

## Compensation Objectives and Business Unit Pay Strategy

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### **ABSTRACT**

This study investigates the effects of attraction, retention, and incentive objectives on business unit pay strategy. Economic and psychological theories argue that differences in compensation objectives should lead to variations in organizations' pay strategies, including decisions regarding the level of pay relative to its labor market and the emphasis on different compensation elements. However, compensation theories provide conflicting implications regarding the use of various pay practices to achieve these objectives. Data from 173 European business units (each belonging to a different firm) indicate that the importance of attraction, retention, and incentive objectives are all positively related to the provision of higher relative cash pay levels, but that the proportion of workers eligible for variable cash pay is only associated with incentive objectives. Although compensation theories highlight the potential use of benefits for attraction and incentive purposes, the units in our sample primarily provide benefits for retention purposes. Broad-based stock option grant eligibility is positively associated with incentive and attraction purposes, but negatively associated with retention objectives, despite claims that options' vesting provisions enhance their retention advantages. Stock grant eligibility is also positively associated with incentive objectives, but has little relation to either attraction or retention objectives. Further tests indicate that, although some of the pay elements seem to be complements or substitutes, this does not drive our results regarding the impact of the compensation objectives on pay elements. National labor market, regulatory, and tax differences influence the use of the various pay elements, but do not subsume the influence of the organization's internal attraction, retention, and incentive objectives.

## 1. Introduction

Compensation practices represent a major component of control systems (Brickley, Smith, & Zimmerman, 1997; Otley, 1999). Economic and psychological theories contend that compensation practices can serve a broad range of objectives, particularly the attraction, retention, and motivation of the types of employees desired by the organization (e.g., Gerhardt & Milkovich, 1992; Lazear, 1999; Rynes, Gerhardt, & Parks, 2005). The importance of these internal objectives, together with external factors such as taxes, regulations, and general labor market characteristics, are predicted to drive an organization's pay strategy, which represents the broad guidelines for making the compensation decisions that are critical to achieving the desired objectives and improving organizational performance (e.g., Milkovich, 1988; Lawler, 1990). Key elements of pay strategy include positioning pay levels relative to the organization's labor market; the use of fixed vs. variable pay, short-term vs. long-term pay, and cash vs. non-cash pay; and, the proportion of the workforce eligible for different forms of compensation (e.g., Milkovich, 1988; Sibson, 2005).<sup>1</sup>

Although compensation theories generally agree that variations in pay strategies can be used to achieve desired employee attraction, retention, and incentive (or motivation) objectives, many of their predictions regarding the relations between these compensation objectives and specific pay practices are contradictory. Given the conflicting theories and lack of empirical comparisons of their predictions in a common setting, we provide evidence on the three compensation objectives' influence on pay strategies using survey data from 173 European business units (each belonging to a different firm). The significant within- and across-country variations in the compensation objectives and institutional settings of the surveyed units, which are headquartered in 16 countries, allow us to examine the influence of compensation objectives, as well as national labor markets, regulations, and taxes, on the units' pay strategies to a much greater extent than studies limited to operations in a single country.

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<sup>1</sup> For example, the compensation documentation of one firm in our sample stated: "We have a progressive approach to compensation, benefits, and bonuses, which we apply in a non-discriminatory manner. We provide a competitive level of compensation to attract, motivate, and retain employees with the background and skills our Company needs."

In contrast to prior studies that primarily focus on the use of compensation for incentive purposes (Prendergast, 1999; Merchant, Van der Stede, & Zheng, 2003), we examine the relations between all three compensation objectives and pay practices. Both compensation theories and surveys of practice (e.g., Ittner, Lambert, & Larcker, 2003; PayScale, 2011) indicate that employee attraction and retention are equally or more important to the choice of compensation practices than more widely studied incentive objectives.

We also examine a broader range of unit-level compensation choices that together comprise the organization's overall pay strategy, rather than focusing on a single compensation element such as cash pay levels, bonuses, or equity grants for a select group of employees (typically division managers or executives). In particular, we provide more comprehensive evidence on the broad-based provision of non-cash pay (i.e., benefits and equity grants). Most large firms provide employees with a mix of cash and non-cash pay. At a simple level, employees should find non-cash pay less desirable than cash pay because cash gives them the ability to purchase or not purchase equity, insurance, pensions, transportation, or other non-cash pay elements based on their personal preferences. The use of non-cash pay in optimal compensation arrangements must therefore be related either to achieving compensation objectives beyond meeting employees' reservation wages, or to factors such as tax benefits, labor market characteristics, or purchasing economies of scale that make non-cash pay economically advantageous to the organization and/or its employees. Recent theories suggest that broad-based equity grant programs that cover a substantial proportion of employees at all organizational levels are unlikely to reflect incentive objectives because lower-level employees individually can have only a minimal impact on firm performance. Instead, these theories contend that broad-based equity grants are driven by attraction objectives or retention requirements (e.g., Lazear, 2005; Oyer & Schaeffer, 2005).

