CORPORATE OWNERSHIP STRUCTURE AND TOP EXECUTIVES' PROSOCIAL PREFERENCES: THE ROLE OF RELATIONAL AND EXTERNAL BLOCKHOLDERS

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Abstract

Manuscript Type: Empirical

Research Question/Issue: The relationships between corporations and their stakeholders are often based on incomplete contracts, which are difficult to enforce in courts. Corporate managers play a key role in safeguarding incomplete contracts with stakeholders. This role requires a strong prosocial motivational orientation. Although the managers' motivational orientation is invisible, stakeholders can make inferences about it from managers' choices and behavior. Based on these ideas, this paper asks whether the managers' motivational orientations vary according to the firms' ownership structures, i.e., ownership by relational and external blockholders.

Research Findings/Insight: Results show that ownership by relational blockholders is associated with more prosocially oriented managers, whereas ownership by external blockholders is related to more self-interested managers. This study adopts an unobtrusive measure to infer the managers' motivational orientation. This measure reflects the managers' willingness to pay taxes and can be assessed systematically in the Swiss empirical context. The results are corroborated using multivariate regression analysis and profile deviation analysis.

Theoretical/Academic Implications: This paper joins incomplete contract theory and behavioral economics to analyze how the shareholder primacy model and the stakeholder model fit with different types of managers. Based on the idea of profile deviation, we suggest that corporate ownership structure is an important factor influencing the degree to which firms approximate these two corporate governance models, and thereby their fit with the respective manager type.

Practitioner/Policy Implications: The theoretical arguments and the empirical evidence suggest that the fit between corporate ownership structure and managerial motivation merits

consideration. When selecting managers, boards need to pay attention not only to their skills and competencies, but also to their motivational orientation in order to capitalize on the strengths of alternative corporate governance models.

Keywords: Corporate governance; incomplete contracts; ownership structure; prosocial preferences; stakeholders; top managers

INTRODUCTION

The dominant agency theoretic perspective on corporate governance considers shareholders as the residual claimants of the corporation (Fama, 1980; Jensen and Meckling, 1976). This means that shareholders are entitled to the residual surplus of the corporation after all contractual claims of other stakeholders have been satisfied. Underlying this perspective is the assumption that other stakeholders of the corporation are able to protect their claims fully through formal contracts. As a consequence, it is suggested that maximizing shareholder value is equivalent to maximizing the value of the firm, and that managers should manage the firm exclusively in the shareholders' interests (Hansmann and Kraakman, 2001).

In contrast, the incomplete contracting perspective in property rights theory submits that corporations have multiple residual claimants (Asher *et al.*, 2005). The idea is that in addition to shareholders, various other stakeholders—such as employees, suppliers, customers, or the local community—contribute to organizational value creation, but can only partly protect their interests through formal contracts (Blair and Stout, 1999). Unless these stakeholders are provided with protection beyond formal contracts, they have few incentives to make firm-specific investments, which are important to organizational value creation (Zingales, 1998). Together with shareholders, these other stakeholders that make firm-specific investments are also regarded as residual claimants (Machold *et al.*, 2011). As a consequence, maximizing their joint value is equivalent to maximizing the value of the firm (Blair, 1995). Therefore, managers need to balance the interests of multiple stakeholders, including those of shareholders (Mayer, 2013; Talaulicar, 2010; Zattoni, 2011; Zeitoun *et al.*, 2014).

The different role of corporate managers implied by incomplete contract theory has important implications for their motivation. Balancing the potentially competing interests of

different stakeholders is "an exceedingly challenging mission and calls for directors and officers who are capable and motivated to occupy this responsibility seriously" (Talaulicar, 2010: 241). An important resulting question is whether the motivational requirements for top managers vary across firms with different ownership structures.

This paper suggests that different corporate ownership structures lead to different requirements regarding the managers' prosocial orientation. Prosocial motivation can be defined as the motivation driven by the goal to act appropriately and follow norms (Lindenberg, 2001). The research literature in behavioral economics shows that there exists a wide variation on the continuum between self-interested and prosocial motivational orientations (Camerer *et al.*, 2004; Frey and Meier, 2004; Ostrom, 2000). For instance, experimental studies report that around half of the participants have prosocial preferences, whereas around thirty percent are purely self-interested (Fehr and Fischbacher, 2002; Ledyard, 1995).

Drawing on incomplete contract theory and behavioral economics, this paper submits that corporate ownership structures that approximate the stakeholder model require more prosocially oriented managers. In contrast, self-interest oriented managers have advantages when ownership structures approximate the shareholder primacy model, which is less supportive of incomplete contracts and are more conducive to risk taking. Although the managers' motivational orientation is invisible, stakeholders can make inferences about it from managers' choices and behavior. Such inferences are important because they shape the stakeholders' expectations about managers' future behavior. They provide clues about the high-level goals that drive managerial behavior (Agle *et al.*, 1999).

This study adopts an unobtrusive measure (Webb *et al.*, 1966) to infer managers' prosocial preferences. The measure reflects managers' willingness to pay taxes, which is a typical indicator for prosocial motivation (Lindenberg, 2001: 319). An individual's willingness to pay

taxes is often based on a moral obligation or a belief that paying taxes contributes to the public good (Frey and Torgler, 2007: 140). In many countries, individuals who are unwilling to pay taxes would need to leave the country or state in favor of a low-tax residence. In contrast, Switzerland as an empirical context has the unique feature that each municipality can set its own tax rate. As a result, there are short distances between municipalities with often substantially different tax rates. By choosing their residence, managers can reduce their tax payments considerably and legally, and still commute to work. In the methods section, we provide further detail about the Swiss empirical context and the role of the unobtrusive measure.

This paper seeks to make three contributions to the corporate governance literature. First, we theoretically predict and empirically examine the association between corporate ownership structure and the inferred motivational orientation of top executives. Consistent with the tradition of unobtrusive research (Webb *et al.*, 1966), the applied measure reveals broad tendencies, which may inspire further case-based research to investigate micro-level processes. When studying top executives of publicly traded corporations, unobtrusive measures add value by circumventing response biases as well as low response rates (Chatterjee and Hambrick, 2007). Second, this study contributes to mediating between the shareholder primacy model and the stakeholder model. Our suggestion is that both models have their advantages, and that corporate ownership structure is an important factor influencing the extent to which a firm approximates these models. Third, this paper builds on the notion of relational ownership (David *et al.*, 2010), and distinguishes between relational and external blockholders. Using multivariate regression analysis and profile deviation analysis, our results corroborate the importance of distinguishing between these different types of blockholders with regard to managers' motivational orientation.

SHAREHOLDER PRIMACY MODEL, STAKEHOLDER MODEL, AND TOP EXECUTIVES' PROSOCIAL PREFERENCES

The controversy about the proper purpose of the corporation is an important, long-standing debate in the corporate governance literature. From the perspective of property rights theory, a rationale can be provided for both the shareholder primacy model and the stakeholder model. For instance, Donaldson and Preston posit that the "theory of property rights, which is commonly supposed to support the conventional [shareholder primacy] view, in fact—in its modern and pluralistic form—supports the stakeholder theory instead" (1995: 88).

On the one hand, the shareholder primacy model is based on a traditional economic application of property rights and agency theory (Fama, 1980; Jensen and Meckling, 1976; Shleifer and Vishny, 1997), which suggests that shareholders are the only residual claimants of the corporation. As a consequence, shareholders are entitled to the residual surplus of the firm after all other stakeholders have been paid, and the purpose of the corporation is to maximize shareholder value.

