Protecting Minority Shareholders: Listed versus Unlisted Firms[✦]

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Abstract

Listed firms have an incentive to render themselves attractive to investors at large. This paper examines whether listed and unlisted firms differ in their care for minority shareholders, and finds supporting evidence. We examine ownership structure, disclosure, board architecture and processes, and director compensation. The corporate governance package in listed firms differs from that in unlisted firms in terms of levels and mix of the different provisions. The data also show that listed firms perform better. Last but not least, listed firms are apparently true to their commitment to minority shareholders and distribute more cash.

Keywords: Minority protection, unlisted firms, corporate governance, board of directors, disclosure

JEL classification: G30, K00

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Abstract

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Protecting Minority Shareholders: Listed versus Unlisted Firms

1. Introduction

This paper compares listed and unlisted Swiss firms and asks whether listed firms structure their corporate governance to better protect minority shareholders and raise funds from the capital markets. In our comparison, we examine disclosure policies and study board-related characteristics such as nominating authority, tasks, composition, term, meeting frequency, and compensation.[1] We also ask whether listed firms actually do more for their shareholders.

According to La Porta, Lopez-de-Silanes, and Shleifer (1999), the problem of minority protection is fairly acute in countries outside the United States, since firms in those countries are often controlled by blockholders. In Switzerland, not surprisingly, protecting minority investors has been the main motivation driving the corporate governance discussion and the revisions of corporate legislation during the past fifteen years. This paper asks whether listed firms care more for shareholders at large than unlisted firms do.

Our investigation is ultimately related to the decision to go public. In making that decision, the controlling shareholders compare marginal benefits and costs. The marginal benefits include the opportunity to dispose of shares in a more liquid market, the ability for shareholders to diversify risk [Bodnaruk, Kandel, Massa, and Simonov (2006)], gains

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[1]   Listed firms that wish to raise capital can further protect minority shareholders by cross-listing on exchanges that subject them to stricter securities laws [Stulz (1999), Pagano, Röell, and Zechner (2002), and Reese and Weisbach (2001)].

from market timing [Pagano, Panetta, and Zingales (1998)], and a lower cost of capital.[2]

They also include the ability to tap new sources of capital [Kim and Weisbach (2005)],

reputational advantages [Brau and Fawcett (2006)], and increased flexibility in designing

performance-based compensation [Schulze, Lubatkin, Dino, and Buchholtz (2001)]. The

marginal costs include giving up private benefits of control [Zingales (1995) and

Benninga, Helmantel, and Sarig (2005)] and the cost of listing.[3]

Whatever they might be, the benefits of going public hinge on being able to raise

money in the public markets at the time of the IPO and of subsequent rounds of financing

[Kim and Weisbach (2005)]. Consequently, it would seem that listed firms have to find

ways to attract minority shareholders [see Jensen and Meckling (1976) and, among

others, Baker and Gompers (2003)]. Presumably, that requires giving them better

protection than that available while the company is privately held.

Our study should contribute to the literature in three ways. First, we focus on several

board characteristics at the same time and investigate whether the corporate governance

package of listed firms differs from that of unlisted firms [for a survey that reviews

board characteristics, see, among others, John and Senbet (1998), and Hermalin and

Weisbach (2003)]. Second, we examine unlisted firms. We know fairly little about these

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[2] For example, Pagano, Panetta, and Zingales (1998) document that independent companies experience a reduction in the cost of bank credit after the IPO, possibly because of the improved information or the stronger bargaining position.

[3] There is disagreement, however, about whether going public increases managerial discretion and whether that has adverse effects. Bhide (1993) argues that liquid markets impede control and thereby induce (or exacerbate) conflicts of interest between shareholders and managers. In contrast, according to Maug (1998), liquid markets favor monitoring by enabling investors to more cheaply compile significant blocks of votes. Boot, Gopalan, and Thakor (2003) and Boot, Gopalan, and Thakor (2006) think the same way, but contend that, in a world of asymmetric information and unpredictable investor bases, the accumulation of voting blocks to reign in managers can be detrimental. Increased outside control can also discourage valuable firm-specific investments by managers [Burkart, Gromb, and Panunzi (1997)], or managerial effort [Adams (2001)].

firms [Zingales (2000)],[4] let alone about their boards [Hermalin and Weisbach (2003)]. And third, by relying on a survey of chairmen of the board (COBs), we are able to ask direct questions that would be difficult to answer with conventional data.

Investigating corporate Switzerland is not necessarily a restriction. Swiss equity market capitalization is the tenth largest in the world, and the fifth largest in Europe. Our sample includes global players such as ABB, Credit Suisse, Novartis, Roche, Syngenta, and UBS. Switzerland is also an interesting case because of its institutions. Swiss legal guidelines are fairly tolerant in matters related to corporate governance, which means that many of the governance measures firms adopt are voluntary and not imposed by law or regulation.

The evidence we uncover is generally consistent with the hypothesis that listed firms seem to be concerned about minority shareholders and that they address that problem with larger doses and a different mix of remedies. Unlike what we observe in unlisted firms, their boards own typically very little stock, which could protect minority shareholders from being expropriated by controlling shareholders. Moreover, they disclose more and better even when not required to, and they opt for board design, composition, processes, and incentives that are consistent with the need to give minority shareholders more protection. The boards of unlisted firms are different in this regard, but they are in no way without real function. The evidence also suggests that listed firms perform better, at least as measured by their industry-adjusted sales growth. Finally, listed firms seem to put their money where their mouth is and distribute more cash to shareholders at large. The latter evidence, however, is tentative and needs to be buttressed further.

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[4] The literature, however, has begun closing this gap. See, for example, Cole and Mehran (2006).

The remainder of the paper is organized as follows. The next section presents the investigation design in more detail. Section 3 discusses the data and their source. Section 4 examines the ownership structure of listed and unlisted firms. Section 5 compares the disclosure practices of those firms. Section 6 contrasts board architecture and processes. Section 7 investigates those differences in more detail. Section 8 inquires into the adoption of anti-takeover defenses. Section 9 examines differential firm performance, and Section 10 draws conclusions.

2. Methodology

Since unlisted firms do not depend much on the equity markets, they have few incentives to disclose any information—and there is little they have to disclose under Swiss law. In addition, their boards might simply be there because the law prescribes their existence.

In contrast, listed firms have different incentives. If they want to raise money from the general public on favorable terms, they have to attract investors [Jensen and Meckling (1976)]. They have to solve a governance problem, namely the protection of minority investors, which unlisted firms do not face, or do so in a less extreme form. That means: (a) becoming more transparent; (b) choosing board structures and designing board processes that make it difficult for controlling shareholders to expropriate their fellow shareholders; and (c) providing managers and directors with the appropriate incentives. The purpose of this paper is to test these predictions. We also test whether listed firms have indeed a more diffuse ownership structure, and whether they perform better and distribute more cash to shareholders.

In principle, we should compare firms before listing and right afterward. Unfortunately, we only have data about a cross-section of listed and unlisted firms, and little information about the listed firms when they go public. Hence, we conduct a cross-sectional comparison of listed and unlisted firms.[5] In a paper with a similar purpose, Gertner and Kaplan (1996) examine the board structure of firms that undergo a reverse leveraged buyout. For comparable reasons, however, they investigate the years immediately after the IPO. Baker and Gompers (2003) perform a study of the boards of firms that go public. Still, they do not compare pre- and post-IPO board characteristics, but rather board characteristics of venture- and nonventure-capital-backed IPO firms.

