the our main results stay unchanged and retain previous levels of significance.

Fourth, we assessed the robustness of our results in the light of two events, one in the event window, the other in the estimation window.

As for the former, on Sunday February 24, 2008, the Swiss electorate accepted, in a referendum, a corporate tax reform (the “*Unternehmenssteuerreform II*”). The major points of the reform were aimed at supporting partnerships and small family businesses, both of which were not part of the universe of firms we analyzed in our sample. However, there were further elements of this reform that were also relevant for public companies: (1) a reduced federal tax on paid dividends if the receiving shareholder’s stake is at least 10% of the equity value (focus on shareholder), (2) the exemption of taxes on dividends and capital gains if the invested capital in the particular firm is at least 10% of the firm’s equity capital or bigger than one million Swiss Francs (focus on the firm), (3) the deduction of profits taxes paid from the taxes payable on invested capital, and (4) an abolition of taxes in case of a repayment of invested capital (including agios).

The benefits from the first two points were mainly relevant for large shareholders and holding companies with large stakes in individual firms, but have very limited impact on the regular firm listed on the SPI. Comparison financial sector firms, the ones most likely to profit from this reform, and all other SPI firms, we found no significant difference in CARs. Point (3) had been implemented by a majority of cantons already prior to this reform and is, therefore, not expected to have any impact. Finally, point (4) essentially allows some companies to pay dividends free

of tax for the recipient. However, it is not clear whether market participants fully understood the benefits of this new regulation for shareholders of companies that carried large agios on their balance sheet. An indication for this uncertainty is the revived discussion on this issue when this part of the reform was put into effect at the beginning of 2011.²⁵ To the extent that the benefits were priced in, the abnormal stock returns in the event window would be positively biased, and we would be underestimating the negative overall effect of the say-on-pay initiative.

As for the possible confounding event in the estimation window, on February 10, 2008, a single newspaper released a short article claiming a successful end to the initiative's signatures collection. However, this claim was not officially confirmed, but rather questioned by an interview with the initiative's manager on the topic in the very same paper and day. If the news had been taken seriously by the stock market, we would expect to find significant abnormal returns on the release date of the article and presumably less significant effects on the official announcement date.²⁶ Shifting the event-day to this news release, however, provided no evidence that there was an abnormal reaction of the SPI stocks. Even though no significant impact can be found at the release day, it is still possible that the event biases the sensitivity measure of the estimation window upward. This would in turn lower our findings as described earlier. To avoid a bias of this nature, we shifted the estimation window in order that the event of this news release was not included anymore (i.e., the estimation window lasted only until February 7, 2008). The results for cumulative abnormal returns only adjusted within a negligible range and kept the level of significance entirely.

²⁵The current discussion in the Swiss political arena is on whether the voters and market participants were properly informed about the consequences, especially the fiscal ones, of the new law at the time of the referendum.

²⁶As the release date of this article was on a Sunday, we set the event window around the date of the next market opening which in this case was Monday, February 11, 2008.

5 Interpretation and conclusion

The present study uses an arguably clean event to identify some effects of binding say-on-pay on the anticipated workings of companies and on shareholder value. The price we pay for using a rather unique event is that the sample size available to us is small. Despite this important limitation and the caveats it comes with, the empirical analysis uncovers some interesting patterns which merit some comments in terms of potential policy implications.²⁷ For this, it is helpful to compare our results with those available from the U.S. (Cai and Walkling, 2011). The contents of the proposed laws differ especially with respect to the implementation of shareholder rights (binding vs. advisory).

The overall effect in the U.S. of the proposed introduction of *advisory* say-on-pay was mainly neutral or slightly positive. It had significantly positive effects for the quartile of firms with the highest abnormal CEO salary (while the lowest quartile received insignificant abnormal returns), suggesting improved management-shareholder alignment through advisory say-on-pay for firms which hitherto have overpaid their CEOs.

The evidence presented in this paper instead suggests that the proposed introduction of *binding* say-on-pay was on average greeted fairly skeptically by the very group it is supposed to give more rights, namely shareholders of Swiss companies. We do find some evidence for positive alignment effects of say-on-pay: Firms with poor performance, and firms with over- and underpaid CEOs reacted *relatively* more positively than their peers. Compared to both the Swiss and the World market, these firms did not gain, but simply lost less than other firms. This suggests that

²⁷Our study focuses on the impact of say-on-pay for shareholders. Some recent reforms in the compensation area also aim to benefit other stakeholders or also society at large (for example, by limiting external effects due to poorly designed compensation systems). The analysis here is silent on these issues, and future research is needed to address them.

shareholders perceive the costs of binding say-on-pay as being significantly stronger than those of advisory say-on-pay, while they do not anticipate that the alignment benefits will increase commensurately.²⁸

Why did shareholders in many firms react so negatively to an initiative that would grant them significantly enhanced means of controlling the organization? Why is binding say-on-pay so costly in their view? Part of the effect appears to be due to interference / compliance costs. Moreover, we suggest that our findings support the argument, so far mostly presented in theoretical discussions such as those in [Burkart, Gromb, and Panunzi \(1997\)](#) and [Stout \(2003\)](#), that it may, in fact, be in the best interest of shareholders *not* to maximize their power. Rather, shareholders may do well to cede control to directors (as they do under advisory say-on-pay, compared to binding say-on-pay) because this is likely to enhance incentives for executives to make extra-contractual, firm-specific investments that ultimately also benefit shareholders. We believe that this is one of the first papers to demonstrate the empirical relevance of this idea in a cross-section of firms.