On the other hand, the stakeholder model holds that the corporation's purpose is to create value to multiple stakeholders. In this view, shareholders are not the sole residual claimants to the firm's surplus because other stakeholders also have incomplete contracts with the corporation, in particular when they make firm-specific investments (Blair and Stout, 1999; Zeitoun *et al.*, 2014). For instance, employees may acquire firm-specific knowledge; suppliers and customers may invest in the development of the firm's new products; and the local community may invest in firm-specific infrastructure. As Blair (1995) points out, such stakeholders represent residual claimants because they bear a non-contractible firm-specific risk. As a consequence, maximizing firm value goes beyond generating financial returns to shareholders and includes, for example,

creating secure and fulfilling jobs for employees, above-market returns to suppliers, high-quality products for customers, and contributions to the local community (Brammer *et al.*, 2009).

As the purpose of the corporation differs in these two models, so does the proper goal of corporate managers. According to the shareholder primacy model, managers are the shareholders' agents and need to be held accountable using a principled, objective criterion (Jensen, 2010). Shareholder value represents such a criterion because it can be measured using the stock market as an information mechanism (Eisenhardt, 1989; Fama, 1980). Therefore, the proper goal of corporate managers is to focus on enhancing the company's share value.

In contrast, according to the stakeholder model, the managers' responsibility is to serve multiple stakeholders—such as shareholders, employees, suppliers, customers, and the local community—which have potentially competing interests. Managers have the difficult task to balance the legitimate claims of all stakeholders that engage in joint value creation (Hill and Jones, 1992; Khurana and Nohria, 2008). Thus, managers in the stakeholder model act as protectors of stakeholders' claims that are not fully safeguarded through formal contracts. These claims constitute implicit contracts, which are defined as "informal agreements and unwritten codes of conduct that powerfully affect the behaviors of individuals" (Baker *et al.*, 2002: 39). By protecting implicit contracts, the proper goal of corporate managers is to enhance the value created for all stakeholders that make non-contractible firm-specific investments.

Implications for Top Managers' Motivational Orientation

What are the implications of these different roles of corporate managers for their self-interested versus prosocial preferences?

On the one hand, the shareholder primacy model is well aligned with the standard economic assumption of managerial self-interest. First, self-interested motivation has the important advantage that it can be directed by external rewards toward specific goals (Osterloh

and Frey, 2000). Applied to the shareholder primacy model, a self-interested orientation makes managers sensitive to financial incentives that direct their efforts toward enhancing share value. This goal-directedness is consistent with the presence of share value as a measurable criterion for the managers' performance (Jensen, 2010). Second, compared with other stakeholders, shareholders tend to have stronger preferences for risky projects due to their limited liability and their reliance on the firm's residual surplus (Hansmann and Kraakman, 1991). This tendency toward venturing is consistent with high entrepreneurial motivations of corporate managers (Adams *et al.*, 2011), an essential component of which is the self-regarding motivation to "prove oneself superior to others" (Schumpeter, 1934: 93; see also Licht, 2007).

On the other hand, the stakeholder model implies a different role for managers, leading to a high importance of prosocial preferences. First, by acting as protectors of implicit contracts with stakeholders, managers need to resist the temptation to renege on these contracts (Shleifer and Summers, 1988). Prosocial preferences are vital to this task because they induce managers to "place the long-term best interests of a group ahead of personal goals that serve an individual's self-interests" (Hernandez, 2008: 122), leading to "a shared sense of ongoing responsibility to multiple stakeholders" (Hernandez, 2012: 176). Second, managers in the stakeholder model lack an easily measurable performance criterion. They need to satisfy the interests of multiple stakeholders and thereby face a multi-task situation (Holmstrom and Milgrom, 1991), where some aspects of their task are difficult to measure. For instance, the value created to employees, suppliers, customers, and the local community is typically more difficult to assess than the company's share price. High prosocial motivation can help overcome this multi-task problem (Lindenberg, 2001). In contrast to purely self-interested individuals, who focus only on the rewarded aspects of their work, prosocially motivated individuals also feel an obligation towards fulfilling the unrewarded aspects of their work. Therefore, when some outcome dimensions are

difficult to measure, such as the value created to stakeholders, prosocial motivation plays an important role in mitigating the multi-task problem (Austin, 1996).

Based on the above theoretical considerations, the present paper considers the role of corporate ownership structures and how they fit with different types of managers. The subsequent sections present the hypotheses as a basis for the empirical investigation.

THE ROLE OF CORPORATE OWNERSHIP STRUCTURE

The analysis has shown different theoretical rationales for the shareholder primacy model and the stakeholder model. The present paper does not aim to assess the appropriateness of these rationales, which have been discussed in detail in the shareholder-stakeholder debate (e.g., Freeman, 1984, 2010; Zingales, 2000).Instead, both models are considered as alternatives. Some firms may closely approximate the shareholder primacy model and benefit from the clear accountability criterion for management and from the opportunities arising from risky ventures. In contrast, other firms may more closely approximate the stakeholder model and capitalize on increased non-contractible stakeholder investments in the firm.

Relational and External Blockholders

How does corporate ownership structure influence the extent to which firms approximate the two models? Although shareholders are often treated as a homogeneous group, the research literature is showing growing interest in heterogeneity among shareholders (Ravasi and Zattoni, 2006; Zattoni, 2011). Drawing on this literature, we distinguish between relational and external blockholders as a basis for the empirical analysis.

David, O'Brien, Yoshikawa and Delios (2010) have recently made an important distinction between *relational* and *transactional* owners, which differ with respect to their commitment to the firm and their investment horizons (Laverty, 1996; Mayer, 2013). Relational

owners are committed to the long-term interests of their corporations and often have strategic interests in their ownership, such as entering into long-term relationships with stakeholders (Aguilera and Jackson, 2003; Goyer and Jung, 2011) and preserving their socio-emotional wealth in the firm (Gomez-Mejia *et al.*, 2007). Relational ownership can serve as a form of insurance against breaches of implicit contracts. For example, Yoshikawa, Phan and David (2005) show that relational owners are likely to safeguard employees' human capital investments during a prolonged economic downturn. Further studies illustrate the role of relational ownership in maintaining long-term employment and facilitating value capture by multiple stakeholders (Ahmadjian and Robbins, 2005; Ahmadjian and Robinson, 2001; David *et al.*, 2010). The insurance provided by relational ownership may benefit the firm by reducing the risk of economic holdup problems and inducing stakeholders' firm-specific investments (Klein *et al.*, 1978; Rajan and Zingales, 1998).

In contrast, transactional owners are predominantly interested in financial returns on their investments. They are more likely to pressure managers to achieve immediate efficiency improvements, such as through layoffs and wage cuts (Yoshikawa *et al.*, 2005). Unlike relational owners, transactional owners tend to be dispassionate about implicit contracts with stakeholders and therefore provide less insurance against exploitation of their firm-specific investments (Shleifer and Summers, 1988). Whereas transactional ownership has other advantages, such as the quick reallocation of resources and the ability to capture emerging opportunities (Porter, 1992), it is typically less conducive to the provision of protection to stakeholders beyond what is specified in formal contracts.

Shareholders with a significant stake in the firm's equity, typically above 5 percent, can be described as blockholders (e.g., Anderson *et al.*, 2003; Shleifer and Vishny, 1986). Due to their voting power, they are likely to have a stronger influence on the firm's management than

dispersed shareholders with only small stakes in the firm. Relational owners often are blockholders, as described above. Transactional owners with a significant stake in the firm's equity have been labeled as external blockholders (Cronqvist and Fahlenbrach, 2009; Shleifer and Vishny, 1986). External blockholders tend to be strong advocates for the maximization of shareholder value (Anderson *et al.*, 2003: 265).

Thus, ownership by relational blockholders is likely to approximate the stakeholder model, whereas ownership by external blockholders tends to emphasize the shareholder primacy model. Based on the above arguments, we present the following hypotheses:

Hypothesis 1. Ownership by relational blockholders is positively associated with the managers' prosocial orientation.

Hypothesis 2. Ownership by external blockholders is negatively associated with the managers' prosocial orientation.

How Do Relational and External Blockholders Add Up in the Firm?