Most empirical studies on the determinants of compensation practices also ignore employee benefits, even though benefits represent a significant compensation component in most firms (see Ehrenberg & Smith (2003) for a discussion). Benefits traditionally have been viewed as a means to attract and retain desired employees, but compensation theories indicate that benefits can also improve incentives and employee productivity (Marino & Zabojsnik, 2008;

Oyer, 2008; Zou, 1997). Although some empirical studies provide evidence on the factors influencing benefits provision, few studies have examined the use of benefits for achieving incentive objectives or investigated the joint use of benefits and equity-based pay. The divergent views on the drivers of organization-wide non-cash pay practices suggest that compensation studies that place most of their emphases on incentive objectives or that ignore benefits and lower-level equity grants (or their joint use) provide incomplete analyses of the determinants of compensation practices.

We find that the importance placed on attraction, retention, and incentive objectives is associated with the use of different pay elements, and find mixed support for the various (often conflicting) theories linking these objectives to differences in pay strategies. Greater stated importance of attraction, retention, and incentive objectives are all positively associated with higher positioning of cash pay relative to the unit's labor market. This result is not surprising since higher cash pay makes it harder to find a comparable job with a similar pay level, thereby providing a mechanism to attract desired employees and to provide incentives for existing employees to work harder in order to retain their jobs. In contrast, greater eligibility for variable (or performance-based) cash pay is only associated with the importance of incentive objectives, providing greater support for theories that variable pay is used for motivating greater effort from employees than for theories arguing for the attraction or retention benefits from variable pay.

Attraction and retention objectives are positively associated with the provision of benefits, with retention objectives having greater explanatory power. However, we find no evidence that benefits are associated with incentive objectives, despite analytical models indicating that benefits can be used to provide incentives to improve organizational performance.

Both broad-based stock and stock option grants are positively associated with incentive objectives, contradicting recent theories suggesting that broad-based or lower-level equity grants are *not* made for incentive purposes. Our *stock option* eligibility measures are positively associated with attraction objectives, but all are negatively associated with retention objectives despite options' vesting requirements. In contrast, broad *stock* grant eligibility is not associated

with either retention or attraction objectives, supporting theories that broad-based stock and stock option grants serve different purposes (e.g., Oyer & Schaeffer, 2006).

Country-specific labor market characteristics, labor regulations, and tax rules significantly influence compensation practices, beyond the influence of organization-specific compensation objectives. However, variations in the country-specific variables do not eliminate the explanatory power of variations in the organization-specific compensation objectives, suggesting that external, country-level factors and internal, unit-specific compensation objectives provide complementary explanations for the pay practices implemented by individual organizations.

The remainder of the paper is organized as follows. The next section provides an overview of related literature and develops our research questions. Section 3 describes our sample and variables. Descriptive statistics and correlations are provided in Section 4. Section 5 presents empirical results. Section 6 concludes.

## **2. Literature Review and Research Questions**

The compensation literature argues that an organization's pay strategy represents the basic foundation for the choice of compensation plans. A pay strategy, which can be explicitly documented or revealed in ongoing compensation choices (Gerhardt & Milkovich, 1992; Schuster, 2012), is the set of beliefs that an organization has with respect to compensation decision-making, and provides the broad guidelines for the design of specific compensation packages (Milkovich, 1988; Sibson, 2005; Schuster, 2012). Development of a pay strategy begins with the organization's overall compensation objectives: what must the compensation program do to support the success of the organization? Economic and psychological theories contend that compensation objectives should reflect the organization's human resource needs and its labor market for talent, and can be grouped into three general categories: employee attraction, retention, and incentives (e.g., Gerhardt & Milkovich, 1992; Armstrong, Larcker, & Su, 2010). The relative importance of these three objectives should drive the positioning of the compensation program in relation to the labor market, particularly with respect to the use of base cash pay, variable pay (whether in the form of cash or non-cash awards such as stock), and

benefits. The resulting pay strategy provides the general guidelines for compensation decision-making. Although firms often make distinct compensation decisions for different job families, empirical studies find that these decisions are ultimately consistent with the overall pay strategy (e.g., Yanadori & Kang, 2011).

## **2.1 Compensation Objectives and Cash Pay**

One of the most fundamental components of pay strategy is the positioning of cash pay levels. Pay level is an attribute defined relative to labor market competitors (Gerhardt & Milkovich, 1992); organizations gather information about pay practices of competitors through the use of pay surveys, and typically position their pay levels in terms of leading, meeting, or following the market (Fay, 1989; Rynes & Milkovich, 1986; Sibson, 2005).

The compensation literature suggests that higher cash pay levels can have a positive effect on the achievement of all three compensation objectives. Lawler (1971), for example, develops a process model of motivation suggesting that pay levels are an important incentive device because of their instrumentality for obtaining so many other outcomes. Efficiency wage models (e.g., Shapiro & Stiglitz, 1984; Yellen, 1984) argue that setting pay higher than competitors can motivate employees to work more efficiently (i.e., provide incentive effects) because it reduces shirking by setting wage levels above that which the worker could find elsewhere, as well as providing retention benefits by reducing the likelihood that the employee quits to pursue a similar but lower-paying job at another firm.