Famously, the German banker Carl Fürstenberg quipped: *“Shareholders are stupid and impertinent. Stupid because they give their money to somebody else without effective control over what that person is doing with it and impertinent because they ask for a dividend as a reward for their stupidity.”* We, by contrast, answer the title question in the negative. The evidence is consistent with the view that shareholders rationally anticipate that say-on-pay has benefits and costs for them, and that they react most negatively where the costs are likely to outweigh the benefits.

²⁸These empirical findings on binding vs. advisory say-on-pay are consistent with the outcomes of the laboratory experiment of [Göx, Imhof, and Kunz \(2010\)](#). Their findings suggest that advisory votes do not distort investment decisions (and may expand rather than curb executive compensation), while binding rules distort management decisions and impair shareholder value.

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A Initiative

The Initiative proposes a concrete legal text. Specifically, it reads:

”The federal constitution of April 18, 1999 is amended as follows:

Art. 95 Par. 3 (new): To protect the economy, private property and the shareholders and in the spirit of sustainable corporate management, this law regulates Swiss companies, listed nationally and internationally, according to the following principles: a) The general assembly votes annually on the total compensation (monetary and in-kind) of the board of directors, the executive board, and the advisory board. It elects annually the chairman of the board and, individually, the members of the board, the members of the compensation committee, and the independent vote representative. Pension funds vote in the interest of the insured and disclose their voting behavior. Shareholders can use electronic / distance voting. There is no proxy voting by company representatives or depository institutions. b) The board of directors and the executive board receive no severance or any other payment upon their leaving the firm, no advance compensation, no bonus payments in the case of firm acquisitions / divestures, and no additional consulting or employment contract by another company of the group. Executive management cannot be delegated to another firm. c) The articles of association contain provisions for the amounts of credit, loans, and retirement pensions to corporate executives and board members, their performance and share / participation plans, and the maximum number of external mandates as well as the duration of their employment contracts. d) Violation of these provisions is punishable by a jail sentence of up to three years and a fine of up to six times annual compensation.”

B Supplementary Appendix: Methodology

We used OLS-regressions to estimate the parameters of the market model for each stock during the length of the estimation-window (250 trading days). Based on the parameter estimates ($\widehat{\alpha}_i$ and $\widehat{\beta}_i$), we predict stock i 's normal return for day t during the event window:

$$\widehat{R}_{i,t} = \widehat{\alpha}_i + \widehat{\beta}_i(R_{m,t}).$$

The difference between the predicted normal return on the event-day and the effectively observed return of the stock is, by definition, the abnormal return (AR_i) of stock i :

$$\widehat{AR}_{i,t} = R_{i,t} - \widehat{R}_{i,t}. \quad (3)$$

The cumulative abnormal return(CAR_i) of stock i is the sum of the abnormal returns during the event window of length T :

$$\widehat{CAR}_i(0, T) = \sum_{t=0}^T \widehat{AR}_{i,t}.$$

To test for the statistical significance of the abnormal return we used two approaches. The first, standard approach, proceeds as follows: Under the H_0 -Hypothesis of no effect, the abnormal return during the event window is normally distributed with zero mean:

$$H_0 : \widehat{AR}_i \sim N(0, \sigma_i^2(\widehat{AR}_i)),$$

where $\sigma_i^2(\widehat{AR}_i)$ is the variance of each stock i 's abnormal return during the event window. Thus,

the standard deviation of the cumulative abnormal returns in the event window is $\sigma_i(\widehat{CAR}_i(0, T)) = \sqrt{T}\sigma_i(\widehat{AR}_i)$. The test statistic for the cumulative abnormal return of a single stock is:

$$t_{\widehat{CAR}_{i,T}} = \frac{\widehat{CAR}_i(0, T)}{\sigma_i(\widehat{CAR}_i(0, T))} \sim N(0, 1). \quad (4)$$

We applied sample standard deviations (thus being more conservative than with population standard deviations). To test for an overall impact of the initiative within different percentiles of a portfolio, the CARs are aggregated over the cross-section of N-stocks:

$$\widehat{CAR}(0, T) = \frac{1}{N} \sum_{i=1}^N \widehat{CAR}_i(0, T),$$

with the variance according to:

$$\sigma_{\widehat{CAR}(0, T)}^2 = \frac{1}{N^2} \sum_{i=1}^N \sigma_i^2(\widehat{CAR}_i(0, T)). \quad (5)$$

This yields the following test statistic:

$$t_{\widehat{CAR}_{0,T}} = \frac{\widehat{CAR}(0, T)}{\sigma_{\widehat{CAR}(0, T)}} \sim N(0, 1). \quad (6)$$