An important question is how relational and external blockholders relate or add up in the firm. One way of investigating this question is through the lens of multivariate regression analysis, which examines the marginal effect of an owner type on the dependent variable, while holding the other influences constant. However, these standard models provide only a limited view of how different owner types relate or add up. To provide a fuller picture, we also apply profile deviation analysis.

Profile deviation analysis is a theoretical perspective that conceptualizes fit with ideal profiles (Venkatraman, 1989) and provides a method to examine the degree of fit empirically

(Doty *et al.*, 1993). This analysis begins with the definition of ideal profiles. These profiles represent theoretical constructs that serve as a yardstick in order to measure the extent to which real firms deviate from them. In this sense, Blalock (1969: 32) posits that ideal profiles provide "an abstract model, so that deviation from the extreme or ideal type can be noted and explained." They are not "ideal" in a normative sense; they rather represent "pure" features of an organization (Mintzberg, 1979).

We define ideal profiles based on the firms' different owner types, i.e., relational and external blockholders. For each of these blockholder types, the ideal profile represents the endpoint on the continuum (i.e., 100 percent ownership by the respective blockholder type) (Doty and Glick, 1994). These endpoints represent the "pure" manifestations of the respective owner types.

Once ideal profiles have been defined, companies are allocated to the profile they most closely resemble. Then their deviation from this ideal profile is measured quantitatively, typically by using their Euclidian distance from this profile (Doty and Glick, 1994). Better fit is conceptualized as a lack of deviation from the nearest ideal profile. If a real firm corresponds precisely to the ideal profile, its profile deviation is equal to zero. Such pure cases may, but need not, exist in samples of real companies.

The prediction of the profile deviation perspective is that better fit with the nearest ideal profile will be significantly related to the dependent variable, which in our case is the managers' prosocial orientation. Based on the profile deviation perspective, our hypothesis is that a better fit with (i.e., a lack of deviation from) ideal profiles for relational blockholders will be positively associated with the managers' prosocial orientation, whereas a better fit with ideal profiles for external blockholders will be negatively associated with the managers' prosocial orientation. Therefore:

Hypothesis 3: A better fit with ideal profiles for relational (external) blockholders will be positively (negatively) associated with the managers' prosocial orientation.

As the above considerations illustrate, profile deviation analysis offers a different angle on the way different owner types add up compared with conventional regression analysis. First, by allocating firms to their nearest ideal profile, profile deviation analysis eschews the universalistic approach of conventional regression analysis. Second, by examining the degree of fit with ideal profiles, profile deviation analysis takes a more systemic view than conventional regression analysis. The primary emphasis is on the degree of purity with which a firm corresponds to the ideal profile as an abstract model.

METHODS AND DATA

The next section provides further detail about the Swiss empirical context and the role of the adopted unobtrusive measure.

The Swiss Context

The Swiss corporate governance system is sometimes classed among coordinated market economies, similar to countries such as Germany, Austria, or Sweden (Grosvold and Brammer, 2011; Jackson, 2005; Vitols, 2005). However, the Swiss system also deviates from other coordinated market economies and has certain features of liberal market economies such as the United Kingdom and the United States (Hall and Soskice, 2001). Specifically, Switzerland has a high stock market capitalization relative to its gross national product, and in contrast to many Continental European countries, it lacks legislation mandating the representation of employees on the board of directors (Hertig, 2006).

The legislation is flexible and grants companies high latitude in positioning themselves as shareholder-focused or stakeholder-oriented (Denis and McConnell, 2003). This flexibility is also a feature of the regulation for stock market listed companies. The corporate governance directive of the Swiss Stock Exchange asks companies to provide basic information about their structure and their equity, based on the "comply or explain" principle. In addition, the Swiss Code of Best Practice for Corporate Governance provides non-binding recommendations and explicitly emphasizes the freedom of companies to design their own structures.

The hybrid features of the Swiss system, with characteristics of coordinated market as well as liberal market economies, leads to a large variety of corporate ownership structures. For example, La Porta et al.'s (1999) international comparison shows that Switzerland has 60 percent of widely held ownership among large listed corporations, and 50 percent among medium-sized listed corporations, whereas most other countries have a more skewed distribution in one or both of the firm size categories.

As Switzerland is a small open economy, Swiss listed corporations are typically highly internationalized companies, which often focus on achieving a competitive position within international niche markets. Furthermore, companies have varying degrees of relational and transactional ownership. Take, for instance, the companies Novartis and Roche. Both are large, global players and have most of their operations in the same (pharmaceutical) industry. But although Novartis is dominated by transactional owners, Roche has relational owners who are descendants of the founding families and hold roughly half of the votes.

The Unobtrusive Measure

The hypotheses are examined using an unobtrusive measure to infer the managers' prosocial preferences. As pioneers of unobtrusive research, Webb et al. (1966) advocate the use of imaginative, indirect measurements as complements to traditional research. Examples are the

investigation of personal websites (Vazire and Gosling, 2004), photographs and press releases (Chatterjee and Hambrick, 2007), or consumption symbols (Aaker *et al.*, 2001) to make inferences about psychological characteristics. Unobtrusive measures are particularly suitable for settings in which survey data is difficult to obtain or risks being biased. When studying top executives, such measures add value by circumventing low response rates as well as response biases.

The unobtrusive measure reflects managers' willingness to pay taxes as indicated by their residential choice. Individuals' willingness to pay taxes is a typical example for prosocial motivation (Lindenberg, 2001: 319). It often derives from a moral obligation or a belief that paying taxes contributes to the public good (Frey and Torgler, 2007: 140), and thus reflects individuals' propensity to follow a social norm (Rost and Weibel, 2013). Switzerland's taxation system has a special feature: Each of the approximately 2,500 municipalities has the right to set its own tax rate for its citizens. The design of the taxation system and the municipalities' fiscal authority leads to tax competition at the local level and a variation of tax rates across the country. The differences in tax rates are often very substantial, especially for individuals with high income such as corporate managers.

There are several reasons why stakeholders' perception, such as in press reporting, often links the managers' willingness to pay taxes to their prosocial orientation. First, taxes have a strong redistributive effect, especially for top managers of publicly listed corporations, who are among the highest earners in the country. Individuals with high incomes pay higher taxes but receive the same public services like everyone else; in this sense, they subsidize people with lower incomes. Second, paying more taxes is not necessarily related to better services. As a country with four official languages, Switzerland has policies and regulations that place a strong emphasis on providing public services of similar quality in order to maintain the social and

regional cohesiveness of the country (Deiss and Huber-Hotz, 2004); and the efficiency in providing public services is among the highest in international comparisons (Afonso *et al.*, 2005). Third, the local variation of tax rates is important. Individuals also pay taxes that go to the central government for the provision of public services, but this element is invariant across the country. In addition, there is a fiscal scheme to redistribute part of the tax incomes between richer and poorer regions and municipalities within the country, in order to align the quality of public services. For all these reasons, paying higher tax rates cannot be compared to paying a higher price when buying a private good. A person who is purely interested in private benefits would rather aim to pay low tax rates.

The information about the managers' residence is publicly available in the trade register. It thus represents an unobtrusive measure that can be observed systematically for numerous individuals. Due to the variation of tax rates, the managers' choice of residence has a substantial impact on their tax payments. The inference of managers' willingness to pay taxes from their residential choice can lead to public debates, such as in the case of Daniel Vasella, former CEO and chairman of Novartis. For instance, he stated in an interview that he was surprised about the extent to which his residential choice was discussed as a matter of public interest (OnlineReports, 1998).

To investigate the proposed hypotheses, the present study combines multiple data sources as explained below.