One potential difficulty in carrying out our investigation arises because many of the dimensions of corporate governance we are interested in could be the result of deliberate optimization and therefore be interdependent.[6] The problem is, we do not know of any paper that formally models the result of such an optimization [see also Hermalin and Weisbach (2006)]. What we can do, however, is focus on the reduced form of such hypothetical models, and examine whether being listed affects the equilibrium characteristics of interest, such as ownership structure or board independence. What follows explains in the necessary detail the design of our investigation.

Formally, suppose there are M structural equations and M endogenous variables, represented by the vector y_t, that describe the optimal structure and processes of corporate governance. Also, suppose there are K exogenous variables with an influence

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on corporate governance, as summarized by the vector x_t. The structural form of the model is

$$y_t' \Gamma + x_t' B = \varepsilon_t',$$

where Γ and B are parameter matrices, and ε_t is a vector of uncorrelated disturbances randomly drawn from an M-variate distribution with zero expected values and finite variance-covariance matrix [Greene (2000, pp. 658-660)]. Assuming Γ is nonsingular, we can write the reduced form of the model as

$$y_t' = -x_t' B \Gamma^{-1} + \varepsilon_t' \Gamma^{-1} = x_t' \Pi + v_t' \quad . \tag{1}$$

As pointed out above, we are unable to estimate the structural coefficients Γ and B of the model. We can, however, examine whether various dimensions of corporate governance in listed firms differ from those we observe in unlisted firms. This means comparing the left-hand side of the reduced form (1) of the corporate governance model in listed firms with that in unlisted firms. We can do so without being concerned about the fact that the corporate governance dimensions we study are interdependent. In doing so, we assume the listing decision as given. We investigate various internal governance mechanisms— ownership structure and board architecture and processes. This first step of the analysis can be carried out with a series of mean (median) comparison tests.

Finding a difference between listed and unlisted firms could be induced by different reduced-form parameter coefficients, Π, or because the sample averages of the exogenous variables in the model differ across firms—listed firms, for example, could be larger. If the package of corporate governance provisions is different in listed firms, we would expect different coefficients, since the various governance instruments have to be

calibrated in a different way. The second step of our analysis therefore investigates differences in the parameters Π. For each governance dimension of interest, we therefore estimate the regression equations in (1) as follows:

$$y_{it} = \pi_{0i} + \pi_{1i}x_{1t} + \pi_{2i}x_{2t} + ... + \delta_{0i} \times D_i + \delta_{1i}x_{1t} \times D_i + \delta_{2i}x_{2t} \times D_i + ...v_{it},$$ (2)

where D_i is a binary variable equal to 1 if the firm is listed, and equal to 0 otherwise. If corporate governance solutions differ in listed firms, at least some of the δ_i coefficients will be significantly different from zero. Put differently, it is not enough to add the binary variable D_i in equation (2) to assess the impact of listing. We also have to allow for changes in the parameters associated with the exogenous variables. Note that this analysis is also possible when the governance characteristics examined are not the result of deliberate optimization but the cumulative result of past events, such as the firm's financing history [Baker and Gompers (2003)].

Of course, the listing decision per se is endogenous at some point in the history of a corporation as well [see, among others, Zingales (1995), Pagano and Röell (1998), Boot, Gopalan, and Thakor (2003, 2006a, 2006b)]. In our discussion, we have taken that decision as given. However, in some cases, this potential endogeneity problem cannot be avoided completely, even if listing has occurred years in the past. These are cases in which the governance variable of interest, for instance board independence, induces listing rather than (or in addition to) being affected by it. In these cases, it is difficult to interpret the preceding tests and say something about causality. To get around that problem, we replicate the analysis by instrumenting the binary variable D_i. We discuss the details of that procedure in more detail in the empirical section.

The second difficulty in testing our predictions is that listed firms have to do more about corporate governance by law or to meet the SWX Swiss Exchange's (SWX) mandatory guidelines. In and of itself, this does not contradict what we are saying, since law and exchange guidelines are ostensibly meant to protect minority investors. Yet we cannot be sure. The law could be there to protect incumbent firms against their young competitors. If so, the type of governance firms adopt could be unrelated to the desire of attracting investors. Our investigation therefore focuses on aspects of corporate governance that firms can adopt voluntarily.

3. Sample Characteristics

The data on board characteristics come from a survey conducted in 2003, when we sent a questionnaire to the COBs of the 1,102 largest firms headquartered in Switzerland.[7] Those firms included 176 companies listed on the SWX accounting for 97.8 percent of the exchange's total market capitalization. A total of 271 usable questionnaires were returned, for a response rate of roughly 25 percent. The breakdown of the sample is 73 SWX-listed firms (response rate of 41 percent, representing 66 percent of the exchange's total market capitalization), 10 firms listed on foreign exchanges, 3 firms traded on the OTC market, and 185 unlisted firms (response rate of 21 percent). The sample therefore includes 86 firms that we denote as listed, and 185 unlisted firms. We also use data on disclosure practices. We take these data from corporate Web sites and from the annual issues of *Aktienführer der Schweiz*, a publication of the biweekly newspaper *Finanz und Wirtschaft*.

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[7]   This directory is from the publication "Top 2002 / Die grössten Unternehmen in der Schweiz," printed by Handelszeitung, a business weekly.

Table I displays descriptive sample statistics. Listed firms are a median 8 years younger than unlisted firms (49 years versus 57). Moreover, they employ significantly more people—the median listed firm has almost 30 times as many employees as the median unlisted firm, namely, 8,000 versus 300. The median listed firm is also much larger in terms of share capital—USD 38 million compared with USD 2 million, assuming an exchange rate of CHF 1.3 to the USD. There are, however, fairly large firms among our unlisted firms as well—in fact, 21 percent of them employ more than 1,000 people. Table II provides the definition of all the independent variables used in the analysis. [8]

4. Ownership structure

If the original shareholders give up some control with the IPO to raise outside capital, listed firms should be less closely held. Moreover, if these shareholders want to bond themselves and signal that they intend to refrain from the temptation to reap private benefits of control, they will sit less frequently on the board of their firms and be less frequently part of the management team. In many respects, the ownership structure observed in listed firms follows a pattern that matches these predictions (Table III).

The largest shareholder of a listed firm holds a median 24 percent of the votes in his firm, compared with the 70 percent he controls in unlisted firms. Ownership structure in listed firms is less concentrated in general. Aggregate blockholdings (defined as aggregate holdings of shareholders with a stake larger than 5 percent) make up a median 45 percent of the votes in listed firms, compared with 100 percent in unlisted firms. Neither the largest shareholder nor blockholders in listed firms are generally managers or

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directors, since board and management control only a median 1.0 percent of the votes each. The subsequent analysis reveals, however, that this tendency is inversely correlated with the largest shareholder's stake. Shareholders with a very large stake tend to be more often directors. In unlisted firms, the largest shareholder is generally a board member, since directors as a group hold a median 75 percent of the votes, which is just about what the largest median shareholder controls. However, the median holdings by managers are zero in unlisted firms as well.