Our second approach uses the adjusted [Boehmer, Musumeci, and Poulsen \(1991\)](#) test statistic, as proposed by [Kolari and Pynnönen \(2010\)](#), KP-test in what follows. First, we scale the individual cumulative abnormal return of each stock by its estimation precision and adjust for potential

changes in variance between the estimation and the event window (cf. [Patell \(1976\)](#)):

$$SCAR_i(0, T) = \frac{CAR_i(0, T)}{\sqrt{T}\sigma_{i,Estimation}(\widehat{AR}_i)\sqrt{1 + d_t}}. \quad (7)$$

Precision is measured by $\sigma_i(\widehat{AR}_i)$, a stock's abnormal return standard deviation during the estimation window. d_t is a correction term that accounts for a potential increase in variance due to the fact that the estimation and the event window do not overlap:

$$d_t = \frac{1}{\tau} + \frac{\sigma_i^2(\widehat{AR}_i)}{\sigma_{i,Estimation}^2(\widehat{AR}_i)},$$

with τ being the number of days in the estimation window.

In a second step, we look at the cross-section of stocks in the portfolio and adjust for their contemporaneous cross-correlation in abnormal returns. Due to the previous scaling of the abnormal returns, all stocks have the same abnormal return variance $\sigma_i = \sigma_j = \sigma_{SCAR(0,T)}^2$. Hence, the mean variance of the portfolio can be written as:

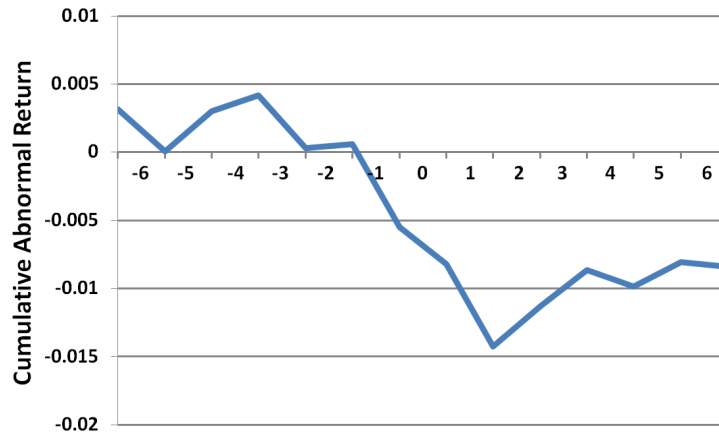
$$\overline{\sigma}_{SCAR(0,T)}^2 = \sigma_{SCAR(0,T)}^2 \cdot \left(\frac{1}{N} + \frac{1}{N} \sum_{i=1}^N \sum_{j \neq i} \rho_{i,j} \right) = \frac{\sigma_{SCAR(0,T)}^2}{N} (1 + (N-1)\bar{\rho}), \quad (8)$$

where $\rho_{i,j}$ is the contemporaneous, within portfolio cross-correlation of the estimation-window abnormal returns of stocks i and j while $\bar{\rho}$ is the average abnormal return cross-correlation of all stocks in a portfolio. From (8) it becomes evident that by not adjusting for the stocks abnormal return correlation, the portfolio's variance is biased. As we find generally a positive abnormal return correlation between stocks in a portfolio the bias will be downwards and lead to a test-statistic that is too high. The KP-test-statistic for the average scaled portfolio return ($\overline{SCAR}(0, T)$) then

is:

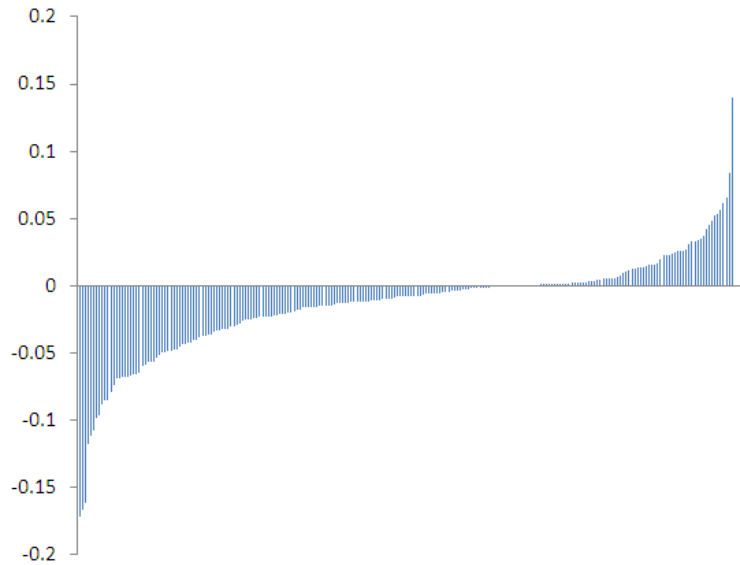
$$t_{KP} = \frac{\overline{SCAR}(0, T)}{\overline{\sigma}_{SCAR(0, T)}^2}. \quad (9)$$

Figure 1. Average cumulative abnormal returns around the event day



Note: The vertical axis represents the average level of the cumulative abnormal return while the horizontal axis is measured in days relative to event ($t=0$). The event window shows a cumulative abnormal return of -1.49%. This cumulative abnormal return is the sum of the daily abnormal returns on day $t=-1$ (-0.61%), $t=0$ (-0.28%) and $t=1$ (-0.60%).

Figure 2. Individual cumulative abnormal returns around the event day



Note: This graph shows the individual (non-winsorized) cumulative abnormal returns in the event window.