Sample

Based on the population of publicly traded corporations on the Swiss Stock Exchange, the sample was drawn from the Swiss Stock Guide (Finanz & Wirtschaft, 2000-2008), which is the leading independent publication offering an annual overview of Swiss listed companies. The number of listed companies in Switzerland fluctuated around 250. We selected all firms listed in

the Swiss Stock Guide during the period 2000 to 2008 and collected annual reports of all firms that were listed for at least six years during this period. The more recent annual reports were often available in the internet, whereas for older annual reports we contacted the companies directly and in many cases received exemplars by postal mail. Other data sources were company press releases, newspaper articles, company data from Thomson Reuters Datastream, manager data from the Swiss trade register, municipality data from the Swiss historicized municipal directory (Swiss Federal Statistical Office, 1960-2008), tax rate data from the annual tax rate statistics (Swiss Federal Tax Administration, 2000-2008), and commuting data from the national model of movement of travelers (Swiss Federal Office for Spatial Development, 2006).

The starting population for this study consisted of 210 firms, 1571 manager, and 6953 manager-years. We lose year-observations due to the following reasons: 789 observations (11.3 percent) because managers live abroad; 732 observations (10.5 percent) because managers live in very small municipalities (less than 2,000 inhabitants) for which tax rates are unavailable; and 731 observations (10.5 percent) because of missing values in the explanatory or control variables. Therefore, the final sample results in 4,651 manager-years, 1,121 managers, 177 firms, and 336 chosen municipalities.

A potential concern was that managers who are concerned about taxes might live across the border in one of the large countries surrounding Switzerland. However, this is unlikely to be an important issue due to several reasons. First, in most of the observations of managers living abroad (i.e., 62 percent of the cases in which managers live abroad), they do not live in any of the large surrounding countries. Many of those managers may live abroad for professional reasons. Second, Swiss tax rates are typically lower than those in surrounding countries (i.e., Germany, France, Italy, and Austria) (e.g., Atkins, 2007). Furthermore, tax rates for individuals vary within Switzerland. Third, Switzerland regularly scores among the top countries in terms of quality-of-

life indices and the efficiency in providing public services (e.g., Afonso *et al.*, 2005; Economist, 2005).

The corporations in our sample operate in various industries. Their distribution is as follows: automobiles and parts (0.6%), banks (11.38%), basic resources (3.57%), chemicals (4.99%), construction and materials (3.87%), financial services (8.18%), food and beverage (3.35%), health care (7.66%), industrial goods and services (25.07%), insurance (3.94%), media (3.42%), personal and household goods (5.28%), retail (3.57%), technology (7.51%), telecommunication (0.67%), travel and leisure (2.31%), and utilities (4.61%).

The companies have an average of 47 percent of blockholder ownership (including 13.6 percent non-institutional blockholders, 7.5 percent institutional (financial) blockholders, 12.3 percent institutional (non-financial) blockholders, and 9.2 percent institutional (state) blockholders). Our sample has 95 firm-years (7.1 percent) with no blockholders; 1152 firm-years (85.7 percent) with relational blockholders; 376 firm-years (28.0 percent) with external blockholders; and 279 firm-years (20.8 percent) with relational and external blockholders simultaneously.

With regard to the typical management board composition, our sample shows that an average top management team has 4.3 managers with signing authority (which is the precondition for being listed in the trade register, where the residence is drawn from). Among them, there are 0.6 foreigners, 0.1 women, and the following average numbers of managers for the different education degrees: 0.4 for MBA, 1.1 for economics, 0.3 for law, 0.7 for natural sciences and engineering, 0.2 for university of applied sciences, 0.4 for technical expert, 0.7 for PhD, and 0.4 for holding multiple degrees.

Dependent Variable

The dependent variable represents tax rates for high-income individuals at the municipal level. We derived the tax rates from the annual tax rate statistics (Swiss Federal Tax Administration, 2000-2008) that indicate tax rates for all municipalities with at least 2,000 inhabitants. The federal tax is not included because it does not vary across municipalities.

Each municipality has a variety of different tax rates depending on income thresholds. In the annual tax rate statistics, taxable income represents the gross income minus mandatory payments to social security, unemployment insurance, and pension funds. To aggregate the income thresholds per municipality, we conduct a principal-component factor analysis of tax rates for married couples and find three factors with an eigenvalue greater than 1 explaining 94 percent of the variance. After applying orthogonal varimax rotation, we find that the first factor consists mainly of tax rates for income thresholds above 100,000 Swiss francs (approximately 105,000 US dollars), explaining 38 percent of the variance. The top managers of publicly traded corporations are among the highest earners in the country and can generally be expected to fall into this category.

Thus, the factor score of the first factor is selected as the dependent variable and is computed for each municipality in each year. The other two factors refer to lower income thresholds and are therefore not relevant to this analysis. While the measurement of the dependent variable refers to each year individually, it is calibrated over the entire period. Therefore, 0 represents the Swiss mean tax rate over the entire period, and +1 and -1 indicate one standard deviation from the mean.

Independent Variables

Relational blockholders and external blockholders represent the percentage of votes held by the respective shareholders. Total blockholders are the sum of relational and external

blockholders. Following other studies on ownership structure (e.g., Anderson *et al.*, 2003; Shleifer and Vishny, 1986), we define blockholders as shareholders who hold at least 5 percent of the firm's equity.

To distinguish relational from external blockholders (David *et al.*, 2010), we draw on an annual assessment by the Swiss Stock Guide concerning the percentage of equity capital that is expected to be held by relational owners for the long term, and therefore is considered *de facto* non-tradable on the stock exchange. This forward-looking assessment distinguishes relational owners from transactional owners (i.e., external blockholders and dispersed transactional investors). In cases where companies have dual-class shares, the shareholders' proportion of equity differs from their proportion of votes. We correct the measurement such that it reflects the proportion of votes. Then, we investigate the individual blockholders, which are listed in the Swiss Stock Guide. In addition to classifying them as relational blockholders or external blockholders, we attribute them to different subtypes: non-institutional investors (individuals or families), institutional investors (non-financial), institutional investors (financial, i.e., banks, insurances, investment companies, funds), and the state as an investor. We create variables reflecting the percentage of votes for each category, as well as variables for the number of relational blockholders and external blockholders.

Control Variables

We include the following control variables in the regression models. At the level of the top management team (TMT), we control for TMT size (the number of managers in the top management team), HR manager in TMT (dummy variable for the presence of a human resource manager in the top management team), TMT female percentage (the percentage of females in the top management team). At the firm level, we control for firm size (measured as the natural logarithm of the number of employees) and capital intensity (measured as the natural logarithm

of the book value of property, plant, and equipment divided by the number of employees, and averaged over the five preceding years) (Finkelstein and Boyd, 1998).

We also use controls with regard to industry and geographic characteristics. Industries may diverge concerning the type of managers they attract. By using industry dummies, we make sure that our independent variables capture relationships that are controlled for industry effects. Furthermore, we control for two important geographic characteristics. First, there may be a tradeoff between tax rates and commuting time. Managers may be willing to accept longer commuting times in order to pay lower taxes. Therefore, we control for commuting time, which is measured as the logarithm of the number of minutes needed to commute from the manager's residence to the firm's headquarters. This information is derived from the national model of movement of travelers (Swiss Federal Office for Spatial Development, 2006). Second, the use of regional controls is also crucial. Even though there is a large variety in tax rates within the different regions in Switzerland, it is also possible that there are differences between regions. We control for a potential regional variation in tax rates by using dummies for the regions (cantons) in which the firms' headquarters are based.

Moreover, we control for a range of individual characteristics. Several dummy variables control for qualifications, namely university degree in economics or business administration, university degree in law, university degree in natural sciences or engineering, degree in a university of applied sciences, doctorate degree, MBA, and degree as a technical expert. We use the top level of education for each manager, but also code multiple degrees across different fields of education. For example, a manager who has a university degree in engineering and an additional MBA is coded as having both degrees. Furthermore, we introduce a dummy variable for managers who have multiple degrees, defined as having at least two of the following degrees: MBA, economics, law, natural sciences or engineering, and business information technology.

