

Does top management internationalization affect top management compensation? An empirical study from Germany's DAX firms

Abstract:

This paper examines the consequences of top management internationalization on compensation. Building upon human capital theory and agency theory, we assume that international executives achieve higher market value in terms of their level of compensation than their less internationalized peers. When investigating this relationship, we differentiate between fixed and variable pay components of firms' top executives and use a multi-dimensional construct of internationalization. In doing so, we add to a better understanding of this research field which is still in its infancy. Based on a comprehensive sample of executives from Germany's DAX firms, we find that internationalization pays off. We further contribute to top management research by demonstrating that the internationalization of firms' governance bodies affects the structure of compensation. As a result, our empirical findings have implications for scholars, managers and corporate governance authorities alike.

Keywords:

Top management internationalization; executive compensation; international executives; human capital theory; agency theory.

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INTRODUCTION

In academic literature there is a widely shared understanding that top management matters to firms (Hambrick & Mason, 1984) and that it has a pivotal influence on organizational outcomes, such as firm performance (e.g., Barsade et al., 2000; Boeker, 1997; D'Aveni, 1990). In the case of multinational corporations (MNCs), performance depends on the understanding of heterogeneous foreign markets and environments as well as on the use and coordination of resources being dispersed across borders (Adler & Gundersen, 2008; Greve et al., 2009; Roth, 1995). It is often claimed that top managers who are international themselves better respond to the challenges of internationalization than purely national top managers (Herrmann & Datta, 2005; Reuber & Fischer, 1997). Furthermore, many authors argue that international top managers can be considered as valuable resources to their firm (e.g., Carpenter et al., 2000).

During the last two decades, many scholars have studied the relationship between firm internationalization and the internationalization of a firm's top managers (e.g. Herrmann & Datta, 2005; Oxelheim et al., 2013; Sambharya, 1996; Staples, 2008) as well as effects of top management internationalization on firm performance (e.g., Daily et al., 2000; Nielsen, 2010; Roth, 1995; Schmid & Dauth, 2013). But what about the consequences of top management internationalization at the level of the executive, for instance for his or her compensation? Despite the important directing and motivating character of executive compensation (Finkelstein et al., 2009; Gomez-Mejia & Werner, 2008), the relationship between top management internationalization and compensation is an underexplored field of research (Schmid & Dauth, 2012). Although one can assume that valuable resources come at a price, the few studies which have been carried out provide inconclusive results: whereas Oxelheim & Randøy (2005) and Randøy & Nielsen (2002), for example, identify pay premiums for international chief executives (CEOs), Carpenter et al. (2001) find no effects of chief executive internationalization on compensation.

The reasons behind the infant stage of research and the inconsistent results can be manifold: First, the existing studies focus on the internationalization and compensation of chief executives only. However, depending on a country's degree of managerial discretion, CEOs' influence varies considerably and can be slightly or substantially different from other members of the board (Crossland & Hambrick, 2011). CEOs' compensation might be influenced by other or additional factors than compensation of regular board members. Furthermore, despite an institutionalization of various compensation components in MNCs, previous research does not differentiate between various components of executive compensation, such as fixed and variable compensation. Instead, aggregated compensation data are used (e.g., Carpenter et al., 2001; Randøy & Nielsen, 2002). In addition, different and one-dimensional measures of executives' internationalization are applied. A narrow understanding of what top management internationalization means may have eventually influenced the results of the few existing studies. Finally, we have to ask who actually determines the structure and level of executive compensation. This means that it is important to consider the corporate governance bodies which are involved in deciding on the compensation of top managers. To the best of our knowledge, this has been rarely considered in previous research.

The aim of our study is to provide a comprehensive and yet differentiated analysis of the relationship between top management internationalization and compensation. By asking the question, “(how) does internationalization of top management affect top management compensation?”, we want to find out whether international executives are able to achieve higher market value in terms of their *level* of compensation. Furthermore, we are interested in whether and how the internationalization of firms' governance bodies that are responsible for the design of executive compensation impacts the *structure* of executive compensation.

With our paper, we seek to contribute to the field of top management internationalization in the following ways: First, we extend existing research on chief executive internationalization and compensation by bringing in other top executives of a firm as well. When analysing compensation, we will differentiate between fixed and variable pay components and hence see, whether internationalization has different effects on both components. Based on a multidimensional construct

of “internationality”, we account for all aspects of internationalization that have been identified as relevant in top management research. Second, we build on human capital theory and agency theory to derive our hypotheses on the relationship between top management internationalization and compensation. Combining these theoretical strands, we consider international executives as agents with valuable human capital in principal-agent situations. Third, a sample of 158 top executives of MNCs listed in the German prime index DAX is used to test our hypotheses. The decision for Germany and the DAX constituents was made since we are interested in how top management internationalization is acknowledged by firms that are strongly dependent on foreign trade and foreign direct investment. Fourth, we consider characteristics of firms’ supervisory boards, the governance body deciding on executive compensation in our sample firms. In doing so, we follow a decision-making oriented approach covering also the design of executives’ compensation structure.

THEORY AND HYPOTHESES

Executives and their human capital in times of globalization

In comparison to managers in purely domestic firms, MNCs’ managers face considerably more complexity and uncertainty (Bartlett & Ghoshal, 1992; Sanders & Carpenter, 1998). This has also consequences for the top management of MNCs. With profound knowledge and experiences on foreign markets, including customer needs, business practices, management styles and legal systems, international executives can help MNCs to operate successfully across borders (e.g., Greve et al., 2009; Nielsen, 2010; Oxelheim and Randøy, 2005). In top management research, various theories are used to explain the value of international executives: scholars building on the resource-based view suggest that executives with international experience can create a sustainable competitive advantage for their firms (e.g., Black et al., 1992; Carpenter et al., 2000; Magnusson & Boggs, 2006). Research based on resource dependence theory argues that international executives reduce a firm’s environmental constraints and uncertainty (e.g., Dalton et al., 1998; Hillmann et al., 2009; Nielsen, 2010). According to studies drawing on social network theory, international executives can also grant access to valuable networks of individuals and organizations abroad (e.g., Athanassiou & Nigh, 2002).