Even though their ownership structure is different, both types of firms confront similar potential conflicts of interest. Since the largest shareholder does not typically control 100 percent of the votes in either firm, both listed and unlisted firms have minority shareholders and hence potential conflicts of interest between controlling and minority shareholders. Moreover, since management owns little if any stock, both listed and unlisted firms face a potential separation of ownership and control problem [Berle and Means (1932)]. In listed firms, the problem could be exacerbated by the fact that the board owns little stock, too.

5. Disclosure

Listed firms are required by law and the SWX guidelines to make various pieces of information publicly available, including their financial statements. In comparison, unlisted firms are not required to disclose much of anything. Corporate law asks them to file with the commercial register only: (a) name, place, and date of incorporation; (b) purpose; (c) corporate charter; (d) number of shares outstanding, par value, and restrictions on transferability of shares; and (e) names of directors. Since they do not

want to attract investors at large, unlisted firms might choose to reveal as little information as possible. Doing otherwise would be costly and help competitors.

Comparing the disclosure policy of listed and unlisted firms can be a problem, however, because it may be difficult to assess what listed firms would have disclosed had they not been forced to do so by law. To get around this problem, we focus on voluntary disclosure. We first investigate the amount of information provided by the corporate Web sites of listed and unlisted firms. Then we examine the accounting standards used by listed firms in the preparation of their financial statements. We ask whether listed firms voluntarily release more information and choose more demanding standards than those required by law.

5.1 COMPARISON OF CORPORATE WEB SITES

Table IV shows the results of our analysis of corporate Web sites. We expect listed firms to offer significantly more information. According to Healy and Palepu (2001), issuing firms have similar incentives. The results seem to bear out this prediction. All listed firms and an overwhelming majority of the unlisted ones (91 percent) have corporate Web sites. On them, unlisted firms provide only very scant financial information. Forty-seven percent do not provide any such information, 15 percent disclose only last year's sales, 12 percent provide data about sales or earnings during the past three years, and merely 25 percent publish full balance sheets or income statements. In comparison, almost all listed firms (90 percent) post their full balance sheets and income statements. The difference is statistically significant.

Moreover, about 91 percent of all listed firms make the annual report available and 57 percent display their organizational chart. Significantly fewer unlisted firms do so. Barely 25 percent include their annual reports and fewer yet show their organizational charts.

Listed firms therefore reveal more, consistent with the contention that they want to be more transparent. One could argue that, since unlisted firms are smaller, they also have fewer resources to spend. The problem with this argument is that, if a company has a Web site (which most unlisted firms do), the marginal costs of posting items such as a balance sheet or an organizational chart are negligible. Moreover, in multivariate logit regressions of whether or not firms make a particular item available on their corporate Web sites, listing status has a positive and significant coefficient even after controlling for firm capitalization (not shown).

5.2 ACCOUNTING STANDARDS

In 2002, the SWX decided that, starting with fiscal year 2005, listed firms would have to use internationally accepted standards in the presentation of their financial statements.[9] Until then, firms could choose among IFRS, US GAAP, or Swiss GAAP FER. Compared with internationally accepted standards, Swiss GAAP FER is more ambiguous and makes cross-sectional comparisons more difficult [see also Dumontier and Raffournier (1998)]. In terms of sheer costs, however, it is the most convenient standard. Yet, even before the SWX decision, the majority of listed firms used IFRS or US GAAP.

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[9]   Actually, the requirement applies to firms listed in the main segment. Local caps, real estate companies, and investment companies can use other standards. There are only two such firms in the sample.

This confirms the hypothesis that listed firms want to disclose more information to investors.

To document this claim, the following table inquires what accounting standards were used by firms traded on the SWX in 2001, the year before the exchange introduced the new regulation.

Accounting standards	2001
IFRS	154 (52.0%)
US GAAP	14 (4.7%)
Swiss GAAP FER	97 (32.8%)
Bank-specific regulatory standards	20 (6.8%)
SWX-specific standards	3 (1.0%)
Other	8 (2.7%)
Total	296 (100.0%)

Of the 296 firms that traded on the SWX in 2001, 154 used IFRS, 14 used US GAAP, and only 97 used Swiss GAAP FER. Excluding banks and other special cases that have their own regulation, 63 percent[10] of all listed firms therefore adhered to stricter standards than those required by law. Some of these firms were traded on foreign exchanges and were therefore forced to adopt IFRS (31 firms) or US GAAP (7 firms). Even taking these cases into account, however, 57 percent[11] of the companies listed on the SWX that were free to choose adopted standards that improve comparability. This corroborates the hypothesis that listed firms want to be more transparent and therefore more attractive to investors at large. Consistent with this evidence, Leuz and Verrecchia (2000) find that a

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[10] $(154+14)/(154+14+97) = 0.63$.
[11] $(154–31+14–7)/(154–31+14–7+97) = 0.57$.

group of firms that switch from German GAAP to IAS or US-GAAP, and thereby commit to increased levels of disclosure, experience lower bid-ask spreads.

Overall, the evidence presented in this section supports the claim that listed firms disclose more and better. In the following section, we ask whether they also structure their board to attract minority investors.

6. Board Architecture and Processes

Boards have an important role of protecting minority shareholders [Anderson and Reeb (2004)]. However, there are hardly any provisions in Swiss corporate law or in the SWX's regulations concerning board structure. Corporate law, in particular, only says that the majority of directors have to be Swiss citizens, that all directors must own at least one share of stock, and that boards must have at least one member (three at the time of incorporation). Other than the law, only the Swiss Code of Best Practice (SCBP) addresses board-related matters, but its recommendations concerning board independence and the appointment of board committees are vague and non-binding. The code is issued by Economiesuisse, the largest private umbrella organization of Swiss businesses from all sectors of the economy. Unlike what happens in the U.K., firms that do not comply with the code do not even have to explain why.

We can therefore test whether the boards of listed firms are designed to give minority shareholders better protection. We begin with a discussion of board architecture. Section 6.2 examines the board's nominating authority. Section 6.3 reviews board processes, tasks, and incentives.

6.1 BOARD ARCHITECTURE

To be effective, listed firms have to find appropriate board structures. Panel A of the table examines size, independence, committee structure, the presence of blockholders on the board, as well as COB-CEO duality. The results are in Panel A of Table V.

6.1.1 Board Size

Being a publicly traded company would seem to complicate board activities because the firm has to interact with capital markets. Among other things, listed firms have compliance issues to deal with, they have to address delicate disclosure questions, and they have to protect minority investors. This complexity requires more resources and, possibly, larger boards. Of course, small boards have their advantages, too. They would seem to be more efficient and to make it more difficult for directors to free ride [Lipton and Lorsch (1992) and Jensen (1993)].[12] The net effect is an empirical issue. According to Jensen (1993), board effectiveness starts declining when board size exceeds 7-8 directors.

The data show that the boards of listed firms are significantly larger than those of unlisted firms, consistent with the hypothesis that listed firms face more complex issues. We find a median board size of 6 in listed firms and 5 in unlisted ones (the average numbers are 7 and 5, respectively).[13] Lehn, Patro, and Zhao (2004) report a median board size of 11 for the U.S., possibly because U.S. firms are larger. We also asked COBs to indicate what board size would be optimal. In both types of firms, actual average size corresponds to ideal size (not shown). There are therefore reasons to believe

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[12]   Yermack (1996) and Eisenberg, Sundgren, and Wells (1998), find that smaller boards are associated with higher firm value. See, however, also Bennedsen, Kongsted, and Nielsen (2006).