Table 1. Timeline of say-on-pay legislative efforts in Switzerland

Date	Legislative events	Possible confounding events
July 31 - August 6, 2006	A “Sonntags-Zeitung” article (08/06/2006) mentions that Trybol owner Thomas Minder has submitted the wording of the text of his “Fat Cat Initiative” that week.	a) On 08/03/2006 the Associated Press reports that the European Central Bank (ECB) raised its interest rate by a quarter point to 3% as anticipated by analysts. However the Bank of England (BoE) gave a surprise by raising its interest rate by the same margin to 4.75%. b) As reported in various headlines the oil price was under turmoil that week because of war in Lebanon and uncertainty of the severeness of the Caribbean hurricane “Chris”. c) AWP Premium Swiss News informs that the net increase in employment in the US is below expectations which lead to believe that The Federal Reserve will not change interest rates after 17 increases in a row.
October 17, 2006	The Federal Chancellery verifies the initiative complies with legal requirements.	On 10/18/2006 the Associated Press reports that the Federal Council of Switzerland had announced it entrusted five known experts the task to establish a federal audit supervisory authority.
October 31, 2006	Thomas Minder begins collecting signatures for a federal initiative.	Economic Committee of the National Assembly agrees to establish a Swiss Financial Market Supervisory Authority (FINMA) with 14 to 4 votes.
February 26, 2008 = Main event	Initiative Committee submits the 100’000 needed signatures.	On 02/24/2008, a corporate tax reform (implying lower taxation of dividends in some cases, among other benefits) is accepted by the Swiss electorate.
April 2, 2008	The Federal Chancellery verifies the initiative as valid.	On 04/02/2008 the Swiss Market Index (SMI) gains 1.4% due to the extraordinary increases of the shares of the two major banks and in Tokyo the Nikkei reports a plus of 4.2%.
December 5, 2008	The Federal Council of Switzerland advises to reject the initiative and makes a so-called indirect counterproposal with an addition to the ongoing revision of the Swiss Code of Obligations.	On 12/05/2008 the Swiss Market Index (SMI) loses partially more than 3% and closes minus 2.09%. The German Stock Index (DAX) even loses 4%.
May 12, 2009	Judiciary committee of the Council of States tightens the indirect counterproposal and accommodates to the demands of the initiative committee.	No relevant confounding event found.
June 11, 2009	Council of States finishes debate over details of the counterproposal which is now less tight than the proposed form of the judiciary committee. The issue now returns to the national council.	The Associated Press reports that the US budget deficit has ascended to a new high in May and is expected to peak at the record high of 1.84 trillion dollar at the end of the fiscal year.

Table 2. Summary statistics for the main sample

Variable	Mean	Std. Dev.	Min.	Max.	N
Firm characteristics					
Market Capitalization (in Mio. CHF)	9'876.37	29'097.26	113	196'044.91	100
Event window Stock Return (%)	0.57	2.44	-17.36	11.11	100
Foreign Assets (in % of total assets)	40.68	30.49	0	98.50	96
Leverage (debt to total capital in %)	32.41	25.05	0	95.34	99
Abnormal Trading Volume (in %)	59.11	157.10	-65.39	967.40	100
Compensation					
CEO Total (in Mio. CHF)	4.25	4.49	0.48	22.28	91
Board Total (in Mio. CHF)	2.99	3.90	0.19	25.41	88
CEO Variable (in Mio. CHF)	2.75	3.82	0	20.05	88
CEO Cash Incentives Share (in %)	58.79	34.07	0	100.00	90
CEO Abnormal (in Mio. CHF)	0.71	2.68	-2.67	11.61	85
Board Abnormal (in Mio. CHF)	0.59	1.89	-1.10	11.29	88
Past performance					
Relative Performance (in annual %)	11.32	69.48	-62.27	622.53	99
CAPM Alpha (in annual %)	-21.92	26.21	-72.03	99.55	91
CEO attributes					
CEO Tenure (years)	9.64	8.02	0.49	39.58	95
CEO Age (years)	53.49	7.58	39.00	82.00	92
Governance					
Largest Shareholder (in %)	27.40	23.14	0	99.40	100
Management Holdings (in %)	13.10	20.62	0	70.30	99
Dual (dummy)	0.15	0.36	0	1	88
Staggered Board (dummy)	0.59	0.50	0	1	92
Single Election (dummy)	0.50	0.50	0	1	103

Note: This table displays summary statistics for the largest 100 firms. Descriptives for the full SPI sample are available on request. Market Capitalization measures the value of the free float on event day. Event window Stock Return is the overall stock return during the three day event window. Foreign Assets measure the percentage of total assets a firm holds outside Switzerland. Leverage is measured as total debt to total capital. A leverage level of zero is due to accounting reasons. Abnormal Trading Volume is the difference between trading volume in the event window and the median trading volume of the respective firm in the previous year, taken as a percentage of the median trading volume of the respective firm in the previous year. Total compensation is the sum of base and variable pay for the year 2007. CEO Cash Incentives Share is the share of a CEO's Variable remuneration in 2007 that is paid in cash. Abnormal CEO/Board Compensation is measured as the difference between paid compensation and estimated normal compensation in terms of firm size and performance. All statistics for the board are reported including its Chairman. Relative Performance measures the gap between observed stock return and the return of the size-appropriate index over a one year period prior to the event. CAPM Alpha measures the gap between observed stock return and an estimated stock return based on CAPM. Tenure is the number of years a CEO has been with the current company. Largest Shareholder is the share the largest single shareholder holds in the firm. Management Holdings is the percentage of equity held by the management and board. Dual is a control for CEO-Chairs. Staggered Board is a dummy equal to one if the board is staggered. Single Election is a dummy equal to one if board members have to be elected one-by-one.