As a result, international executives' knowledge and experiences can be characterized as valuable human capital which use can be beneficial for both, MNCs and the individual executive (Drucker, 2003; Hitt et al., 2001).

In business, politics and society, the importance of international top managers is also increasingly discussed. For instance, many national corporate governance codes include recommendations for the appointment of international top managers, such as the corporate governance codes in Austria (ACGC, 2012), France (AFG, 2012), Germany (GCGC, 2010), Italy (ITCGC, 2011) and the UK (UKCGC, 2012). In addition, supra-national standard-setting bodies, like the OECD and the World Bank, have issued guidelines calling for international executives in MNCs' boards (OECD, 2004; World Bank, 2005). Given the request for international executives, the question whether international executives are able to achieve higher market value in terms of compensation arises.

International executives and compensation

According to the economic theory of human capital, it is argued that skills and experiences which affect an individual's productivity should be reflected in the level of his or her compensation (Becker, 1964; Agarwal, 1981). While this notion was originally applied to factory workers, it is now widely accepted that human capital commonly resides in the knowledge and experiences of (top) managers and knowledge workers as well, affecting performance on the individual, team and firm level (Brymer et al., 2011; Drucker, 2003; Hitt et al., 2001). Thus, an executive's human capital is comparable to the value of other (tangible or intangible) resources involved in the production of goods and services (Nafukho et al., 2004). Following human capital theory, an executive's skills and experiences should be associated with the level of his or her compensation (Agarwal, 1981; Combs & Skill, 2003; Finkelstein et al., 2009).

In research on executive compensation, some scholars find evidence for a standardization in compensation practices, due to an internationalization of labour markets, cross-border interlocks between organizations and their executives and the diffusion of compensation practices from the US to other countries (Cheffins, 2003; Sanders & Tuschke, 2007). However, it has also been demonstrated

that we are still far away from a complete standardization of top executive pay around the world. Rather we see some adoption of outcome-based compensation components in non-US countries (Chizema, 2010; Randøy & Nielsen, 2002). The level of executive compensation is seen to vary considerably not only across countries but also between individual executives: empirical studies come up with considerable evidence in support of human capital theory and attribute differences in the level of executive compensation to varying skills and experiences (e.g., Castanias & Helfat, 1991; Combs & Skill, 2003; Finkelstein & Hambrick, 1989; Fisher & Govindarajan, 1992; Harris & Helfat, 1997). Findings in gender research show significant pay disparities between male and female executives, emphasizing the discretionary nature of executive compensation that is still negotiable on an individual level (e.g., Kulich et al., 2011). Thus, when it comes to pay negotiations, international executives should have enough scope to achieve pay premiums for the human capital they provide. Following human capital theory, we propose that an executive's internationalization should be positively reflected in the level of his or her compensation.

Components of executive compensation

In top management research, importance has been attached to executive compensation because of its directing and motivating character as well as high regulatory and public interest (Finkelstein et al., 2009; Gomez-Mejia & Werner, 2008). Agency theory provides a normative framework concerning questions related to executive compensation including the level and structure of executive compensation (Fama, 1980; Fama & Jensen, 1983; Jensen & Murphy, 1990). In many theoretical contributions (e.g., Demski, 1978; Harris & Raviv, 1979; Jensen & Meckling, 1976; Ouchi, 1979; Perrow, 1986; Shavell, 1979) as well as empirical studies (e.g., Conlon & Parks, 1988; Eisenhardt, 1985; Oxelheim & Randøy, 2005) agency theory constitutes the theoretical basis. According to agency theory, (1) the level of an executive's compensation should be higher than it is suggested by the labour market and (2) an executive's compensation package should include some parts of outcome-based compensation to mitigate agency costs (Fama, 1980; Fama & Jensen, 1983; Jensen & Murphy, 1990). This is reflected in MNCs' compensation practices differentiating between two main types of compensation: fixed compensation, which is based on expected tasks, responsibilities and

performance, and variable compensation, which is outcome-based, contingent on achieved performance and (to some extent) influenceable by each individual executive (Rankin, 2010; Ryan & Wiggins, 2000). The use of a combination of fixed and variable components in executive compensation is also recommended by many (European) corporate governance codes (e.g., ACGC 2012; AFG, 2012; FCGC, 2010; GCGC, 2010; ITCGC, 2011; UKCGC, 2012). Despite this institutionalization of structural compensation practices, previous studies on the relationship between executive internationalization and compensation do not differentiate between fixed compensation and variable compensation (e.g., Carpenter et al., 2001; Oxelheim & Randøy, 2005; Randøy & Nielsen, 2002). However, due to the many dissimilar characteristics between fixed and variable compensation, separate analyses may turn out to be fruitful.

Effects of executive internationalization on fixed compensation

Since Fama (1980) put executives who act as agents of a firm's shareholders on a level with individuals who are boundedly rational and who have some freedom of choice, an agent's human capital is regarded as more than the mere computation of available information. Principal-agent situations base on differences in human capital with human capital serving as an *ex ante* indicator of an agent's "board ability" (Spender, 2011; Tian et al., 2011). Thus, when appointing agents, principals look for relevant knowledge, skills and experiences – human capital they cannot or do not wish to provide themselves – which are necessary to successfully manage the firm (Fama, 1980; Spender, 2011). With regard to the management of MNCs, an international executive's knowledge, skills and experiences are an important part of his or her qualification and personality. An executive's internationalization can thus be regarded as an enhancement of his or her board ability. However, while we suggest that international executives provide human capital that is beneficial for today's MNCs, the availability of eligible executives with substantial international experience is still constrained and said to be rather rare (Carpenter et al., 2001; Lublin, 1996; Ondrack, 1985). Consequently, international executives should be able to achieve higher market value in terms of fixed compensation than top managers with no or few international background. Based on the nature of fixed compensation reflecting expectations on an executive's board ability we hypothesize:

H1: The level of an executive's internationalization is positively reflected in the level of his or her fixed compensation.