[13]   For a comparison, Loderer and Peyer (2002) document a median board size in SWX firms of 9 in 1980 and 7 in 1995. Hence, board size in listed firms seems to have fallen over time.

that the various corporate governance dimensions we observe are equilibrium values. It is therefore appropriate to think of them in terms of the simultaneous equations model discussed in Section 2.

6.1.2 Board Independence

To protect minority interests from the self-serving activities of majority shareholders and managers, the possible solution is to have a larger fraction of independent directors, defined as individuals without business ties to or a managerial job in the firm during the past three years [SCBP].[14] Consistent with this prediction, the fraction of independent directors in listed firms is a median 80 percent, significantly larger than the 50 percent observed in unlisted firms.[15] The proportion of listed firms with a fraction of independent directors larger than 50 percent is also significantly larger (89 versus 62 percent).

6.1.3 Board Committees

If the boards of listed firms have to take on more responsibilities, they should be structured to allow specialization. The evidence confirms this prediction by showing that listed firms are more likely to have formal board committees. The vast majority of listed firms have an audit and a nomination and compensation committee. One should note, however, that most listed firms introduced board committees only in 2002 in reaction to the non-binding recommendations by the SCBP.

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[14]   According to Bhagat and Black (1999), however, there is no clear relation between board independence and firm performance.

[15]   In spite of the intense discussion in the media and the pressure by regulators, board independence in listed firms in Switzerland is still about where it was during the past fifteen years or so [Loderer and Peyer (2002)].

6.1.4 Blockholder board representation

In Table III, we documented that the largest shareholder sits less frequently on the board of listed firms. The reason, we argued, could be the need to signal a credible commitment to limit his private benefits of control. This empirical regularity holds for blockholders in general. Sixty-one percent of listed firms have at least one blockholder on their board, compared with 72 percent in unlisted firms. The difference is marginally significant (confidence 0.90) and persists if we exclude firms that do not have large shareholders.

6.1.5 CEO-COB and CEO-director dualities

The practice of CEO-COB duality is fairly controversial and differs significantly across countries [Dalton and Kesner (1987) and Dahya, McConnell, and Travlos (2002)]. Whereas the media, shareholder activists, and regulators seem to believe that it is bad practice to have the same person serve as the CEO and the COB of a company, the evidence does not seem to bear this out [Brickley, Coles, and Jarrell (1997)].

We look for differences in duality between listed and unlisted firms in our sample. If this phenomenon does indeed create agency problems, we would expect listed firms to be less frequently associated with this practice since they depend more on the capital markets. According to the evidence, the fraction of firms with CEO-COB duality is 20 percent in listed and 28 percent in unlisted firms; the difference, however, is statistically zero. Hence, CEO-COB duality is reasonably diffused but unrelated to listing. In comparison, 55 percent of listed firms in the U.S. had dual CEO-COBs (Lipton, 2007). We also investigate the case where the CEO is simultaneously a director (not necessarily

the COB). This occurs in 40 percent of the listed firms and 51 percent of the unlisted ones. This difference is not statistically significant either.

Finding no difference in CEO-COB duality, however, does not necessarily mean that there are no problems associated with that practice. In fact, when we look at listed firms with CEO-COB duality, we find that 73 percent have a lead director. The percentage is only 37 in unlisted firms. The difference is statistically significant. According to Lipton (2007), appointing a lead director is what firms should do in case of duality. This is also what the SCBP suggests.

6.2 NOMINATING AUTHORITY

We ask the COBs to tell us which parties have a say in the nomination of directors. They can rate the influence of various parties on a scale of 1 to 4, with 1 being the weakest influence. To guarantee separation of powers and cater to shareholders at large, listed firms should avoid giving nominating authority to management. Also, to limit the consumption of private benefits of control, they should restrict blockholders' ability to influence the composition of the board.

Panel B of Table V compares the average nominating authority of various parties inside and outside the firm. The first difference we notice is that the party with the greatest say in listed firms is the board, whereas in unlisted ones it is the blockholders. This is consistent with the claim that listed firms want to limit conflicts of interest and attract minority investors. The result holds if we constrain our analysis to firms with blockholders. Similarly, insiders such as the CEO and management have comparatively less nominating authority in listed firms, but the difference is not significant. In either

type of firms, however, the CEO has less to say than the board or the blockholders.

Separation of powers is therefore a principle practiced to some extent in all sample firms, regardless whether they are listed. We also find that institutional investors carry more nominating weight in listed firms.

6.3 BOARD PROCESSES, TASKS, AND INCENTIVES

This section compares the functioning of boards, as well as the tasks that they are designed for. In addition, we examine how directors are compensated.

6.3.1 Meeting Frequency

According to Vafeas (1999), board meeting frequency is an important dimension of board operations. If board meetings have a real purpose, one would expect boards to meet more often in listed firms. Panel C of Table V seems to support this contention. Most listed firms (51 percent) meet between six and eight times a year,[16] whereas 50 percent of the unlisted firms meet between three and five times. The difference is significant with confidence 0.99. As a comparison, the table also reports the meeting frequencies that would be optimal in the eyes of the COB, based on their answer to a specific question in the survey. Actual meeting frequencies is optimal regardless whether we examine listed or unlisted firms. However, also COBs seem to think that boards should convene more frequently in listed than in unlisted firms.

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[16]   Adams (2003) reports an average 7.6 regular board meetings in Fortune 500 firms.

6.3.2   Board Term

Unless the corporate charter specifies otherwise, Swiss corporate law requires a term of three years;[17] the legal maximum is six, and reelection possibilities are unrestricted. One possible reason for limiting board terms is that changing markets require up-to-date skills and knowledge from board members. Directors must therefore be replaceable. The question is how long the terms should be. Longer terms encourage directors to invest time and gain valuable firm-specific information. However, longer terms can also lead to entrenchment. Hence, we cannot predict what board term we should expect if listed firms wanted to protect minority investors.

The evidence in Panel C of Table V reveals a board term of three years in 64 percent of the listed firms. Three years is also the most common term in unlisted firms (46 percent of the cases). Yet there are many more cases of terms shorter than three years in unlisted firms (37 vs. 17 percent). The difference is significant with 95-percent confidence.

6.3.3   Board tasks

According to the literature, the three main functions boards fulfill are advising managers about business strategy [see, among others, Fama and Jensen (1983)], monitoring managerial performance [see, among others, Fama (1980), Hermalin and Weisbach (1998), Monks and Minow (2001), and Adams (2001)], and looking after the interests of stakeholders [Adams (2003)].

In Section 4, we have seen that unlisted firms are closely held and that their blockholders are usually directors. Even though the law puts boards formally in charge

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[17]   There are discussions to bring that limit down to one year.

of strategy definition and monitoring, these blockholders will want to take over some of the functions that boards are in principle designed for. If so, the boards of unlisted firms will tend to be more like rubber-stamp assemblies than effective organizations.[18] In contrast, the boards of listed firms should have actual (as opposed to formal) responsibilities.