Table 3. Cross-correlation of explanatory variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
$\ln(\text{Market Capitalization})$	1.00												
Foreign Assets	0.54	1.00											
Largest Shareholder Holdings	-0.29	-0.33	1.00										
Leverage	0.03	-0.02	0.27	1.00									
Relative Performance	-0.02	-0.04	-0.08	-0.20	1.00								
CAPM Alpha	-0.12	-0.18	0.11	-0.11	0.95	1.00							
Abnormal CEO Compensation	0.05	0.21	0.16	0.10	-0.05	-0.11	1.00						
Board Abnormal Compensation	0.17	0.15	0.23	0.26	-0.06	-0.12	0.16	1.00					
Management Shareholdings	-0.11	-0.05	0.37	-0.24	-0.05	-0.04	0.27	-0.01	1.00				
CEO Cash Incentives Share	-0.46	-0.42	0.11	-0.01	-0.01	0.28	-0.32	0.01	0.05	1.00			
CEO Age	0.23	0.13	0.05	-0.10	-0.13	-0.13	0.08	-0.07	0.28	-0.07	1.00		
CEO Tenure	0.12	-0.08	0.16	0.01	-0.07	-0.02	0.02	-0.07	0.18	-0.02	0.35	1.00	
Abnormal Trading Volume	-0.08	0.17	-0.00	-0.02	0.08	0.34	0.07	-0.11	0.02	-0.01	-0.04	-0.00	1.00

Note: $\ln(\text{Market Capitalization})$ measures the log value of the free float on event day. Foreign Assets measure the percentage of total assets a firm holds outside Switzerland. Largest Shareholder is the share the largest single shareholder holds in the company. Leverage is measured as total debt to total capital of each firm. Relative Performance measures the gap between observed stock return and the return of the size-appropriate index over a one year period prior to the event. CAPM Alpha measures the gap between observed stock return and an estimated stock return based on CAPM. Abnormal CEO/Board Compensation is measured as the difference between paid compensation and estimated normal compensation in terms of firm size and performance. The statistics for the board are reported including its Chairman. Management Shareholdings is the percentage of equity held by the management and board. CEO Cash Incentives Share is the share of variable remuneration to the CEO that is paid in cash. Tenure is the number of years a CEO has been with the current company. Abnormal Trading Volume is the difference between trading volume in the event window and the median trading volume of the respective firm in the previous year, taken as a percentage of the median trading volume of the respective firm in the previous year.

Table 4. Market reaction to binding say-on-pay, analysis by portfolio-splits

Overall Effect			
	Obs.	CAR	% neg
Top 100	100	-1.88%	70.00%***
SPI full	225	-1.49%	69.78%***

Panel A.1: Company Size (Mio. CHF)						
Quartile	Obs.	VOI	CAR	t-value	KP	% neg
1 Lowest	25	360	-2.41%	2.96	2.06	80.00%***
2	25	706	-3.80%	3.25	2.37	84.00%***
3	25	2'222	-0.86%	1.59	1.57	64.00%
4 Highest	25	36'217	-0.47%	0.95	1.23	52.00%
Median Split			-2.43%		3.04	

Panel A.2: Foreign Assets (%)						
Quartile	Obs.	VOI	CAR	t-value	KP	% neg
1 Lowest	24	2.9%	-2.48%	3.21	2.77	91.67%***
2	24	27.2%	-2.64%	3.16	2.46	75.00%***
3	24	50.1%	-2.42%	2.47	1.76	66.67%
4 Highest	24	82.5%	-0.43%	0.57	0.54	50.00%
Q4 - Rest			2.08%		2.28	

Panel A.3: Largest Shareholder (%)						
Quartile	Obs.	VOI	CAR	t-value	KP	% neg
1 Lowest	26	3.5%	-1.41%	1.62	1.31	50.00%
2	24	13.3%	-2.60%	2.31	1.84	75.00%***
3	25	32.8%	-2.11%	3.22	3.17	84.00%***
4 Highest	25	60.5%	-1.46%	2.32	1.56	72.00%***
Corner - Middle Quartiles			0.91%		1.10	

Panel B.1: Leverage (%)						
Quartile	Obs.	VOI	CAR	t-value	KP	% neg
1 Lowest	25	4.0%	-3.70%	3.94	3.26	92.00%***
2	25	20.4%	-1.56%	1.80	1.26	64.00%
3	25	39.3%	-1.10%	1.25	1.13	48.00%
4 Highest	24	67.3%	-1.36%	2.77	2.05	79.17%***
Q4 - Q1			2.34%		2.20	