Effects of executive internationalization on variable compensation

According to agency theory, principals are not only interested in the ability of their agents to successfully manage the firm; they also seek to direct their actions by means of compensation. Linking some part of the agent's compensation to the objectives of the principal, incentives shall be given and agency costs be mitigated as some risk is transferred to the agent (Fama, 1980; Fama & Jensen, 1983; Jensen & Murphy, 1990). Thus, the level of variable compensation is determined *ex post* and contingent on the agent's achieved managerial performance (Eisenhardt, 1989; Gomez-Mejia & Wiseman, 1997; Tosi et al., 2000).

Many scholars measure managerial performance by firm performance. However, with regard to the relationship between executive compensation and firm performance, top management research provides inconclusive empirical results: while some studies do not find a (straight-forward) relationship in this compensation-performance nexus (e.g., Baeten et al., 2011; Gomez-Mejia, 1994; Gomez-Mejia & Wiseman, 1997; Tosi et al., 2000; Young & Buchholtz, 2002), others confirm the effectiveness of outcome-based compensation (e.g., Devers et al., 2007; Murphy, 1999; Nyberg et al., 2010). These findings are not entirely surprising: just as definitions of firm performance (which is influenced by many micro and macro level factors) vary, so do components of variable compensation (e.g., share-based compensation, compensation based on performance or profitability figures, etc.) and their use between firms and individual executives (Gomez-Mejia & Werner, 2008; Nyberg et al., 2010). Therefore, results of comparative research on the relationship between executive compensation and firm performance have to be interpreted carefully. Nonetheless, we can assume that the higher an executive's variable compensation, the lower the agency costs—given that variable compensation is linked to the principals' objectives which may indeed vary from firm to firm. In other words: not only executives but also their firms benefit when high outcome-based compensation is achieved.

Building upon top management internationalization research, international executives' human capital helps MNCs to operate successfully in foreign markets. Hence, international executives should be capable of achieving higher variable compensation and thus mitigating agency costs to a greater extent than executives with few or no international experience. We therefore hypothesize:

H2: The level of an executive's internationalization is positively reflected in the level of his or her variable compensation.

Effects of corporate governance bodies on executive compensation

Depending on the corporate governance model, the compensation of a firm's executives is determined by different government bodies. In firms with a one-tier board model, a compensation committee usually decides on the compensation of the firm's executives. In this case, the compensation committee usually comprises both executive directors, who are responsible for the management of the firm, and non-executive directors, who primarily have a monitoring and control function (Charkham, 2005; Hopt et al., 1998). In line with recommendations of many corporate governance codes, the majority of the compensation committee is typically composed of non-executive directors who also provide the chairperson of this committee (Charkham, 2005; Hopt and Leyens, 2004; see also AFG (2012), DCGC (2009) or UKCGC (2012) for examples). By contrast, in firms with a two-tier board structure, members of the firm's supervisory board, whose tasks and responsibilities are comparable to those of non-executive directors, are in charge of determining executive compensation (Charkham, 2005; Hopt et al., 1998). Since our sample firms are constituents of the German DAX and exclusively use a two-tier board model, the members of the firms' supervisory boards decide on the level and structure of executive compensation.

In Germany, national legislation as well as the German Corporate Governance Code demand that the level of compensation of each individual executive is commensurate not only with the situation of the firm but also with an executive's tasks and performance (AktG, § 87; GCGC, 2010). Equivalent regulations can be found in many countries, regardless of the followed governance model, as for example in Austria (ACGC, 2012), France (AFG, 2012) or the United Kingdom (UKCGC, 2012).

Thus, the occurrence of differentials in the level of executive compensation due to executives' varying skills and experiences is reinforced by regulatory frameworks.

Unlike the level of executive compensation, the structure of executive compensation is said to be influenced rather by firm size, firm performance, board size, the degree of monitoring and control through block-holdership and industry effects than by individual characteristics of executives (Chizema, 2010; Eisenhard, 1989; Haynes, 2008). This concerns primarily the variable to fixed pay ratio. Moreover, the extent to which outcome-based compensation is used has long been influenced by national compensation practices (e.g., Pennings, 1993; Tosi & Greckhamer, 2004). US firms and firms from countries with a shareholder-oriented governance system make considerable use of variable components in executive compensation (Cheffins, 2003). Meanwhile, such outcome-based compensation practices in the shareholder's interests are seen as becoming more prevalent in MNCs: Research on executive compensation convergence also notes an international movement towards some "Americanization" of executive compensation due to incentives for MNCs to adapt their compensation practices (Cheffins, 2003; Chizema, 2010; Fung, 1999; Oxelheim & Randøy, 2005). In respect of governance bodies which have the final say in executive compensation, internationalization is seen as promoting this adoption of international compensation practices characterized by high proportions of variable compensation. Cheffins (2013, p. 13), for instance, states: "increased cross-border hiring of top management could serve to foster a move towards the Americanisation of executive pay". However, the specific effect of supervisory board members' internationalization on the structure of executive compensation is still an underexplored field of research (Oxelheim & Randøy, 2005).