To find out whether this is true, we ask the COBs in our sample to indicate the activities that their boards are responsible for and to specify the importance of those activities. The activities range from strategy definition to company representation. The results in Panel C of Table V indicate that the boards of listed firms are significantly more engaged in the appointment and dismissal of managers, the monitoring of the CEO, and in managing the relations with key investors. There is no difference between the two sets of firms, however, when it comes to strategy definition and monitoring the firm's financial situation. An active supervision of the firm's finances is not surprising, since directors are liable for delays in declaring bankruptcy regardless of whether the firm is listed.

6.3.4 Board compensation

Listing and the associated need to protect minority investors should also have an impact on the level as well as the composition of compensation package. The level should be higher to make up for the increased media exposure that executives and directors have to endure. Listed firms also tend to be confronted with a greater problem of separation of ownership and control. To solve that problem, they may tie pay to performance—thereby

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[18]   According to Becht, Bolton, and Röell (2003) this is also the case in listed firms with dispersed ownership.

introducing incentive mechanisms that replace the direct monitoring of the controlling shareholders.

As it turns out, however, variable compensation does not seem to be the rule among directors, and there is no difference between listed and unlisted firms in this respect. Eighteen percent of listed firms pay their directors on a variable basis, compared with 14 percent of unlisted firms (Panel C of Table V). The difference is insignificant at customary levels.

Overall, the boards of listed firms tend to differ from those of unlisted firms along the lines we would expect. They are larger and more independent, they are structured more often with committees, meet more frequently, have shorter terms, and are more likely to have a lead director in the case of CEO-COB duality. Moreover, nominating authority lies more often with the board itself and less often with blockholders. There is no difference, however, with regard to variable compensation.

7. The Mechanics of the Listing Effect

This section wants to interpret the preceding evidence that various dimensions of corporate governance are not the same across listed and unlisted firms. The question it seeks to answer is whether the governance model that is optimal for listed firms differs from that which is optimal for unlisted firms. We can find out by examining whether the reduced form (1) of the model in listed firms has different coefficients than the one in unlisted firms. Those coefficients are a function of the coefficients of the structural form of the model. A difference in the coefficients would mean that the remedies in the

governance package of listed firms have different dosages and mixes. In contrast, finding

no difference in the coefficients of the reduced form would mean that the evidence we

just reported of different governance dimensions is due to different means in the

exogenous variables of the model.

For simplicity, we estimate equation (2) only for a subset of the governance

dimensions investigated in Table V. We examine board size, independence, blockholder

representation, variable compensation, as well as how intensely the board monitors the

CEO and how deeply involved the board is in the nomination of new directors. The

regressions with a binary dependent variable are probit regressions, the rest are OLS

regressions. As a robustness test, we replicated the regression involving board size by

measuring that variable as the relative deviation from the median board size of the firm's

industry. The results are identical in terms of sign and significance of the coefficients.

The independent variables are firm size (LNSIZE), the fraction of votes controlled by the

largest shareholder (LARGESTVOTE), two binary variables that identify firms in the

financial industry and the high-tech industry,[19] respectively, and a binary variable that

measures the firm's listing status. To allow for different doses of the remedies in the

corporate governance package of listed and unlisted firms, each one of these variables is

also included as an interaction variable with listing status. Note that by selecting

LARGESTVOTE as an exogenous variable, we assume that the stake of the largest

shareholder is given. We claim that it is corporate governance that accommodates to the

largest shareholder rather than the other way around. The results, however, remain

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[19]   High-tech firms are in the chemical/pharmaceutical, medtech, technology/information systems, or the
        telecommunication industry.

unchanged when we drop that assumption and treat LARGESTVOTE as an endogenous variable.

The results are shown in Table VI. The coefficient of listing status has often significant coefficients either by itself or in conjunction with other exogenous variables. The results therefore suggest that the optimal corporate governance package of listed firms is different. In part, firms meet their governance problems by simply adjusting the level of their governance tools, for example by choosing larger boards or opting for greater board independence. This is what the significant coefficient of listing status alone suggests. In part, however, they combine their various tools in a different way. This is what the significant joint effects imply. For the details, let's take a look at the individual regressions and focus on the listing effect.

Column (1) inquires into board size. In general, the greater the stake controlled by the largest shareholder, the smaller the board, possibly because the controlling shareholder wants to run the firm from the board and has no need for many directors. However, this effect disappears when the firm is listed. One explanation is that legal and regulation requirements make the board's work in listed firms more complex. Column (2) takes a look at board independence. Listed firms have boards with a significantly larger proportion of outsiders, consistent with the hypothesis that listed firms want to separate powers and protect minority investors. A high stake of the largest shareholder, however, offsets that tendency. Presumably, majority shareholders with a big enough stake are more interested in securing their control than in providing guarantees to minority shareholders. Column (3) refers to whether blockholders (in terms of the votes they control) are also directors. We see that blockholders are generally less likely to sit

on the board of listed firms, unless they are the largest shareholder with a large stake, in which case they are more likely to be directors. These results are significant with confidence 0.95.[20] There is also an industry effect, in that the blockholders of listed financials are more frequently directors. Board compensation is analyzed in column (4). The numbers reveal a difference between listed and unlisted firms that the mean-comparison test of Table V fails to pick up. There, we are unable to find any differences between listed and unlisted firms. Here, we observe that listed firms in the financial industry are more likely to have variable forms of compensation. In financials, the contribution of the board to firm performance might be more tangible. Column (5) presents the results relating to how closely the board monitors the CEO. This activity is marginally more diffused among the boards of listed firms (the effect is significant with confidence 0.90). However, this difference goes progressively away as the stake of the largest shareholder increases. The largest shareholder may prefer to monitor the CEO personally.

Overall, we find evidence suggesting that, if there is an optimal governance model, it differs across listed and unlisted firms. It seems that the mix of governance tools used by listed firms differs from that used by unlisted firms.

As mentioned in Section 2, the preceding analysis assumes that listing is exogenous to the various governance dimensions. As a robustness test, we drop that assumption and instrument listing status with the industry dummies bFINANCIAL and bHI-TECH. A Stock-Yogo (2003) test rejects the hypothesis of weak instruments. Firm size and the stake of the largest shareholder are included as controls.

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[20] Unless stated otherwise, statistical significance is with confidence 0.95.

For the specifications in the first two columns of the table we estimate a probit regression for listing status and follow Wooldridge's (2002) procedure 18.1 to estimate the parameters of our regression equations. To estimate the specifications in columns (3)-(5), we use the ivprobit approach as implemented in Stata 10. For all specifications, we drop all multiplicative terms. The last two rows in the table show the resulting Wu-Hausman F-test statistics for the first two specifications and chi-square values for a Wald test of exogeneity (as implemented in Stata 10) for the remaining three columns. The tests are unable to reject exogeneity of listing status, which is why we report the simpler results. The exception is the test for the case of board independence. The coefficients implied by that analysis, however, are identical in sign and significance to the ones we report.

8. Buildup of Takeover Defenses

Control is generally contestable in listed firms, since any investor can buy stock. In comparison, unlisted firms are less exposed to the threat of takeover because they are closely held and their shares are not traded on an organized exchange in the first place. The rationale for adopting takeover defenses could be managers' attempt to avoid the discipline of capital markets and protect their on-the-job consumption. These defenses, however, could also be justified on the basis of efficiency arguments. They could, for example, increase firms' bargaining power in takeover contests [DeAngelo and Rice (1983) and Stulz (1988)] or prevent managerial myopia [Stein (1988)]. In what follows, we test for differences in takeover defenses in listed and unlisted firms. Daines and Klausner (2001) study a sample of firms that go public in 1994-1997 and find that antitakeover provisions are common in IPO-stage charters. The need to boost bargaining

power and the threat of market myopia, however, cannot explain these provisions, and neither can managers' desire to protect their privileges.