Gender is coded as 1 if female and 0 if male. However, almost all top executives are male (97 percent in this sample), which is as in many countries clearly unrepresentative of the workforce at large. Further, dummy variables are used to control for foreign nationality, CEO duality (CEO simultaneously occupies the position as board chairperson), CEO (being a chief executive officer), and CFO (being a chief financial officer).

Data analysis

Beyond conventional regression analysis, we also apply profile deviation analysis. As a first step, companies are allocated to the ideal profile they most closely resemble, based on their Euclidian distance from the respective profiles. When profiles are one-dimensional (e.g., He *et al.*, 2013; Lindow *et al.*, 2010), the Euclidean distance is the absolute difference between the numerical values for the observed firm and the ideal profile (see example below).

The second step is to measure the companies' fit with their nearest profile. We use three different specifications of the fit measure in order to show their differing explanatory power. Specifically, we apply ideal profiles based on (Fit-1) 'total blockholders' (i.e., without distinguishing between relational and external blockholders); (Fit-2) 'relational blockholders only' (i.e., ignoring external blockholders); and (Fit-3) 'relational and external blockholders'. If the company's nearest profile refers to external blockholders, the sign of the fit measure is inverted because we expect external blockholders to be negatively associated with the managers' prosocial orientation.

(Fit-3) is the most complete specification, and we therefore expect it to have the highest explanatory power. To illustrate this measure, assume a company has relational blockholders with 45 percent of the votes and external blockholders with 8 percent of the votes. As relational blockholders have the larger stake, the firm is allocated to the ideal profile for relational blockholders. The fit measure then reflects the lack of deviation from the endpoint of the scale. In

other words, the more the firm approximates 100 percent ownership by relational blockholders, the better its fit with the respective ideal profile. The same reasoning applies by analogy to ideal profiles for external blockholders.

RESULTS

Table 1 provides the correlation matrix for the main variables. As Table 1 indicates, managers on average reside in municipalities with lower tax rates than the Swiss mean, but the variation is considerable. Furthermore, the average commuting time is 29 minutes (not shown here), which is 9 minutes longer than the average Swiss worker, who commutes for 20.1 minutes (NZZ, 2006).

Do the differences in tax rates matter in absolute terms? The following example serves as illustration. Imagine two managers who earn 500,000 Swiss francs per year (approximately 525,000 US dollars). The average tax rate in our sample is 20.1% (excluding federal taxes, which do not vary among municipalities). One of the managers lives in a municipality with tax rates of one standard deviation above the average, and the other manager one standard deviation below the average, based on the variance observed in our sample. The resulting difference in tax payments is 34,900 Swiss francs per year. For a 5 year period, this difference amounts to a substantial 174,500 Swiss francs. In the more extreme cases in our sample, the difference can even be as large as 21.1 percentage points of the annual salary or, in other words, a full annual salary every five years.

Insert Table 1 about here

We first test the hypotheses using conventional regression analysis (see Table 2). We apply multi-level linear regressions with random effects at manager and firm level (i.e., the model has three levels, because we cluster from manager-years to managers and from managers to firms). As the constant term showed a high multicollinearity with the other explanatory variables, we estimated the regressions without a constant term. This means that the regression coefficients are calculated based on the absolute levels of the dependent and independent variables, instead of the deviations from their means (Greene, 2008).

Insert Table 2 about here

In Table 2, Model 1 shows that total blockholders, as a measure of ownership concentration, have no significant effect on tax rates. In contrast, Model 2 shows a significantly positive association between relational blockholders and tax rates (Hypothesis 1). Model 3 adds external blockholders. The results show that the coefficient for relational blockholders remains positive and significant, whereas the coefficient for external blockholders is negative and significant (Hypothesis 2). Model 4 shows that there is no significant interaction effect between relational and external blockholders. Finally, Model 5 presents the regression model using the number of relational and external blockholders (rather than their percentage of votes) as explanatory variables. Although the number of relational blockholders has no significant influence, the number of external blockholders is negative and significant. This finding is consistent with the fact that external blockholders, on average, have smaller stakes than relational blockholders. Therefore the accumulation of external blockholders is likely to matter a lot in increasing their influence.

Five control variables show consistently significant coefficients across the different models. Among the top management team variables, TMT size has a negative influence, and the presence of an HR manager a positive influence, on the managers' prosocial orientation. As TMT size is often positively correlated with formalization (Kazanjian and Rao, 1999), the negative coefficient of TMT size may be explained by a greater formalization of stakeholder management, which relies less on the managers' prosocial orientation and more on formal procedures. The positive coefficient for the presence of an HR manager indicates that firms that emphasize the HR function at the top level tend to have more prosocially oriented managers. This finding is consistent with the pattern of studies showing a positive relationship between human resource management systems and the firms' stakeholder orientations (Jackson *et al.*, 2014). Firm size has a significantly negative coefficient, which may—as in the case of TMT size—be explained by a greater tendency toward formalized stakeholder management. Commuting time also has a negative coefficient, indicating the managers' willingness to accept longer commuting distances in exchange for lower tax rates. Finally, gender indicates a negative coefficient for female top managers. However, it seems prudent not to overinterpret this coefficient because almost all top managers (i.e., 97 percent) in the sample are male.

Insert Table 3 about here

Table 3 presents the profile deviation analysis. We apply the three specifications (see 'Data analysis' in the Methods sections) generically and then, for the purpose of robustness checks, at the level of blockholder subtypes. At the generic level, the first two specifications are equivalent to normal regression analysis. (Fit-1) is equivalent to the coefficient for 'total

blockholders' in Model 1 of Table 2; and (Fit-2) is equivalent to the coefficient for 'relational blockholders' in Model 2 of Table 2. Therefore, we directly present (Fit-3) in Model 1 of Table 3.

A comparison of the three models shows that (Fit-1) is statistically insignificant and therefore has no explanatory power. While (Fit-2) is statistically significant, (Fit-3) has the highest explanatory power, with both the largest coefficient and the highest statistical significance. The interpretation of the significant coefficient is that the more a firm approximates the ideal profiles for relational (external) blockholders, the higher (lower) the managers' prosocial orientation (Hypothesis 3).

We repeat the three specifications at the level of blockholder subtypes (see Table 3, Models 2, 3, and 4). The idea is to check the robustness of our results by applying them to more fine-grained blockholder categories. We distinguish between four subtypes: non-institutional, institutional (financial), institutional (non-financial), and institutional (state). As the estimates show, (Fit-1) in Model 2 has no explanatory power; (Fit-2) in Model 3 is statistically significant; but (Fit-3) in Model 4 has the highest explanatory power, with both the largest coefficient and the highest statistical significance. Thus, the results are consistent with the previous models.

DISCUSSION

The motivational assumptions about top executives are a core element of corporate governance theory. Already Donaldson (1990) called for the identification of boundary conditions of alternative motivational assumptions, in particular with regard to the managers' self-interested versus prosocial preferences. These boundary conditions have become increasingly salient in the current debate on rethinking conventional agency theory (Lan and Heracleous, 2010), which is the foundational theory of the shareholder primacy model.

As hypothesized, this study finds a significant relationship between corporate ownership structure and the managers' motivational orientation. Results show that the distinction between relational and external blockholders is important in explaining heterogeneity among the managers' motivations. In contrast, the measure for total blockholders, which reflects ownership concentration, is unable to explain this heterogeneity.

An important question concerns the causal logical mechanisms that lead to the observed empirical findings. To what extent is the tax rate considered for the managers' selection? One of the strengths of unobtrusive measures is that they are not directly related to the selection decision. Otherwise, managers would have incentives to manipulate these measures (similarly, when simply asking managers about their prosocial orientation, they would have incentives to answer in a way they perceive as socially desirable). In contrast, unobtrusive measures are sufficiently indirect, such that they diminish social desirability biases and thereby provide a more authentic reflection of the manager's attitude. Therefore, the logical mechanism is that the managers are selected based on their motivational orientation (which may be assessed using various methods including interviews, references and the candidates' reputation), and the tax rate is an unobtrusive indicator for the managers' motivational orientation.