In the past, the egalitarian, stakeholder-oriented governance system in Germany can be described as inhibiting the alignment of executive compensation with shareholders' interests in terms of outcome-based compensation (Chizema & Buck, 2006; Sanders & Tuschke, 2007). Thus, the use of share-based executive compensation, for example, was of lower importance than in many other countries (Tuschke & Sanders, 2003). In addition, for a long time large German stock corporations have been in the hands of block-holders facilitating the monitoring and control of top executives (Chizema, 2010; Tuschke & Sanders, 2003; Vitols, 2005). Therefore, the internationalization of German supervisory boards, which

decide on fixed to variable pay ratios in executive compensation, can be seen as promoting the adoption of international compensation practices. Supervisory board members who have international mind-sets and considerable international experience through their education, work experience and/or directorships abroad should foster the use of outcome-based compensation practices. Thus, we hypothesize:

H3: The variable to fixed pay ratio of an executive's compensation is positively related to the level of supervisory board members' internationalization.

DATA AND METHODOLOGY

Sample and data collection

To test our hypotheses we draw on a sample of executives of firms in the German prime index DAX as of December 31, 2010. All 30 DAX constituents are characterized by high international exposure and are heavily dependent on foreign trade and foreign direct investment. Three firms had to be excluded from our sample to ensure commensurability.¹ For the remaining 27 firms, we identified all 159 executive (i.e., members of the management board) for which in-depth curriculum vitae (CVs) analyses were conducted, based on information from firms' annual reports and corporate websites as well as from their investor relations departments. In addition, we approached executives and/or their offices directly to obtain first-hand information. Furthermore, drawing on compendiums and top manager's CVs in publications, such as doctoral dissertations, we were able to complement our research. Complete data on internationalization and compensation (as well as for further executive characteristics serving as control variables) could be collected for 158 of the 159 executives, resulting in a very comprehensive data base. With this approach we overcome the limitations of using commercial databases that very often do not provide sufficient information for measuring executive internationalization multi-dimensional constructs.

As for the data collection for the executives in our sample, we also obtained complete data for 215 of the 233 members of the firms' supervisory boards. This data was used to calculate the internationalization of supervisory board members, the independent variable in testing Hypothesis 3. Data for the remaining control variables stem from firms' annual reports.

Independent variables

An executive's human capital in terms of 'internationality' can be of multifaceted nature (Dahlin et al., 2005; Milliken & Martins, 1996). Previous research on executive internationalization uses different dimensions to assess the internationalization of executives, such as a person's nationality (e.g., Ruigrok et al., 2007; Staples, 2007), international education (e.g., Carpenter et al., 2003; Lee & Park, 2008), international work experience (e.g., Patzelt, 2010; Sambharya, 1996; Slater & Dixon-Fowler, 2009) or international board appointments (e.g., Daily et al., 2000; Herrmann & Datta, 2005; Sullivan, 1994). Most often, scholars restrict their measurement to one or two dimensions of internationality (e.g., Athanassiou & Nigh, 2002; Palmer & Varner, 2007; Reuber & Fischer, 1997) or neglect some information when codifying internationality by dichotomous dummy variables (e.g., Oxelheim et al., 2013). With regard to research on the relationship between executive internationalization and compensation, to the best of our knowledge, only single-proxy operationalization of executive internationalization has been used (e.g., Carpenter et al., 2001; Randøy & Nielsen, 2002). Assuming that dimension of internationalization represents only certain aspects of an executive's human capital (Nielsen, 2010), we want to overcome these limitations and portray a comprehensive picture of an executive's internationalization by drawing on the internationalization index established by Schmid et al. (Schmid & Daniel, 2008; Schmid & Dauth, 2012). This index is shown in Equation (1):

$$INT = \frac{1}{4} \left(F_i + \left(1 - \frac{1}{E_i + 1} \right) + \left(1 - \frac{1}{W_i + 1} \right) + \left(1 - \frac{1}{A_i + 1} \right) \right) \quad (1)$$

where F_i represents a dummy variable regarding the foreignness of person i with $F_i=0$ if the person's nationality is German and $F_i=1$ for any other nationality. E_i is person i 's number of years of higher

education spent outside Germany. W_i represents the number of years of full-time work experience outside Germany of person i . A_i is person i 's number of appointments to boards of companies incorporated outside Germany. A logarithmic transformation is applied for the dimensions “international education”, “international work experience” and “international board appointments” to account for the diminishing marginal value of internationalization (see also Pausenberger & Noelle, 1977).

With the four components of the index, the main stages of a person's life and career are covered. Using Eq. (1), the *executive INT* variable is calculated to determine the internationalization of each of the 158 executives analyzed in our study. Furthermore, we use Eq. (1) to assess the internationalization of the firms' supervisory board members, the independent variable in testing Hypothesis 3. The *supervisory board INT* variable is calculated as the mean average of a firms' supervisory board members' internationalization indices.²

Dependent variables

According to the German Executive Compensation Disclosure Act (“Vorstandsvergütungs-Offenlegungsgesetz”), listed companies are obliged to disclose information on the compensation of individual executives. Thus, we were able to extend previous research on executive internationalization and compensation (e.g., Carpenter et al., 2001; Oxelheim & Randøy, 2005) to an analysis of different compensation components as dependent variables. By measuring executive compensation, we take an accrual point of view (see also Randøy & Nielsen, 2002) and differentiate between fixed compensation and variable compensation. As fixed compensation we consider an executive's basic compensation (e.g., salary) and benefits (e.g., the use of a company car), which are determined *ex ante*. Variable compensation is measured as performance-based compensation and includes all *ex post* determined compensation components, such as share-based compensation and compensation based on key performance figures (Rankin, 2010; Ryan & Wiggins, 2000). All compensation data stem from firms' annual reports (financial year 2010). In all cases, the sum of the considered fixed compensation and variable compensation equals an executive's total compensation as

stated in the firm's official remuneration report. In line with previous studies on compensation (e.g., Boyd, 1994; Carpenter et al., 2001; Elhagrasey et al., 1999; Finkelstein & Hambrick, 1989; Randøy & Nielsen, 2002), we use the natural logarithm of executive compensation as the dependent variable to reduce heteroscedasticity and to enable comparability with other studies.³