Panel A of Table VII describes the frequency of three types of antitakeover mechanisms: voting restrictions, dual-class structures, and staggered boards. In dual-class structures, one class of stock is given more voting rights for the same par value. Interestingly, these mechanisms can be found in unlisted firms as well. The most obvious explanation for their existence there is control arguments rather than bargaining or managerial myopia rationales. Voting restrictions exist in about 30 percent of listed firms compared with roughly 10 percent of unlisted ones. Dual-class structures are comparatively infrequent, although they are more prevalent in listed firms, too—12 percent of listed firms compared with 5 percent of unlisted ones. Finally, there is a slight difference in the frequency of staggered boards—26 and 22 percent in listed versus unlisted firms. Note, that in Switzerland, unlike what happens in the U.S. [Bebchuk, Coates, and Subrahmanyan (2002)], it is not possible to install staggered boards in such a way that dismantling them would require shareholder *and* board approval.

Panel B of the table estimates robust probit regressions to explain the cross-sectional variation of a given antitakeover device. As in the case of Table VI, these regression specifications compare the reduced form of the hypothetical governance model in listed and unlisted firms. Voting restrictions is the first antitakeover provision examined. The regression fails to uncover a difference. The higher frequency of this provision among listed firms observed in Panel A is therefore due to diverse average values of the exogenous variables in the two samples, in particular, the stake of the largest shareholder. The coefficient associated with that variable is negative and significant. Since the stake

of the largest shareholder is smaller in listed firms, that could explain the higher incidence of voting restrictions in listed firms.

The second antitakeover provision examined is dual-class structures, which we saw are more prevalent among listed firms. The results indicate that the likelihood of dual-class structures increases significantly with the stake of the largest shareholder in listed firms. Control is easier to finance if the largest shareholder holds the stock with superior voting rights. The third provision of interest is staggered boards. We saw in the preceding table that this provision is equally common in either type of firm. The regression analysis is unable to unearth any hidden cross-sample differences in the popularity of this mechanism.

As in the preceding table, we examine the possible reverse causation between antitakeover devices and listing status. It could be that firms with antitakeover mechanisms in place are more likely to list. As in the preceding table, we instrument listing status with the industry dummies bFINANCIAL and bHI-TECH. Firm size and the stake of the largest shareholder are included as controls. We drop the multiplicative terms in the regression specification and estimate the regression parameters following the ivprobit approach as implemented in Stata 10. The last row in the table shows the resulting chi-square values for a Wald test of exogeneity. The test is unable to reject exogeneity of listing status at traditional levels of confidence.

9. Firm performance

To be attractive, listed firms eventually have to deliver their implicit promises of protection for minority investors in dollars and cents. This section asks whether that is

the case. To find out, we need performance data. Unfortunately, as we have seen, unlisted firms disclose very little, least of all performance information. The only data we have are sales from Bureau van Dijk's Amadeus database, and only for a limited subset of firms. Table VIII uses these data to compare the performance of listed and unlisted firms; performance is measured as the deviation of the firm's sales growth from the industry median. The years examined are 2003–2005 and 2004–2005. The survey year is 2003.

The regressions control for firm size, voting stake of the largest shareholder, and binary variables for the financial and the high-tech industry. According to Table VIII, listed firms experience significantly faster industry-adjusted growth, especially if we focus on 2004–2005, the years past the survey year. Looking at those years, the difference is larger than 10 percentage points, regardless whether we control for the stake of the largest shareholder. None of the control variables has a significant coefficient.

It is unclear, though, which way causality goes. Does listing, with the increased scrutiny by the investment community it brings about, induce firms to perform better, or are better firms more likely to list? To find out, we drop the multiplicative terms in the specification and repeat the analysis with an instrumental variable approach. In that approach, we instrument listing status once again with the industry dummies bFINANCIAL and bHI-TECH. Firm size and the stake of the largest shareholder are included as controls. We then implement Wooldridge's (2002) procedure 18.1. The resulting Wu-Hausman F-test statistic reported at the bottom of the table is unable to reject exogeneity of listing status at traditional levels of confidence. Hence, there is no

reason to question the probit results we just discussed. Based on this evidence, listing status induces companies to achieve superior performance.

We also examine whether listed firms are more inclined to letting investors at large participate in their superior performance by distributing more generous cash dividends. Here too, we have only limited data. What little information we do have is consistent with the proposition. There are 101 firms in Switzerland that go public in the years 2000–2006. We have dividend data for 29 of these firms three years before the IPO and data for 81 of them three years thereafter. Three years before the IPO, only 27 percent of the available firms pay dividends, compared with 42 percent three years thereafter. The data are therefore consistent with the prediction that listed firms are true to their words and treat minority investors better. Given the limited number of observations, however, this result needs confirming with additional data.

10. Conclusions

This paper compares corporate governance in listed and unlisted firms. When unlisted firms go public, they have to attract investors at large, meaning that their main shareholders have to give up some control and guarantee investors against expropriation. To find out whether that happens, we examine the ownership structure and the disclosure policy of listed firms. Also, we investigate whether listed companies design their board structures, choose board compositions, and set up board processes to attract minority shareholders. We also inquire whether listed firms perform better, and whether they actually treat minority shareholders better.

The results indicate that listed firms disclose more information. Their Web sites are more informative and they rely on accounting standards that are stricter than those required under the law. Unlisted firms are very reluctant to reveal much of anything.

Listed firms also assign real tasks and responsibilities to their boards (especially monitoring and replacement of management), let them meet more often, and fit them with committees. Their boards are larger and directors are elected for a shorter term. We also find that the way the boards of listed firms operate seems to respect the separation of powers, since: (a) they are substantially independent (and significantly more so than those of unlisted firms); (b) they closely monitor both the CEO (more closely than in unlisted firms); and (c) they assign the nomination of directors to fellow board members (and not to blockholders, as in unlisted firms). There is also marginal evidence that the directors of listed firms are less frequently blockholders. The instances of CEOs with a dual role as COBs are equally frequent, although listed firms have more often a lead director.

Even though the overall evidence is consistent with the hypothesis that listed firms take better care of minority investors, it also suggests that the boards of unlisted firms are more than rubber-stamp institutions. The boards of unlisted firms, for example are also fairly independent and bear significant responsibility for defining the firm's strategy.

Finally, listed companies seem to perform better, at least based on their industry-adjusted sales growth. They also follow up on their words and disburse more cash to shareholders at large. This finding, however, is only tentative and needs corroboration.

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Table I

Descriptive statistics

The table provides descriptive statistics for the total sample of firms as well as the subsamples of listed and unlisted firms. Age is the number of years since incorporation. Column (4) reports the statistics for mean-comparison t-tests and median-comparison z-tests (Wilcoxon rank-sum tests). The exception is the tests involving the number of firm employees, for which we report a likelihood-ratio chi-squared statistic. Column (5) shows the associated p-values for two-sided tests against zero. The symbol *** indicates statistical significance in a two-sided test of difference from zero with confidence 0.99. The data refer to Swiss firms in 2003.