The managers' motivational orientation is an essential dimension of managerial style, an expression that has been coined in the economics and finance literature to describe manager-specific attributes and preferences (e.g., Bertrand and Schoar, 2003). Fee, Hadlock and Pierce (2013) offer several hypotheses regarding the relationship between managerial style and corporate policies: the *lack of style*, indicating that there is no relationship, the *idiosyncratic style*, positing that managers influence policies in ways that are not anticipated by boards, and the *selected style*, suggesting that boards evaluate the managers' styles and select managers to

influence corporate policies in a certain intended direction. Empirical studies find evidence that supports the *selected style* hypothesis (Chang *et al.*, 2013; Fee *et al.*, 2013).

In line with the *selected style* hypothesis, the findings of this study suggest that selection committees choose candidates to achieve an alignment between their motivational orientation and corporate ownership structure. Corporate ownership structure has an important influence on the extent to which firms approximate the shareholder primacy model and the stakeholder model, respectively. What is the benefit of aligning these two models with the managers' motivational orientations (or, conversely, the risk of misalignment)?

A better alignment helps to capitalize on the strength of each model. On the one hand, the shareholder primacy model is advantageous in launching risky projects, rapidly terminating unprofitable ones, and capturing emerging business opportunities (Porter, 1992). This advantage requires top managers who are able to get their way, make unpopular decisions, and redeploy the company's resources against the potential resistance of different stakeholders. In this situation, however, prosocially oriented managers are likely to be restrained, due to their willingness to protect the stakeholders' investments in the firm. As a consequence, the agility of the corporation, as an important strength of this model, could not be fully capitalized on.

On the other hand, the stakeholder model is advantageous in fostering long-term firm-specific investments by stakeholders. This advantage requires top managers who are committed to the firm's relationships with stakeholders, and who are highly prosocially motivated in order to overcome the multi-task problem. In this situation, however, highly self-interested managers are likely to create frictions and dysfunctions in the firm's relationships with stakeholders. Due to their focus on measurable—and thereby rewardable—aspects of their job, they are likely to place a strong emphasis on measurable stock price and neglect the more difficult-to-measure aspects of

stakeholder value. As a consequence, stakeholders are likely to reduce their firm-specific investments, thereby endangering the main strength of this model.

The *selected style* hypothesis also has its boundary conditions, however. For instance, it is hard to imagine a board choosing low-ability managers simply because they have strong prosocial orientations. If selection committees could not evaluate or anticipate the managers' styles, ability would remain the dominant hiring criterion, and no systematic differences in style would be detected. When weighing ability against style, selection committees are likely to place stronger emphasis on ability. Conversely, managerial style can play a role as an additional hiring criterion to choose among candidates when there are sufficient candidates with similar competences and ability.

Therefore, the validity of the *selected style* hypothesis depends on the thickness of the managerial labor market. The present study is conducted in Switzerland (further information on the Swiss context is provided in the Methods section), which is a highly attractive labor market for European managers (Schillingreport, 2013). Due to the choice of candidates, companies are likely to select managers beyond ability considerations and also take into account their styles. In contrast, the effects found in this study may be weaker in countries or regions where managerial labor markets are thin. Under these circumstances, companies may have a smaller choice of potential candidates, thereby weakening the effects of selected styles.

This study also has theoretical implications for corporate governance theory. In contrasting the shareholder primacy model with the stakeholder model, we take the view that both models have their advantages. Based on the property rights perspective, we have highlighted important differences between the models regarding the managers' role. Although the shareholder primacy model emphasizes the managers' goal-directedness and entrepreneurial propensities (Adams *et al.*, 2011), the stakeholder model places high importance on the

managers' motivation to protect implicit contracts and create value to multiple stakeholders, even when this value is difficult to measure. The adopted property rights lens offers a common theoretical basis because it has been used to justify the shareholder primacy model (e.g., Shleifer and Vishny, 1997) as well as the stakeholder model (e.g., Asher *et al.*, 2005; Donaldson and Preston, 1995).

Our theoretical approach may help to mediate between the two models. Using profile deviation analysis, we have proposed that important corporate features (here: ownership structure) influence the extent to which companies approximate the two abstract models. Profile deviation analysis has the advantage that it does not consider any of the models as inferior. Instead, both models have their *raison d'être* and serve as reference points (i.e., ideal profiles) for the examination of fit among the companies' various features. We believe that this approach has fruitful potential in corporate governance research.

Taking this idea further, future research may work toward an integration of the two models. This paper suggests that accepting both models and identifying their boundary conditions is a step toward their synthesis. The heterogeneity among managers that was revealed in this study cautions against a one-size-fits-all approach and supports a relaxation of the standard economic assumption about managerial self-interest (Cuevas-Rodríguez *et al.*, 2012; Van Ees *et al.*, 2009). As the research literature in behavioral economics has shown, the relaxation and theoretical extension of standard economic assumptions can help increase explanatory power (Camerer *et al.*, 2004). Future endeavors may provide further synthesis, in order to reconcile the motivational assumptions of economics-based governance theory with the view of human nature that is commonly held in the management field (Donaldson, 1990; Lubatkin, 2005).

CONCLUSIONS

This paper addresses a gap in the literature concerning the association between corporate ownership structures and the managers' self-interested versus prosocial orientations. We proposed that the shareholder primacy model and the stakeholder model require different types of managers, and that corporate ownership structure is an important factor influencing the degree to which a firm approximates these two models. Using both multivariate regression analysis and profile deviation analysis, results show that ownership by relational blockholders is associated with more prosocially oriented managers, whereas ownership by external blockholders is related to more self-interested managers.

The findings of this study need to be considered within the debate on shareholder-oriented and stakeholder-oriented models. Using the property rights perspective, we have outlined that economics-based corporate governance theory is not by necessity confined to the shareholder primacy model. Instead, the acknowledgement of incomplete contracts leads to the view that multiple stakeholders can be considered as residual claimants. This extended view helps forge links between the shareholder primacy model and the stakeholder model.

This study is not without limitations. First, this paper focuses on the role of corporate ownership structure while controlling for characteristics of the firm, the top management team, and the individual top managers. However, there may be other ingredients that affect the match between firms and managers. To examine such configurations, our study provides a first, exploratory step using profile deviation analysis. Future research may deepen our understanding by investigating complex configurations. This research may help us better understand how managers self-select to, and are selected by, different owner types. In particular, configurational methods such as qualitative comparative analysis (QCA) (Aguilera and Desender, 2012; Fiss,

2011) would be useful in investigating how complex bundles of firm characteristics lead to the selection of different manager types.

Second, our study uses an unobtrusive indicator based on the managers' tax rate considerations. While unobtrusive measures have important advantages (Webb *et al.*, 1966), they are typically only a first step toward a deeper investigation of the phenomenon. Future research may build on the findings of this study by using qualitative methods such as interviews and surveys. Furthermore, our unobtrusive measure is context-dependent in that it exploits the unique features of the Swiss context. Quantitative studies in other countries would need to identify alternative unobtrusive measures that are relevant to the respective national context.

For practitioners, the analysis highlights the importance of capitalizing on the strengths of alternative corporate governance models. A key task of corporate directors and managers is to create appropriate expectations among stakeholders concerning future corporate policies and decisions. These expectations are different in firms that approximate the shareholder primacy model compared with those that more closely follow the stakeholder model. By paying attention to managerial style, boards can ensure that the selected top executives are in a good position to fulfill these expectations and thereby contribute to the firm's prosperity.