Control variables

When testing our hypotheses, we control for a set of variables. With regard to individual characteristics, we control for an executive's *work experience*, which is measured as the full-time work experience in years, and *gender* (a value of 0/1 is assigned if the person is female/male) to account for possible gender disparities in executive compensation (e.g., Kulich et al., 2011). Furthermore, with the *academic qualification* dummy variables, we control for different levels of academic degrees. This is specifically appropriate in the German context, since a PhD/doctorate has often been seen as a door opener enhancing career prospects in top management of German firms (Buß, 2007; Hartmann, 1995, 2009). We also control for an executive's position using the *CEO* dummy variable. Since we analyse firms of the German DAX, a value of 1 is assigned to the *CEO* dummy variable if the executive is the "Vorstandsvorsitzende" (i.e., the chairman/spokesman of a German management board). This position is similar to the one of a CEO in Anglo-American firms (Oesterle, 1999). In case of an executive serving as a regular board member, the dummy variable equals 0. This is necessary as our study follows the suggestions by Hambrick & Mason (1984) and Finkelstein & Hambrick (1996) considering "the most influential executives at the apex of an organization" (Finkelstein & Hambrick, 1996, p. 8) and not only CEOs.

Earlier compensation research has identified effects of firm size on chief executive compensation (e.g., Finkelstein & Hambrick, 2009; Gomez-Mejia & Wiseman, 1997). Therefore, we control for *firm size* measured by sales. Following agency theory, we also control for *firm performance* measured by profitability (ROE) (e.g., Randøy & Nielsen, 2002) as well as for *management board size* and *supervisory board size* as relevant corporate governance variables (e.g., Core et al., 1999). Finally, we

control for one-digit *industry effects* using dummy variables to build industry categories, with one group being designated the control group.

Method

Similar to previous research on executive compensation, we use cross-sectional ordinary least-square (OLS) regression models to test our hypotheses (e.g., Carpenter et al., 2001; Harris & Helfat, 1997; Nyberg et al., 2010; Oxelheim & Randøy, 2005). In addition to the hypothesized effects of internationalization, we include control variables to reduce specification bias in the hypotheses testing. Equation (2) describes the relationships expressed in Model 1 (level of fixed compensation as dependent variable) and Model 2 (level of variable compensation as dependent variable):

$$\begin{aligned} \text{Level of an executive's compensation} = & \alpha + \beta_1 * \text{firm size} + \beta_2 * \text{firm performance} + \beta_3 * \text{industry dummies} \\ & + \beta_4 * \text{management board size} + \beta_5 * \text{CEO dummy} + \beta_6 * \text{work} \\ & \text{experience} + \beta_7 * \text{gender dummy} + \beta_8 * \text{academic qualification} \\ & \text{dummies} (+ \beta_9 * \text{executive INT}) \end{aligned} \quad (2)$$

Equation (3) is used to support the hypothesized effects of supervisory board internationalization on the structure of an executive's compensation, i.e. the variable to fixed pay ratio (Model 3):

$$\begin{aligned} \text{Structure of an executive's compensation} = & \alpha + \beta_1 * \text{firm size} + \beta_2 * \text{firm performance} + \beta_3 * \text{industry} \\ & \text{dummies} + \beta_4 * \text{supervisory board size} + \beta_5 * \text{management} \\ & \text{board size} + \beta_6 * \text{CEO dummy} + \beta_7 * \text{work experience} + \beta_8 * \\ & \text{gender dummy} + \beta_9 * \text{academic qualification dummies} + \beta_{10} * \\ & \text{executive INT} (+ \beta_{11} * \text{supervisory board INT}) \end{aligned} \quad (3)$$

Unlike Model 1 and Model 2, Model 3 additionally accounts for the effects of *supervisory board size*. Furthermore, the effects of executive internationalization (*executive INT*) tested in Model 1 and Model 2 are also included in Model 3. All models contain control variables only (Model 1a, Model 2a and Model 3a) before including the independent variable to be tested (Model 1b, Model 2b and Model 3b).

RESULTS

Table 1 provides means, standard deviations and bivariate correlations for all variables used in this study. Except for the *firm size/management board size* correlation (.612), the correlation coefficients indicate no multicollinearity problems. We performed separate tests with the *management board size* variable and without it to address this potential issue. Since the results of these tests were robust, we only report models that include both variables. Furthermore, the Variance Inflation Factor (VIF) statistics do not indicate any multicollinearity problems ($VIF < 5$).

[INSERT TABLE 1 ABOUT HERE]

Model 1 shows the results of the multivariate OLS regression analysis testing Hypothesis 1 (Table 2). First, using the multivariate model Eq. (2) in Model 1a, we find various significant positive relationships between control variables and fixed executive compensation: the variable controlling for the position of the CEO helps to explain the level of fixed compensation to a large extent (significant at the $p < 0.001$ level) followed by industry dummies ($p < 0.01$) and firm size ($p < 0.05$ in Model 1b). Furthermore, we identify a significant positive relationships between executives' full-time work experience ($p < 0.05$) and fixed compensation as well as between gender ($p < 0.05$) and fixed compensation. As a result, findings of previous compensation studies suggesting that executive compensation is mainly a function of firm size (e.g., Gomez-Mejia & Wiseman, 1997), industry effects (e.g., Rajagopalan & Prescott, 1990) and gender (e.g., Kulich et al., 2011) can be confirmed for fixed components of compensation. However, we come up with no significant relationship between firm performance and the level of fixed compensation.