	Listed firms	Unlisted firms	Comparison test	p-values
	(2)	(3)	(4)	(5)
Number of firms	86	185		
Median company age	49	57	0.123	(0.726)
Firms with:				
fewer than 100 employees	6.98%	29.19%		
between 100 and 199 employees	3.49%	14.05%		
between 200 and 499 employees	9.30%	24.86%		
between 500 and 999 employees	15.12%	11.35%		
more than 1,000 employees	65.12%	20.54%	61.91***	(0.000)
Share capital (millions of CHF)				
Average	230.28	18.76	−5.765***	(0.000)
Median	48.95	2.50	44.857***	(0.000)

Table II

Variable definitions

bLISTED	Binary variable equal to 1 if the company is listed, and equal to 0 otherwise;
LNSIZE	Natural logarithm of the company's book value of equity;
AGE	Firm's age in years;
bHI-TECH	Binary variable equal to 1 if the firm belongs to one of the following industries: chemical/pharmaceutical, medtech, technology/information systems, or telecommunication; the variable equals 0 otherwise;
bFINANCIAL	Binary variable equal to 1 if the firm belongs to the financial industry (banking and insurance); the variable equals 0 otherwise;
LARGESTVOTE	Fraction of voting rights controlled by the largest shareholder.

Table III

Distribution of votes

The table shows the distribution of votes in the 271 sample firms by type of shareholder (largest shareholder, blockholders as a group, management, and board). Blockholders control more than 5 percent of total votes. Column (3) reports the statistics of mean-comparison t-tests and median-comparison z-tests (Wilcoxon rank-sum tests with Yates' continuity correction). Column (4) shows the associated p-values for two-sided tests against zero. The data refer to Swiss firms as of the end of 2003.

	Listed firms	Unlisted firms	Comparison test	p-values
	(1)	**(2)**	**(3)**	**(4)**
Largest shareholder				
Number of firms	86	185		
Median	23.50%	70.00%	28.192***	(0.000)
Fraction of votes ≥ 50%	33.72%	74.05%	40.079***	(0.000)
Blockholders as a group				
Number of firms	77	174		
Median	45.00%	100.00%	84.310***	(0.000)
Fraction of votes ≥ 50%	48.05%	94.25%	67.475***	(0.000)
Management				
Number of firms	78	181		
Median	1.00%	0.00%	0.407	(0.523)
Fraction of votes ≥ 50%	5.13%	28.18%	21.032***	(0.000)
Board				
Number of firms	79	181		
Median	1.00%	75.00%	35.203***	(0.000)
Fraction of votes ≥ 50%	16.46%	61.33%	47.682***	(0.000)

Table IV

Information disclosed on corporate Web sites

The table reports descriptive statistics concerning the information reported on corporate Web sites. Comparison test statistics are z-values from proportion tests. The exception is the test involving the financial information that firms publish on their Web sites, for which we report the likelihood-ratio chi-squared statistic. p-values are for two-sided tests of difference from zero. The symbol *** indicates statistical significance in a two-sided test against zero with confidence 0.99. The data refer to Swiss firms in 2003.

	Listed firms	Unlisted firms	Comparison test	p-value
Number of observations	86	185		
Number of firms with Web site	86	169		
Percentage of firms with Web site	100.0%	91.4%	2.81***	(0.005)
Financial information:			107.611***	(0.000)
No financial information	4.65%	47.34%		
Only last year's sales	4.65%	15.38%		
Only earnings or sales in recent years	1.16%	12.43%		
Full balance sheet or income statement	89.53%	24.85%		
Corporate information:				
Annual report	90.70%	25.44%	9.87***	(0.000)
Organizational chart	56.98%	23.67%	5.28***	(0.000)

Table V

Board architecture, nominating authority, and board tasks

The table compares the boards of directors of listed and unlisted firms. Panel A reports differences in the architecture of the board. Panel B examines what influence various parties have in the nomination of new directors. Panel C looks for differences in board tasks, processes, and incentives. The COBs rate the importance of each dimension listed in the table with scores between 1 and 4 (1 meaning lowest importance). The second and third column in the table reports average scores for various dimensions of interest or proportions of firms with a given characteristic. The fourth column shows the z-values for two-sided Wilcoxon rank-sum or proportion tests of difference between listed and unlisted firms. The associated p-values are shown in column 4. The symbols ***, **, and * indicate statistical significance with confidence 0.99, 0.95, and 0.90, respectively. The data refer to Swiss firms in 2003.

Panel A: Board architecture

	Listed firms	Unlisted firms	Comparison test	p-value
Actual board size (median)	6.00	5.00	5.41***	(0.000)
Optimal board size (median)	6.00	5.00	6.12***	(0.000)
Board independence (median)	0.8000	0.5000	5.96***	(0.000)
Proportion of firms with:				
board committees	0.8118	0.2444	8.72***	(0.000)
blockholder-directors	0.6057	0.7198	1.89*	(0.059)
CEO-COB duality	0.1977	0.2757	−1.38	(0.168)
CEO-director duality	0.3953	0.5135	−1.81*	(0.070)
lead directors in case of CEO-COB duality	0.7333	0.3673	2.49**	(0.013)

Panel B: Nominating authority

	Listed firms	Unlisted firms	Comparison test	p-value
Board	3.6153	3.3497	1.90*	(0.058)
Blockholders	3.1831	3.6257	−4.29***	(0.000)
CEO	2.5972	2.7958	−1.55	(0.122)
Institutional investors	1.5593	1.1746	4.94***	(0.000)

Panel C: Board tasks, processes, and incentives

	Listed firms	Unlisted firms	Comparison test	p-value
Board processes				
Board term (median years)	3	3	2.40**	(0.017)
Annual number of board meetings	6 to 8	3 to 5	3.71***	(0.000)
Board tasks				
Strategy definition	3.7674	3.7680	0.24	(0.812)
Monitoring the financial situation	3.941	3.864	1.34	(0.812)
Appointing or dismissing managers	3.8571	3.5460	3.49***	(0.001)
Monitoring the CEO	3.7500	3.4740	2.31**	(0.031)
Managing relations with key investors	2.052	1.590	2.11**	(0.034)
Board incentives				
Variable board compensation (proportion)	0.1786	0.1421	0.77	(0.442)

Table VI

The mechanics of the listing effect

The table asks whether the corporate governance model of listed firms differs from that of unlisted ones. Each column reports the estimated regression coefficient for one particular board dimension against determining factors and the associated robust z-values (in parentheses). To account for the distributional properties of the dependent variables, specifications 1 and 2 are estimated with robust OLS regressions while columns 3 to 6 report the results from robust probit regressions. Independent variable definitions are in Table II. The last two rows of the table test for exogeneity of listing status, which we compute as follows. For the specifications in the first two columns of the table we estimate a probit regression for listing status and follow Wooldridge's (2002) procedure 18.1 to estimate the parameters of our regression equations. To estimate the specifications in columns (3)-(5), we use the ivprobit approach as implemented in Stata 10. In either case, we instrument listing status with the industry dummies bFINANCIAL and bHI-TECH. Firm size and the stake of the largest shareholder are included as controls. The last two rows in the table show the resulting Wu-Hausman F-test statistics for the first two specifications, and the chi-square values for a Wald test of exogeneity (as implemented in Stata 10) for the remaining three columns. The symbols *, **, and *** indicate statistical significance in a two-sided test of difference from zero with confidence 0.90, 0.95, and 0.99, respectively. The data refer to Swiss firms in 2003.