TABLE 1

Descriptive Statistics: Correlation Matrix

	Variable	Mean	Std. dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Tax rate	-0.63	1.36															
2	Relational blockholders	0.43	0.30	0.12														
3	External blockholders	0.04	0.09	-0.10	-0.37													
4	TMT size	5.83	3.26	0.04	-0.25	0.23												
5	HR manager in TMT	0.14	0.35	0.08	-0.19	0.06	0.27											
6	TMT female percentage	0.03	0.09	-0.03	0.06	0.07	-0.01	0.05										
7	Capital intensity	4.81	1.35	0.06	0.22	-0.13	-0.10	-0.06	0.02									
8	Firm size	7.81	1.96	-0.10	-0.35	0.15	0.54	0.25	-0.10	-0.32								
9	Commuting time	1.20	0.59	-0.17	-0.12	0.04	-0.01	-0.01	-0.03	-0.01	0.04							
10	CEO duality	0.03	0.18	-0.07	-0.01	-0.02	-0.08	0.03	-0.01	-0.01	0.00	0.01						
11	CEO	0.23	0.42	-0.06	0.04	-0.03	-0.21	-0.06	0.00	-0.01	-0.09	0.02	0.34					
12	CFO	0.19	0.39	-0.07	-0.04	0.04	-0.15	-0.01	-0.04	-0.03	-0.02	0.09	-0.09	-0.25				
13	Multiple degrees	0.12	0.33	-0.05	-0.05	0.05	0.07	0.02	0.03	-0.04	0.11	-0.02	0.09	0.10	-0.04			
14	MBA	0.13	0.34	-0.07	-0.04	0.06	0.07	0.01	0.04	-0.04	0.07	0.01	0.12	0.09	-0.02	0.69		
15	Degree in economics or business administration	0.32	0.47	-0.04	0.01	0.01	0.03	0.06	0.00	0.01	0.07	0.01	-0.02	-0.03	0.20	0.18	-0.01	
16	Degree in law	0.09	0.29	0.02	0.04	-0.01	0.05	0.00	-0.03	0.00	0.10	-0.04	0.02	0.00	-0.10	0.11	-0.06	-0.11
17	Degree in natural sciences or engineering	0.22	0.41	-0.01	-0.09	0.04	0.04	0.00	-0.04	-0.06	0.07	0.00	0.06	0.12	-0.18	0.28	0.14	-0.28
18	University of applied sciences	0.07	0.25	-0.01	0.05	-0.01	-0.03	0.06	-0.03	-0.03	-0.03	-0.01	-0.03	-0.08	0.02	0.01	-0.02	0.17
19	PhD	0.20	0.40	-0.08	-0.12	0.06	0.07	0.03	-0.06	-0.01	0.12	0.10	0.09	0.03	-0.01	0.04	-0.01	0.09
20	Technical expert	0.11	0.32	-0.01	0.07	-0.03	-0.11	-0.08	-0.01	0.01	-0.07	0.07	-0.06	-0.07	0.32	-0.09	-0.09	0.01
21	Gender	0.03	0.17	-0.05	0.04	0.06	0.01	0.03	0.58	0.01	-0.06	-0.03	-0.03	-0.04	-0.06	-0.01	0.00	-0.01
22	Foreign manager	0.18	0.38	-0.06	-0.19	0.10	0.24	0.20	0.05	-0.14	0.34	-0.11	-0.05	-0.03	-0.01	0.02	0.07	0.04

N = 4651. Correlations with an absolute value greater than 0.04 are significant at the 0.01 level. The tax rate variable is the factor score representing taxes on high personal income derived from principal-component factor analysis of tax rates. Therefore, 0 represents the Swiss mean tax rate over the entire period, and +1 and -1 indicate one standard deviation from the mean. The other variables are defined as follows: percentage of votes held by relational blockholders (Relational blockholders), percentage of votes held by external blockholders (External blockholders), number of managers in TMT (TMT size), dummy for the presence of a HR manager in the TMT (HR manager in TMT), percentage of females in the TMT (TMT female percentage), natural

logarithm of the book value of property, plant, and equipment divided by the number of employees, and averaged over the five preceding years (Capital intensity), natural logarithm of the number of employees (Firm size), logarithm of the number of minutes needed to commute from the manager's residence to the firm's headquarters (Commuting time), dummy for chief executive officer who simultaneously occupies the position as board chairperson (CEO duality), dummies for functional and educational characteristics (CEO, CFO, Multiple degrees achieved, MBA, Degree in economics or business administration, Degree in law, Degree in natural sciences or engineering, University of applied sciences, PhD, Technical expert), dummy for female manager (Gender), dummy for non-Swiss manager (Foreign manager).

TABLE 1 (continued)
Descriptive Statistics: Correlation Matrix

	Variable	16	17	18	19	20	21
17	Degree in natural sciences or engineering	-0.15					
18	University of applied sciences	-0.08	0.07				
19	PhD	0.16	0.19	-0.10			
20	Technical expert	0.01	-0.18	0.07	-0.13		
21	Gender	0.00	-0.06	-0.04	-0.05	-0.05	
22	Foreign manager	-0.08	0.00	0.06	-0.04	-0.07	0.06

N = 4651. Correlations with an absolute value greater than 0.04 are significant at the 0.01 level.

TABLE 2
Multilevel Regression Estimates on Tax Rates

	Model 1	Model 2	Model 3	Model 4	Model 5
Total blockholders	0.0857				
	(0.0663)				
Relational blockholders		0.217***	0.184**	0.185**	
		(0.0701)	(0.0719)	(0.0719)	
External blockholders			-0.221**	-0.129	
			(0.109)	(0.128)	
Relational blockholders * external blockholders				-0.761	
				(0.562)	
Number of relational blockholders					0.0170
					(0.0103)
Number of external blockholders					-0.0420***
					(0.00996)
TMT size	-0.0310***	-0.0300***	-0.0293***	-0.0297***	-0.0296***
	(0.00437)	(0.00438)	(0.00439)	(0.00440)	(0.00437)
HR manager in TMT	0.110**	0.114***	0.122***	0.126***	0.135***
	(0.0427)	(0.0426)	(0.0428)	(0.0429)	(0.0429)
TMT female percentage	0.0151	0.0000212	-0.00201	0.00457	-0.00235
	(0.135)	(0.135)	(0.135)	(0.135)	(0.135)
Capital intensity	-0.0269	-0.0310*	-0.0320*	-0.0311*	-0.0331*
	(0.0176)	(0.0176)	(0.0176)	(0.0176)	(0.0176)
Firm size	-0.0457***	-0.0453***	-0.0435***	-0.0439***	-0.0399**
	(0.0165)	(0.0164)	(0.0164)	(0.0164)	(0.0165)
Commuting time	-0.445***	-0.445***	-0.444***	-0.444***	-0.441***
	(0.0333)	(0.0333)	(0.0333)	(0.0333)	(0.0332)
CEO duality	-0.0615	-0.0596	-0.0626	-0.0618	-0.0647
	(0.0645)	(0.0645)	(0.0645)	(0.0645)	(0.0644)
CEO	-0.0312	-0.0235	-0.0214	-0.0216	-0.0248
	(0.0450)	(0.0451)	(0.0451)	(0.0450)	(0.0449)
CFO	-0.0459	-0.0436	-0.0402	-0.0383	-0.0366
	(0.0583)	(0.0583)	(0.0583)	(0.0583)	(0.0582)
Multiple degrees	-0.0946	-0.0934	-0.0951	-0.0944	-0.102
	(0.161)	(0.161)	(0.161)	(0.161)	(0.160)
MBA	-0.161	-0.163	-0.159	-0.160	-0.150
	(0.143)	(0.142)	(0.142)	(0.142)	(0.142)
Degree in economics or business administration	-0.0477	-0.0489	-0.0487	-0.0496	-0.0451
	(0.0874)	(0.0873)	(0.0872)	(0.0872)	(0.0871)
Degree in law	-0.174	-0.178	-0.178	-0.179	-0.173
	(0.135)	(0.135)	(0.135)	(0.135)	(0.135)
Degree in natural sciences or engineering	0.115	0.116	0.116	0.116	0.117
	(0.107)	(0.107)	(0.107)	(0.107)	(0.106)
University of applied sciences	0.0666	0.0722	0.0756	0.0757	0.0780
	(0.147)	(0.147)	(0.147)	(0.147)	(0.147)
PhD	-0.0367	-0.0362	-0.0357	-0.0370	-0.0366
	(0.0914)	(0.0913)	(0.0912)	(0.0912)	(0.0911)