While with Model 1a (control variables only) 40.4% of the variation can be explained, the inclusion of the executive internationalization variable (*executive INT*) in Model 1b does not significantly increase explanatory power. Thus, we find no support of Hypothesis 1 which states that the level of an executive's internationalization is positively reflected in the level of his/her fixed compensation. We performed an additional test that excluded CEOs from the sample and considered regular board members only (not reported here). This test yielded similar results.

With regard to Model 2 testing Hypothesis 2, we identify a significant and positive relationship between executive internationalization and the level of variable compensation (Table 2). The inclusion of the executive internationalization variable (*executive INT*) increases the explanatory power from 45.5% in Model 2a to 48.6% in Model 2b (the incremental contribution is significant at the $p < 0.01$ level). Thus, we find support of Hypothesis 2 which states that the level of an executive's internationalization is positively reflected in the level of his/her variable compensation. Furthermore, consistent with prior compensation research, the level of compensation (here in terms of outcome-based compensation) is found to be largely a function of firm size (e.g., Gomez-Mejia & Wiseman, 1997) and industry effects (e.g., Rajagopalan & Prescott, 1990) (both significant at the $p < 0.001$ level). In addition, we find a significant positive relationship between firm performance and the level of variable compensation ($p < 0.01$). Model 2 also shows a significant but negative relationship between management board size and the level of variable compensation ($p < 0.01$). Finally, executives' full-time work experience ($p < 0.05$) helps to explain variation in Model 2a.

[INSERT TABLE 2 ABOUT HERE]

Table 3 shows the results of the multivariate OLS regression analysis which tests Hypothesis 3. As suggested by Hypothesis 3, we identify a significant and positive relationship between supervisory board members' internationalization and the variable to fixed pay ratio in executive compensation. While the control variables in Model 3a already explain 47.2% of the variation in the structure of executive compensation, the explanatory power increases to 51.1% in Model 3b when the supervisory board internationalization variable (*supervisory board INT*) is included into the analysis (the incremental contribution is significant at the $p < 0.01$ level). Thus, we find support of Hypothesis 3 which states that the variable to fixed pay ratio of an executive's compensation is positively related to the level of supervisory board members' internationalization.

[INSERT TABLE 3 ABOUT HERE]

Furthermore, our results demonstrate that the variable to fixed pay ratio of executive compensation is positively associated with firm size and industry effects (both significant at the $p < 0.001$ level). This finding corresponds with previous research on the structure of compensation (e.g., Chizema, 2010; Eisenhard, 1989; Haynes, 2008). We also identify a significant and positive relationship between firm performance and the proportion of outcome-based compensation among executives ($p < 0.01$). Finally, our findings show no significant difference in the variable to fixed pay ratios between CEOs and executives serving as regular members of the board.

DISCUSSION AND CONCLUSION

Interpretation of the findings

The objective of the present study was to empirically examine the effects of top management internationalization on compensation. Building on human capital theory and agency theory, we argued that international executives should be able to achieve higher market value in terms of fixed and variable pay components. Our results show strong support for Hypothesis 2 which states that the level of an executive's internationalization is positively reflected in the level of his or her variable compensation. With their knowledge and experiences on foreign markets, international executives achieve higher outcome-based compensation than their less internationalized peers. However, international executives do not line their own pockets. Higher variable compensation is of mutual benefit. Since outcome-based compensation is linked to principals' objectives (Fama, 1980; Fama & Jensen, 1983; Jensen & Murphy, 1990), international executives achieving higher variable pay mitigate agency costs. Thus, our results demonstrate that international executives are more efficient in meeting the targets set by their principals, making them valuable to their firms. In other words: taking variable compensation as a measure of managerial performance in MNCs, international executives perform better than purely national top managers. As a result, executive internationalization pays off for both, the individual top manager and MNCs.

In contrast to the results related to variable compensation, we found no significant effects of executive internationalization on the level of fixed compensation (Hypothesis 1). One interpretation of this finding is that the (prospectively) attached value to executives' international background does not justify pay premiums in terms of fixed compensation. While the internationalization of executives can be regarded as enhancing an executive's board ability (Greve et al., 2009; Nielsen, 2010), established compensation practices do not yet acknowledge this development. However, according to our results, executives are able to capitalize on traditional criteria, such as work experience in general, to achieve higher fixed compensation. It remains to be seen whether the benefits of international executives will be reflected in components of fixed compensation in the future.

There is one important finding that must be noted when it comes to the control variables. While we found significant pay differentials between female and male executives with regard to fixed compensation, no such disparities were found in terms of variable compensation. These results not only support previous research suggesting that a gender pay gap exists among executives (e.g., Kulich et al., 2011), but also demonstrate that female and male executives achieve equivalent managerial performance (here measured by outcome-based compensation).⁴

Another objective of our research was to study whether the internationalization of firms' governance bodies which are responsible for the design of executive compensation affects the structure of executive compensation. In line with Hypothesis 3, we were able to show that the structure of executive compensation is affected by the internationalization of supervisory board members. To be precise, we found strong support that supervisory board internationalization leads to an increase in the variable to fixed pay ratio of executives' compensation. This means that if we want to understand compensation practices at the upper echelon of a firm, research has to include the governance bodies responsible for the design of executive compensation into their analyses.

Considering supervisory board internationalization as influencing executives' compensation structure, we made additional important findings due to our control variables: In contrast to the level of compensation, the structure of compensation is not found to be dependent on individual executive

characteristics. Our analysis demonstrated that there are no significant differences in the variable to fixed pay ratios between CEOs and executives serving as regular board members. Furthermore, despite the higher risk aversion that is attributed to women as compared to men (Hersch, 1998; Vandergrift & Brown, 2005), our results did not show a significant difference in the variable to fixed pay ratios between female and male executives. This finding corresponds with previous research on gender disparities at the upper echelon (e.g., Vieito & Khan, 2012).