	Board size	Board in-dependence	Blockholder board representation	Board's variable compensation	Board's monitoring of the CEO
	(1)	(2)	(3)	(4)	(5)
LNSIZE	0.566***	0.022**	0.021	–0.135***	–0.054
	(6.96)	(2.33)	(0.49)	(–2.68)	(–1.14)
LARGESTVOTE	–1.612***	–0.074	0.093	0.162	0.223
	(–3.73)	(–0.98)	(0.29)	(0.41)	(0.75)
bFINANCIAL	0.675	0.185***	–0.895***	–0.599	0.047
	(1.61)	(2.86)	(–3.27)	(–1.20)	(0.15)
bHITEC	0.020	–0.067	–0.062	0.280	–0.074
	(0.06)	(–1.04)	(–0.21)	(0.94)	(–0.27)
bLISTED	–0.718	0.260***	–0.950**	0.547	0.718*
	(–1.05)	(3.47)	(–2.50)	(1.22)	(1.80)
bLISTED× LARGESTVOTE	1.884*	–0.240**	1.415**	–0.281	–1.066*
	(1.90)	(–2.25)	(1.98)	(–0.43)	(–1.65)
bLISTED× bFINANCIAL	–0.437	–0.158	1.000**	1.411**	
	(–0.41)	(–1.60)	(1.97)	(2.09)	
bLISTED× bHITEC	–0.282	0.077	–0.029	–0.47	0.495
	(–0.43)	(0.96)	(–0.07)	(–0.94)	(1.10)
Constant	5.473***	0.520***	0.671***	–1.052***	0.351
	(15.63)	(8.46)	(2.65)	(–3.43)	(1.48)
Number of observations	271	265	268	267	247
F-Test resp. Chi-squared test	14.85***	15.92***	22.26***	14.44*	6.84
(pseudo) R^2	35.34%	28.13%	7.16%	6.94%	2.33%
Wu-Hausman F-Test	1.17	3.23*			
Wald test of exogeneity			2.41	0.04	0.22

Table VII

Listing status and antitakeover protection

The table compares the spread of antitakeover mechanisms in listed and unlisted firms. We examine limits to the percentage of votes any individual shareholder can cast, staggered board provisions, and dual-class share structures. Panel A shows univariate results. The test statistic that we report in the third column is the z-value from a two-sample test of proportion. The associated p-value is reported in Column 4. Each column in Panel B of the table reports the estimated coefficients from robust probit regressions of one particular antitakeover mechanism against determining factors and the associated robust z-values (in parentheses). Independent variable definitions are in Table II. The last row of the table reports chi-square values from a Wald test of exogeneity of listing status, which we compute following the ivprobit approach as implemented in Stata 10. In doing so, we instrument listing status with the industry dummies bFINANCIAL and bHI-TECH. Firm size and the stake of the largest shareholder are included as controls. The symbols *, **, and *** indicate statistical significance in a two-sided test of difference from zero with confidence 0.90, 0.95, and 0.99, respectively. The data refer to Swiss firms in 2003.

Panel A: Frequencies of antitakeover protection mechanisms

	Listed firms	**Unlisted firms**	**Comparison test**	**p-value**
Number of observations	85	177		
Percentage of firms with voting restrictions	0.2976	0.0960	4.14***	(0.000)
Percentage of firms with dual-class structures	0.1190	0.0508	1.98**	(0.059)
Percentage of firms with staggered boards	0.2639	0.1946	1.17	(0.242)

Panel B: Multivariate regressions

	Voting restrictions	Dual-class structures	Staggered boards
LNSIZE	−0.061	0.049	0.034
	(−1.14)	(0.74)	(0.66)
LARGESTVOTE	−1.803***	−0.156	0.021
	(−3.95)	(−0.41)	(0.05)
bFINANCIAL	0.732**	−0.085	−0.016
	(2.19)	(−0.16)	(−0.05)
bHI-TECH	−0.428	0.528	−0.396
	(−0.76)	(1.44)	(−1.12)
bLISTED	0.278	−0.837*	0.144
	(0.65)	(−1.80)	(0.32)
bLISTED× LARGESTVOTE	0.325	3.087***	−0.101
	(0.46)	(3.85)	(−0.15)
bLISTED× bFINANCIAL	0.023	0.384	0.474
	(0.04)	(0.52)	(0.87)
bLISTED× bHI-TECH	1.037	−1.435*	−0.178
	(1.57)	(−1.86)	(−0.32)
Constant	−0.419	−1.699***	−0.853***
	(−1.44)	(−5.26)	(−2.79)
Number of observations	261	261	221
F-Test /Chi-squared test	38.48***	20.80***	7.82
pseudo R^2	23.96%	17.42%	3.27%
Wald test of exogeneity, Chi-squared value	2.25	0.01	2.54

Table VIII
Listing status and firm performance

The table investigates whether listed firms perform better than unlisted ones. The analysis is conducted with OLS regression with robust standard errors. Performance is measured alternatively as the average industry-adjusted rate of growth in sales during 2003–2005 (regressions 1 and 2) and 2004–2005 (regressions 3 and 4). Rates of growth in sales are from Bureau van Dijk's Amadeus database. Numbers in parentheses are t-values. Independent variable definitions are in Table II. The last row of the table reports Wu-Hausman F-test statistics for a test of exogeneity of listing status, which we compute following Wooldridge's (2002) procedure 18.1 to estimate the parameters of the regression equations. In doing so, we instrument listing status with the industry dummies bFINANCIAL and bHI-TECH. Firm size and the stake of the largest shareholder are included as controls. The symbols *, **, and *** indicate statistical significance in a two-sided test of difference from zero with confidence 0.90, 0.95, and 0.99, respectively. The data refer to Swiss firms in 2003.The symbols *, **, and *** indicate statistical significance in a two-sided test against zero with confidence 0.90, 0.95, and 0.99, respectively. The data refer to Swiss firms in 2003.

	Industry-adjusted sales growth 2003–2005		Industry-adjusted sales growth 2004–2005	
	(1)	(2)	(3)	(4)
LNSIZE	−0.005	−0.003	0.004	0.005
	(−0.26)	(−0.17)	(0.45)	(0.51)
LARGESTVOTE		0.414		0.108
		(1.43)		(1.15)
bFINANCIAL	0.164	0.119	−0.032	−0.042
	(0.81)	(0.52)	(−0.53)	(−0.63)
bHITEC	0.097	0.082	−0.033	−0.035
	(0.48)	(0.43)	(−0.47)	(−0.50)
bLISTED	0.165*	0.321*	0.133***	0.174**
	(1.97)	(1.82)	(2.62)	(2.49)
Constant	−0.056	−0.337	−0.110***	−0.187*
	(−1.33)	(−1.66)	(−6.91)	(−2.60)
Number of observations	86	86	100	100
F-Test	1.59	1.10	4.71***	3.15**
R^2	2.90%	6.50%	6.85%	8.12%
Wu-Hausman F-Test	0.54	0.01	0.07	0.05