Technical expert	-0.0132	-0.0151	-0.0170	-0.0178	-0.0155
	(0.114)	(0.114)	(0.114)	(0.114)	(0.114)
Gender	-0.465**	-0.465**	-0.461**	-0.461**	-0.454**
	(0.182)	(0.181)	(0.181)	(0.181)	(0.181)
Foreign manager	-0.127	-0.124	-0.126	-0.126	-0.130
	(0.0877)	(0.0875)	(0.0874)	(0.0875)	(0.0873)
Regional dummies	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes
Std. dev. of random	0.504	0.497	0.497	0.498	0.500
effect at firm level	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)
Std. dev. of random	1.023	1.022	1.020	1.021	1.020
effect at manager level	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Residual std. dev. of	0.361	0.361	0.361	0.361	0.361
random effect	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Observations	4651	4651	4651	4651	4651
Number of managers	1121	1121	1121	1121	1121
Number of firms	177	177	177	177	177
Log likelihood	-3808.6	-3804.7	-3802.6	-3801.7	-3797.0

Standard errors in parentheses. Tests are two-tailed; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Coefficients are estimated with multi-level linear regressions and random effects at manager and firm level. The dependent variable is the factor score representing taxes on high personal income derived from principal-component factor analysis of tax rates. Therefore, 0 represents the Swiss mean tax rate over the entire period, and +1 and -1 indicate one standard deviation from the mean. Covariates are defined as follows: percentage of votes held by all blockholders (Total blockholders), percentage of votes held by relational blockholders (Relational blockholders), number of managers in TMT (TMT size), dummy for the presence of a HR manager in the TMT (HR manager in TMT), percentage of females in the TMT (TMT female percentage), natural logarithm of the book value of property, plant, and equipment divided by the number of employees, and averaged over the five preceding years (Capital intensity), natural logarithm of the number of employees (Firm size), logarithm of the number of minutes needed to commute from the manager's residence to the firm's headquarters (Commuting time), dummy for chief executive officer who simultaneously occupies the position as board chairperson (CEO duality), dummies for functional and educational characteristics (CEO, CFO, Multiple degrees achieved, MBA, Degree in economics or business administration, Degree in law, Degree in natural sciences or engineering, University of applied sciences, PhD, Technical expert), dummy for female manager (Gender), dummy for non-Swiss manager (Foreign manager), regional dummies, industry dummies.

TABLE 3
Profile Deviation Analysis: Multilevel Regression Estimates on Tax Rates

	Model 1	Model 2	Model 3	Model 4
Fit with the nearest blockholder type (relational and external)	0.360***			
	(0.0963)			
Fit with the nearest blockholder *subtype* (total)		0.0957		
		(0.0711)		
Fit with the nearest blockholder *subtype* (relational only)			0.151**	
			(0.0702)	
Fit with the nearest blockholder *subtype* (relational and external)				0.877***
				(0.256)
TMT size	-0.0299***	-0.0308***	-0.0305***	-0.0317***
	(0.00438)	(0.00438)	(0.00438)	(0.00437)
HR manager in TMT	0.128***	0.111***	0.113***	0.118***
	(0.0428)	(0.0427)	(0.0427)	(0.0426)
TMT female percentage	0.00570	0.0214	0.0195	0.00709
	(0.135)	(0.135)	(0.135)	(0.135)
Capital intensity	-0.0401**	-0.0247	-0.0245	-0.0537***
	(0.0180)	(0.0176)	(0.0176)	(0.0194)
Firm size	-0.0589***	-0.0407**	-0.0378**	-0.0863***
	(0.0169)	(0.0168)	(0.0168)	(0.0204)
Commuting time	-0.451***	-0.443***	-0.443***	-0.462***
	(0.0333)	(0.0333)	(0.0333)	(0.0337)
CEO duality	-0.0665	-0.0618	-0.0625	-0.0613
	(0.0645)	(0.0645)	(0.0645)	(0.0644)
CEO	-0.0314	-0.0309	-0.0275	-0.0419
	(0.0449)	(0.0450)	(0.0450)	(0.0450)
CFO	-0.0412	-0.0450	-0.0448	-0.0494
	(0.0582)	(0.0583)	(0.0583)	(0.0583)
Multiple degrees	-0.0887	-0.0994	-0.102	-0.0744
	(0.161)	(0.161)	(0.161)	(0.161)
MBA	-0.162	-0.156	-0.153	-0.181
	(0.142)	(0.143)	(0.143)	(0.143)
Degree in economics or business administration	-0.0572	-0.0452	-0.0436	-0.0717
	(0.0873)	(0.0874)	(0.0874)	(0.0879)
Degree in law	-0.181	-0.173	-0.173	-0.189
	(0.135)	(0.135)	(0.135)	(0.135)
Degree in natural sciences or engineering	0.107	0.117	0.119	0.0971
	(0.107)	(0.107)	(0.107)	(0.107)
University of applied sciences	0.0718	0.0669	0.0687	0.0621
	(0.147)	(0.147)	(0.147)	(0.148)
PhD	-0.0363	-0.0356	-0.0347	-0.0391
	(0.0912)	(0.0914)	(0.0914)	(0.0916)
Technical expert	-0.0260	-0.0118	-0.0107	-0.0356
	(0.114)	(0.114)	(0.114)	(0.114)
Gender	-0.464**	-0.461**	-0.460**	-0.481***

	(0.181)	(0.182)	(0.182)	(0.182)
Foreign manager	-0.130	-0.127	-0.126	-0.124
	(0.0875)	(0.0877)	(0.0876)	(0.0878)
Regional dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Std. dev. of random effect at firm level	0.499	0.506	0.503	0.508
	(0.056)	(0.058)	(0.058)	(0.056)
Std. dev. of random effect at manager level	1.021	1.023	1.022	1.024
	(0.025)	(0.025)	(0.025)	(0.025)
Residual std. dev. of random effect	0.361	0.361	0.361	0.361
	(0.004)	(0.004)	(0.004)	(0.004)
Observations	4651	4651	4651	4651
Number of managers	1121	1121	1121	1121
Number of firms	177	177	177	177
Log likelihood	-3802.5	-3808.6	-3807.1	-3803.6

Standard errors in parentheses. Tests are two-tailed; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Coefficients are estimated with multi-level linear regressions and random effects at manager and firm level. The dependent variable is the factor score representing taxes on high personal income derived from principal-component factor analysis of tax rates. Therefore, 0 represents the Swiss mean tax rate over the entire period, and +1 and -1 indicate one standard deviation from the mean. Fit is measured as the Euclidean distance (of the percentage of votes) to the nearest ideal profile, with inverted sign in case of external blockholders. The blockholder subtypes considered in the fit measures of Models 2, 3, and 4 are: non-institutional, institutional (financial), institutional (non-financial), and institutional (state). Other covariates are defined as follows: number of managers in TMT (TMT size), dummy for the presence of a HR manager in the TMT (HR manager in TMT), percentage of females in the TMT (TMT female percentage), natural logarithm of the book value of property, plant, and equipment divided by the number of employees, and averaged over the five preceding years (Capital intensity), natural logarithm of the number of employees (Firm size), logarithm of the number of minutes needed to commute from the manager's residence to the firm's headquarters (Commuting time), dummy for chief executive officer who simultaneously occupies the position as board chairperson (CEO duality), dummies for functional and educational characteristics (CEO, CFO, Multiple degrees achieved, MBA, Degree in economics or business administration, Degree in law, Degree in natural sciences or engineering, University of applied sciences, PhD, Technical expert), dummy for female manager (Gender), dummy for non-Swiss manager (Foreign manager), regional dummies, industry dummies.

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