Implications

Our results have implications for scholars, managers and corporate governance authorities alike. First, we show that international executives achieve higher market value in terms of their overall compensation than executives with few or no international background. As a result, we find evidence in support of human capital theory in top management research suggesting that executives' skills and experiences should be reflected in the level of their compensation. Second, by combining human capital theory and agency theory, we move beyond previous studies that use aggregated compensation data (e.g., Carpenter et al., 2001; Randøy & Nielsen, 2002) and demonstrate that a differentiation between fixed and variable pay components is inevitable to draw meaningful conclusions. Third, unlike past studies on executive internationalization and compensation, we included governance bodies which are responsible for the structure of executive compensation in our study. In doing so, we contribute to a more comprehensive understanding of compensation practices in MNCs and stress the importance of a decision-making oriented research design in top management research. Finally, our empirical findings support the recommendations of good governance practices in many (European) governance codes calling for more international executives in MNCs. Investments in an international education and/or international career paths pay off for both, individual executives and MNCs.

Avenues for further research

By using a multi-dimensional measure of top management internationalization and differentiating between fixed and variable pay components, our study has contributed to a better understanding of the relationship between top management internationalization and compensation. However, while the

hitherto performed analyses have regarded “internationality” as a dichotomous construct differentiating between either a top manager’s domestic or international background, future research could account for various loci of top managers’ internationalization. The question arises whether an internationalization in and from certain countries and/or cultures, for instance in and from future growth markets (e.g., Brazil or China), has specific effects on the level and/or structure of executive compensation. Cultural differences might also affect executive compensation with regard to proportions of long-term vs. short-term compensation components (e.g., Lowe et al., 2002). In general, a more detailed subdivision of compensation components, such as a differentiation between share-based compensation and compensation based on accounting-related key performance figures, might offer further insights on the relationship between top management internationalization and top management compensation (e.g., Lynch & Perry, 2003).

While a more detailed analysis of compensation components may prove to be fruitful, we as scholars should be aware that performing cross-country comparisons requires careful interpretation. Previous writings have already shown that the structure of compensation packages and components of variable compensation in particular can be strongly influenced by national culture (e.g., Pennings, 1993; Tosi & Greckhamer, 2004). In addition, the requirements to disclose (detailed) compensation data is not identical across countries, since legal requirements and corporate governance regulations (and practices) still vary from country to country. Thus, cross-country comparisons could be impeded by analysing pay components in too much detail. We therefore suggest a differentiation between fixed and variable pay components as a common and feasible level of analysis in future (cross-country) research seeking validity for a higher generalisation of the results.

By examining the internationalization of firms’ supervisory boards, we considered the governance body which is deciding on executive compensation in our sample firms. Hence, we accounted for specific regulations of the German corporate governance system. Further research is needed that investigates the effects of top management internationalization on compensation within different regulatory frameworks. In addition, not only different corporate governance systems offer good starting points for future research. Also the national culture of an MNC’s home country or the culture

of the dominant shareholders of an MNC may be of relevance (e.g., Haynes, 2008). For instance, with regard to the degree of individualism, culture can significantly influence results in research on top management internationalization and compensation. Firms headquartered in countries with a higher level of individualism than in Germany, for example, might acknowledge executive internationalization in terms of fixed compensation.

Although we are convinced that quantitative empirical studies such as ours offer important insights, we call for qualitative approaches that are providing us with additional findings. For instance, qualitative studies which shed light on how principals actually decide and act and how they evaluate skills and experiences of individual top managers during pay negotiations seem a promising field of research. With in-depth qualitative analyses, important insights could be gained and further support of human capital theory as explaining differences in executive compensation could be found.

¹ First, Fresenius Medical Care was not considered as it is, in fact, a business division of the Fresenius SE, another DAX constituent. Second, Commerzbank AG was excluded from our sample since its compensation practices were subject to statutory requirements after the firm's partial nationalization by the German government in January 2009. Third, HeidelbergCement AG could not be considered as the firm's shareholders made use of the opt-out clause of the German Executive Compensation Disclosure Act ('Vorstandsvergütungs-Offenlegungsgesetz') to not disclose information on the compensation of individual executives.

² The supervisory board is composed of shareholder's representatives and employees' representatives. However, in this study, we only consider shareholder's representatives when calculating the *supervisory board INT* variable as we aim at studying key strategic decision makers at the upper echelon of a firm. Furthermore, data on the internationalization of employees' representatives could not be obtained, neither with secondary nor with primary investigation.

³ Without this transformation, similar but weaker results are obtained in the study.

⁴ Although we consider all female executives of the German DAX in our study, the share of female executives in our sample is less than 3 per cent. Therefore, findings related to an executive's gender might not be representative for top managers other than those in the DAX and implications have to be interpreted carefully.

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Table 1. Pearson's correlation matrix and descriptive statistics