Panel B.2: Performance relative to relevant size index (%)						
Quartile	Obs.	VOI	CAR	t-value	KP	% neg
1 Lowest	25	-26.6%	-0.97%	1.08	0.57	60.00%
2	25	-6.0%	-0.60%	1.03	1.15	52.00%
3	25	8.7%	-1.68%	3.71	2.62	80.00%***
4 Highest	24	71.6%	-4.61%	4.31	4.24	91.67%***
Q4 - Q1			-3.64%		2.61	

Panel B.3: CAPM Alpha (%)						
Quartile	Obs.	VOI	CAR	t-value	KP	% neg
1 Lowest	23	-48.3%	-0.26%	0.40	0.32	47.83%
2	23	-31.4%	-0.90%	1.51	1.13	60.87%
3	23	-17.7%	-1.14%	2.38	2.13	73.91%***
4 Highest	22	11.1%	-4.06%	4.30	4.37	95.45%***
Q4 - Q1			-3.80%		3.35	

Panel B.4: Abnormal CEO Compensation (Mio. CHF)						
Quartile	Obs.	VOI	CAR	t-value	KP	% neg
1 Lowest	22	-1.2	-0.88%	1.81	1.70	68.18%
2	21	-0.67	-2.6%	2.51	1.90	76.19%***
3	21	0.21	-2.4%	2.11	1.66	66.67%
4 Highest	21	4.0	-1.51%	1.65	1.64	61.90%
Corner - Middle Quartiles			1.29%		1.43	

Panel B.5: Abnormal Board Compensation (Mio. CHF)						
Quartile	Obs.	VOI	CAR	t-value	KP	% neg
1 Lowest	22	-0.5	-0.86%	1.24	1.68	54.55%
2	22	-0.1	-2.54%	2.20	1.71	81.82%***
3	22	0.2	-2.10%	2.34	1.88	68.18%
4 Highest	22	2.8	-1.83%	2.54	1.93	72.73%*
Corner - Middle Quartiles			0.98%		1.11	

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Panel B.6: Management Holdings (%)						
Quantile	Obs.	VOI	CAR	t-value	KP	% neg
1 Lowest	28	0.2%	-1.23%	2.59	2.01	64.29%
2	22	0.6%	-1.30%	1.97	1.45	72.73%*
3	25	7.2%	-3.89%	3.47	2.66	80.00%**
4 Highest	24	45.7%	-1.20%	1.32	1.24	66.67%
Median Split			1.31%		1.56	

Panel C.1: Cash Incentives Share (%)						
Quantile	N	VOI	CAR	t-stat	KP	% neg
1 Lowest	23	14.6%	-0.99%	1.01	1.33	65.22%
2	22	43.9%	-1.43%	1.97	1.11	45.45%
3	21	75.7%	-1.39%	1.45	1.45	71.43%*
4 Highest	24	100.0%	-3.63%	4.11	3.33	91.67%***
Q4 - Rest			-2.36%		2.32	

Panel C.2: CEO Age (years)						
Quantile	Obs.	VOI	CAR	t-value	KP	% neg
1 Lowest	26	45.0	-2.76%	3.02	1.87	80.77%*
2	21	51.2	-3.36%	2.78	2.26	71.43%*
3	23	55.6	-0.71%	1.13	0.89	65.22%
4 Highest	22	63.6	-0.36%	0.63	1.33	59.09%
Median Split			-2.49%		2.94	

Panel C.3: CEO Tenure (years)						
Quantile	Obs.	VOI	CAR	t-value	KP	% neg
1 Lowest	24	2.4	-3.16%	3.51	2.96	83.33%***
2	25	6.0	-1.63%	1.84	0.72	60.00%
3	23	9.5	-1.56%	1.41	1.76	60.87%
4 Highest	23	21.3	-1.02%	2.36	1.55	73.91%*
Q1 - Rest			-1.75%		1.71	

Note: *Overall Effect*: Average cumulative abnormal return of the Top 100 as well as all stocks in the Swiss Performance Index. *Panel A.1*: Quartiles are based on average free-float adjusted market value of equity during the event window. *Panel A.2*: Quartiles are based on a firm's asset holdings outside of Switzerland relative to total assets. *Panel A.3*: Quartiles are based on the percentage of the largest single shareholder owns in the company. *Panel B.1*: Quartiles are based on Leverage which is the percentage of debt to total capital. *Panel B.2*: Quartiles are based on the return relative to the corresponding size-index in the year prior to the event. *Panel B.3*: Quartiles are based on CAPM Alpha. *Panel B.4*: Quartiles are based on Abnormal CEO Compensation, a measure relating a firm's paid remuneration to an estimated normal level in terms of firm size, performance and within year tenure. *Panel B.5*: Quartiles are based on Abnormal Board Compensation, a measure relating a firm's paid remuneration to an estimated normal level in terms of firm size, performance, within year tenure and board size. *Panel B.6*: Quartiles are based on Management Shareholdings which are the percentage of stocks held by management. *Panel C.1*: Quartiles are based on the share of variable CEO remuneration that is paid in cash. *Panel C.2*: Quartiles are based on CEO Age. *Panel C.3*: Quartiles are based on a CEO's Tenure within the current company. Stocks within percentiles are equal-weighted. Variable of interest (VOI) corresponds to the quartile average of the variable defined in the title of each panel. CAR is the total abnormal reaction during the three day event window. The t-statistic is calculated based on the variance of the unadjusted CARs as described in Appendix B. KP is the test statistic obtained by conducting [Boehmer, Musumeci, and Poulson \(1991\)](#) test as proposed by [Kolari and Pynnönen \(2010\)](#). % negative is the share of negative CAR-stocks in the respective portfolio. The stars mark the level of significance based on the generalized sign test. Corner quartiles are defined as top and bottom quartile while middle quartiles cover the leftover percentiles.