<i>Variables</i>		<i>Mean</i>	<i>s.d.</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6a</i>	<i>6b</i>	<i>6c</i>	<i>6d</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13a</i>	<i>13b</i>
1	Fixed Compensation (log)	6,62	0,47																	
2	Variable compensation (log)	7,40	0,65	,666**																
3	Variable to fixed ratio	1,12	0,07	-,171*	,619**															
4	Firm size	49077	36125	,078	,380**	,422**														
5	Firm performance	13944	7416	,078	,065	,020	-,188*													
6a	Industry (a)	,13	,34	,121	-,142	-,316**	-,050	,082												
6b	Industry (b)	,07	,26	,019	-,072	-,106	,196*	,173*	-,107											
6c	Industry (c)	,20	,40	,103	-,007	-,129	,051	-,104	-,197*	-,138										
6d	Industry (d)	,03	,16	,096	,107	,035	,081	,080	-,063	-,044	-,081									
7	Supervisory board size	8,69	1,80	,130	,093	-,008	,191*	,024	,161*	,200*	,043	,118								
8	Management board size	6,48	1,81	,032	,088	,076	,612**	-,211**	,133	-,142	,511**	-,221**	-,022							
9	Supervisory board INT	,33	,10	-,012	,132	,175*	,203*	-,180*	-,136	-,261**	,584**	,190*	,203*	,429**						
10	CEO	,18	,38	,525**	,367**	-,070	-,099	,038	,014	,003	-,069	,031	-,021	-,142	-,062					
11	Work Experience	27,59	6,44	,224**	,212**	,040	,053	-,022	-,054	-,037	,002	,004	,025	,036	,004	,140				
12	Gender	,97	,16	,167*	,111	-,040	-,068	,017	-,056	-,114	,081	,026	-,073	-,046	-,095	,075	-,048			
13a	Academic qualif. (a)	,40	,49	,040	-,068	-,129	-,030	,102	-,167*	,133	,104	-,049	-,183*	,105	-,057	,096	,084	,049		
13b	Academic qualif. (b)	,07	,26	,117	,171*	,096	,163*	-,096	-,107	,023	-,076	-,044	,116	-,032	,024	,068	,126	,044	-,223**	
14	Executive INT	,37	,28	,127	,195*	,124	-,025	,001	,007	-,121	,124	,117	-,073	,034	,170*	,017	,071	-,075	-,134	-,135

* p<0.05 (two-tailed).

** p<0.01 (two-tailed).

Industry dummies are categorized into (a) services and transportation, (b) energy, (c) finance and insurance, (d) wholesale trade and a control group representing manufacturing companies (not shown here).

Academic qualification dummies are categorized into (a) PhD, (b), Professorship and a control group representing higher education (not shown here).

Table 2. OLS estimates of the relationship between executive internationalization and compensation

<i>Variables</i>	<i>Fixed compensation</i>		<i>Variable compensation</i>	
	<i>Model 1a</i>	<i>Model 1b</i>	<i>Model 2a</i>	<i>Model 2b</i>
(Constant)	(19.030)***	(18.664)***	(16.563)***	(16.339)***
Firm size	.223 (1.964)	.224 (1.984)*	.709 (6.526)***	.710 (6.708)***
Firm performance	.074 (1.092)	.072 (1.056)	.192 (2.941)**	.187 (2.943)**
Industry (a)	.225 (2.978)**	.227 (3.027)**	-.091 (-1.259)	-.087 (-1.238)
Industry (b)	.017 (.224)	.026 (.345)	-.267 (-3.695)***	-.252 (-3.571)***
Industry (c)	.263 (2.856)**	.248 (2.695)**	.122 (1.386)	.097 (1.128)
Industry (d)	.056 (.769)	.044 (.604)	-.068 (-.979)	-.088 (-1.288)
Management board size	-.167 (-1.227)	-.167 (-1.238)	-.348 (-2.676)**	-.349 (-2.750)**
CEO	.495 (7.466)***	.490 (7.428)***	.375 (5.909)***	.367 (5.922)***
Work Experience	.158 (2.401)*	.148 (2.245)*	.134 (2.120)*	.117 (1.887)
Gender	.131 (1.999)*	.141 (2.146)*	.079 (1.250)	.094 (1.524)
Academic qualif. (a)	.016 (.228)	.037 (.515)	-.076 (-1.109)	-.042 (-.618)
Academic qualif. (b)	.072 (1.043)	.091 (1.308)	.003 (.042)	.034 (.518)
Executive INT		.113 (1.684)		.185 (2.932)**
<i>df</i>	145	144	145	144
<i>R</i> ²	.404	.416	.455	.486
Change in <i>R</i> ²		.012		.031**

Standardized Beta values reported with t-statistics in parentheses.

* p<0.05

** p<0.01

*** p<0.001

Industry dummies are categorized into (a) services and transportation, (b) energy, (c) finance and insurance, (d) wholesale trade and a control group representing manufacturing companies (not shown here).

Academic qualification dummies are categorized into (a) PhD, (b), Professorship and a control group representing higher education (not shown here).

Table 3. OLS estimates for the relationship between supervisory board members' internationalization and executive compensation

<i>Variables</i>	<i>Variable to fixed ratio</i>	
	<i>Model 3a</i>	<i>Model 3b</i>
(Constant)	(2.458)***	(19.805)***
Firm size	.724 (6.462)***	.743 (6.853)***
Firm performance	.189 (2.926)**	.205 (3.272)**
Industry (a)	-.354 (-4.716)***	-.310 (-4.192)***
Industry (b)	-.362 (-5.013)***	-.305 (-4.251)***
Industry (c)	-.134 (-1.458)	-.247 (-2.594)*
Industry (d)	-.174 (-2.519)*	-.248 (-3.517)***
Supervisory board size	-.005 (-.076)	-.070 (-1.005)
Management board size	-.304 (-2.276)*	-.396 (-3.001)**
CEO	-.033 (-.518)	-.039 (-.635)
Work Experience	-.004 (-.069)	.009 (.145)
Gender	-.035 (-.565)	.004 (.063)
Academic qualif. (a)	-.092 (-1.325)	-.079 (-1.176)
Academic qualif. (b)	-.060 (-.895)	-.075 (-1.155)
Executive INT	.126 (1.949)	.106 (1.689)
Supervisory board INT		.291 (3.337)**
<i>df</i>	143	142
<i>R</i> ²	.472	.511
Change in <i>R</i> ²		.038**

Standardized Beta values reported with t-statistics in parentheses.

* p<0.05

** p<0.01

*** p<0.001

Industry dummies are categorized into (a) services and transportation, (b) energy, (c) finance and insurance, (d) wholesale trade and a control group representing manufacturing companies (not shown here).

Academic qualification dummies are categorized into (a) PhD, (b), Professorship and a control group representing higher education (not shown here).