Table 5. Market reaction to binding say-on-pay, regression analysis I

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
$\ln(\text{Market Capitalization})$	0.005** (2.58)	0.005** (2.10)	0.005** (2.49)	0.005*** (2.88)	0.006*** (3.26)	0.004** (2.00)	0.006*** (2.77)	0.006*** (3.11)	0.004** (2.02)	0.004* (1.92)	0.005** (2.44)
High Foreign Assets (Q4)		0.015 (1.62)									
Medium Largest Shareholder (Q2 & Q3)			-0.001 (-0.12)								
Low Leverage (Q1)				-0.020** (-2.21)							
Relative Performance					-0.025*** (-7.22)						
Abnormal CEO Compensation						-0.003 (-1.17)					
(Abnormal CEO Compensation) ²						0.001* (1.67)					
Board Abnormal Compensation							-0.006 (-1.40)				
(Board Abnormal Compensation) ²							0.001 (1.40)				
Management Holdings								0.045*** (3.14)			
Cash-only Incentives (Q4)									-0.016* (-1.67)		
Young CEO (Q1 & Q2)										-0.021*** (-2.65)	
Short CEO Tenure (Q1)											-0.013 (-1.58)
Company Event	0.025** (2.34)	0.026** (2.51)	0.025** (2.32)	0.022** (2.13)	0.021** (2.10)	0.021* (1.96)	0.021* (1.82)	0.027** (2.58)	0.025** (2.28)	0.024** (2.18)	0.025** (2.36)
Abnormal Trading Volume	-0.007* (-1.69)	-0.007* (-1.74)	-0.007* (-1.67)	-0.007* (-1.75)	-0.006 (-1.44)	-0.006 (-1.13)	-0.005 (-1.05)	-0.007* (-1.79)	-0.008* (-1.95)	-0.007* (-1.93)	-0.007* (-1.73)
Constant	-0.057*** (-3.46)	-0.059*** (-3.40)	-0.057*** (-3.08)	-0.054*** (-3.69)	-0.060*** (-4.06)	-0.054*** (-2.88)	-0.064*** (-3.39)	-0.069*** (-4.12)	-0.048** (-2.49)	-0.037** (-2.13)	-0.053*** (-2.96)
Observations	100	96	100	99	99	85	88	99	90	92	95
Adjusted R ²	0.151	0.188	0.142	0.201	0.340	0.107	0.104	0.199	0.193	0.207	0.162

Note: The dependent variable is the cumulative abnormal return of the three day event window around the first event. t-values are calculated based on robust standard-errors and reported in brackets, with significance levels: * 0.10, ** 0.05, *** 0.01. $\ln(\text{Market Capitalization})$ measures the log value of the free float on event day. High Foreign Assets (Q4) is a dummy equal to one if the firm's Foreign Assets are in the top quartile. Medium Largest Shareholder (Q2 & Q3) is a dummy equal to one if the firm's single largest shareholder is in the middle quartiles of the variable Largest Shareholder Holdings. Low Leverage is a dummy equal to one if the firm's leverage is in the bottom quartile of the variable Leverage. Relative Performance measures the gap between observed stock return and the return of the size-appropriate index over a one year period prior to the event. Abnormal CEO/Board Compensation is measured as the difference between paid compensation and estimated normal compensation in terms of firm size and performance. The statistics for the board are reported including its Chairman. Management Holdings is the percentage of equity held by the management and board. Cash-only Incentives (Q4) is a dummy equal to one if a CEO's variable pay consists entirely of cash remuneration. Young CEO (Q1 & Q2) is a dummy equal to one if the CEO is of below median age. Short CEO Tenure (Q1) is a dummy equal to one if the CEO belongs to the lowest quartile in terms of years contracted with the current company. Company Event is a control variable for firms that communicated past year's accounting figures during a 10 day window around the event day. Abnormal Trading Volume is the difference between trading volume in the event window and the median trading volume of the respective firm in the previous year, taken as a percentage of the median trading volume of the respective firm in the previous year.

Table 6. Market reaction to binding say-on-pay, regression analysis II

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
$\ln(\text{Market Capitalization})$	0.005*** (2.78)	0.005*** (2.66)	0.003* (1.81)	0.005** (2.48)	0.003* (1.74)						0.002 (0.99)
High Foreign Assets (Q4)										0.014* (1.73)	0.010 (1.06)
Low Leverage (Q1)	-0.020* (-1.84)	-0.023** (-2.31)	-0.020* (-1.80)	-0.020* (-1.79)	-0.023** (-2.33)	-0.022* (-1.93)	0.019** (2.23)	0.018** (2.30)	0.022*** (2.73)	0.014* (1.73)	0.010 (1.06)
Relative Performance	-0.021*** (-4.87)	-0.020*** (-5.21)	-0.020*** (-4.83)	-0.021*** (-4.82)	-0.018*** (-4.90)	-0.019*** (-4.94)	-0.020*** (-5.17)	-0.018*** (-4.54)	-0.019*** (-4.76)	-0.020* (-1.88)	-0.021* (-1.89)
Abnormal CEO Compensation	-0.004* (-1.68)	-0.005* (-1.95)	-0.006** (-2.08)	-0.004* (-1.89)	-0.006** (-2.15)	-0.004* (-1.65)	-0.005* (-1.85)	-0.005* (-1.99)	-0.004* (-1.84)	-0.006** (-2.10)	-0.006** (-2.01)
(Abnormal CEO Compensation) ²	0.001** (2.24)	0.001** (2.53)	0.001*** (2.69)	0.001** (2.41)	0.001** (2.65)	0.001** (2.60)	0.001*** (2.68)	0.001*** (2.82)	0.001*** (2.83)	0.001*** (2.79)	0.001** (2.57)
Board Abnormal Compensation	-0.007* (-1.97)	-0.009** (-2.35)	-0.005 (-1.40)	-0.006 (-1.56)	-0.006* (-1.75)	-0.007* (-1.68)	-0.008** (-2.01)	-0.004 (-1.22)	-0.005 (-1.46)	-0.005 (-1.58)	-0.006* (-1.73)
(Board Abnormal Compensation) ²	0.001* (1.78)	0.001** (2.29)	0.000 (1.36)	0.000 (1.32)	0.001* (1.80)	0.001 (1.52)	0.001* (1.96)	0.000 (1.16)	0.000 (1.26)	0.001 (1.64)	0.001* (1.81)
Management Holdings	0.042** (2.43)	0.046*** (2.73)	0.040** (2.42)	0.039** (2.16)	0.044*** (2.74)	0.050*** (3.01)	0.049*** (2.90)	0.048*** (3.01)	0.048*** (2.74)	0.045*** (2.84)	0.046*** (2.88)
Cash-only Incentives (Q4)		-0.012* (-1.69)			-0.012 (-1.66)		-0.013* (-1.67)			-0.013 (-1.64)	-0.011 (-1.48)
Young CEO (Q1 & Q2)			-0.017** (-2.02)		-0.013 (-1.63)			-0.013* (-1.70)		-0.013* (-1.71)	-0.012 (-1.48)
Short CEO Tenure (Q1)				-0.008 (-0.92)					-0.007 (-0.83)		
Company Event	0.015 (1.49)	0.015 (1.46)	0.014 (1.43)	0.015 (1.56)	0.014 (1.40)	0.015 (1.62)	0.014 (1.48)	0.014 (1.50)	0.015* (1.67)	0.014 (1.36)	0.014 (1.35)
Abnormal Trading Volume	-0.006 (-1.27)	-0.007 (-1.39)	-0.006 (-1.39)	-0.006 (-1.29)	-0.008 (-1.43)	-0.007 (-1.54)	-0.008 (-1.55)	-0.007 (-1.54)	-0.007 (-1.56)	-0.008 (-1.54)	-0.008 (-1.44)
Constant	-0.055*** (-3.32)	-0.051*** (-3.01)	-0.034* (-1.87)	-0.051*** (-2.79)	-0.033* (-1.69)	-0.022*** (-4.39)	-0.017*** (-3.18)	-0.015*** (-2.66)	-0.020*** (-3.54)	-0.010 (-1.48)	-0.028 (-1.33)
Observations	84	81	81	84	78	82	80	79	82	77	77
Adjusted R ²	0.361	0.410	0.399	0.359	0.434	0.398	0.408	0.424	0.395	0.434	0.431

Note: The dependent variable is the cumulative abnormal return of the three day event window around the first event. t-values are calculated based on robust standard-errors and reported in brackets, with significance levels: * 0.10, ** 0.05, *** 0.01. $\ln(\text{Market Capitalization})$ measures the log value of the free float on event day. High Foreign Assets (Q4) is a dummy equal to one if the firm's Foreign Assets are in the top quartile. Low Leverage (Q1) is a dummy equal to one if the firm's Leverage is in the bottom quartile. Relative Performance measures the gap between observed stock return and the return of the size-appropriate index over a one year period prior to the event. Abnormal CEO/Board Compensation is measured as the difference between paid compensation and estimated normal compensation in terms of firm size and performance. The statistics for the board are reported including its Chairman. Management Holdings is the percentage of equity held by the management and board. Leverage is measured as total debt to total capital of each firm. Cash-only Incentives (Q4) is a dummy equal to one if a CEO's variable pay consists fully of cash remuneration. Young CEO (Q1 & Q2) is a dummy equal to one if the CEO is of below median age. Short CEO Tenure (Q1) is a dummy equal to one if the CEO belongs to the lowest quartile in terms of years contracted with the current company. Company Event is a control variable for firms that communicated past year's accounting figures during a 10 day window around the event day. Abnormal Trading Volume is the difference between trading volume in the event window and the median trading volume of the respective firm in the previous year, taken as a percentage of the median trading volume of the respective firm in the previous year.