There is also considerable evidence that higher pay levels can influence the attraction of desired employees (e.g., those with required skills, abilities, or risk preferences). Studies indicate that applicants have a reservation wage below which they would not accept a job offer regardless of how attractive it is on other dimensions (Rynes, Schwab, & Heneman, 1983). High relative pay has also been found to increase the size of the applicant pool, the likelihood of job acceptance, and the quality of job applicants (see Rynes & Barber (1990) for a review).

Despite the attraction, retention, and incentive advantages of higher cash pay levels, the compensation literature contends that other pay practices may provide more efficient means for achieving these objectives. Rather than simply providing higher cash pay, organizations can

make at least a portion of cash-based compensation a function of individual or group performance, better known as variable or performance-based pay. Economic and psychological theories suggest that the primary attraction benefit from variable cash pay (such as cash bonuses and profit-sharing) comes through its “sorting” or “matching” abilities (e.g., Lazear, 1986; Cable & Judge, 1994; Gibbs, 1995; Kuhn & Yockey, 2003; Cabsby, Song, & Tapon, 2007). Studies indicate that certain types of individuals, such as those with higher ability, lower risk aversion, and higher self-efficacy, are more attracted to variable pay. Through the use of variable cash pay, organizations can sort or match job seekers based on their pay preferences, thereby achieving better “fit” between the job and employee.

The organizational psychology literature has emphasized equity theory to analyze the retention benefits from variable cash pay. Equity theory proposes that employees seek to maintain equity between the inputs they provide and outputs they receive compared to the perceived inputs and outputs of others (Adams, 1966; Vroom, 1964). To retain high performers, the compensation system needs to distribute rewards in a way that assures an equitable treatment compared to individuals in similar jobs but in other organizations, as well as to poor performers in the same organization (Lawler & Jenkins, 1992). This can be achieved by using performance-based compensation that significantly rewards good performance so that the more productive employee receives pay that is above average market levels. Consistent with these arguments, research shows that high performers are more likely to leave if performance is not sufficiently recognized with financial rewards (Trevor, Gerhart, & Boudreau, 1997), and low performers are more likely to stay when pay-for-performance relationships are lower (Harrison, Virick, & Williams, 1996).

Perhaps most importantly, a wide range of compensation theories stress the incentive or motivational benefits from variable cash pay (see Prendergast (1999) and Rynes et al. (2005) for discussions). Agency theories, for example, contend that variable cash pay improves incentives to perform in the organization’s best interests by aligning the preferences of employees and the firm. Expectancy theories emphasize the ability of variable cash pay to improve motivation (i.e., incentives) by increasing the effort-performance expectancy, instrumentality (the link between performance and outcome), and valence (or rewards). The resulting possibility of higher pay for

performance should motivate employees to work hard and discourage shirking. Although some psychological studies question whether monetary incentives are the most effective motivators and others suggest that the attraction effects of variable pay dominate any incentive effects (Rynes et al., 2005; Fehr & Falk, 2002), considerable empirical and experimental research supports the hypothesized positive relation between variable cash pay and employee performance.

## **2.2 Compensation Objectives and Benefits**

Benefits, such as life and health insurance, pension and retirement plans, and perquisites such as company cars or subsidized transportation, represent a significant pay element in most large firms. In addition to tax advantages and purchasing economies of scale that make it economically advantageous for the firm to provide these elements, the compensation literature has traditionally viewed benefits as a means for attracting and retaining desired employees.

Similar to the sorting or matching arguments for variable cash pay, compensation theories argue that the attraction advantages of benefits relate to their ability to sort workers by type. Dye and Antle (1984), for example, analytically demonstrate that if applicants with a greater marginal rate of substitution between income and fringe benefits also have lower minimum reservation wages, then firms can use benefits packages to reduce hiring costs. Ippolito (1994, 2002) argues that deferred benefits such as pensions allow firms to attract workers with low discount rates who are intrinsically less likely to switch jobs. Consistent with these conjectures, Ippolito (2002) finds empirically that employees predicted to have low discount rates are more likely to have both a pension and higher performance ratings. Cable and Judge (1994) hypothesize and find that job seekers with higher locus of control (i.e., perceived control over events in their lives) are more attracted to firms that offer flexible benefits.

Implicit contract theory maintains that the retention advantages from benefits relate to many being non-portable across employers and/or representing deferred compensation, thereby providing deterrents to labor mobility (e.g., Eaton & Rosen, 1983; Even & Macpherson, 2000). For example, it may be difficult for employees to replace their existing benefits if they change

jobs, especially when potential outside employers do not offer the same benefits (due to factors such as purchasing economies of scale or other constraints), or when certain benefits are not provided until the new employee has worked for the firm for a stipulated amount of time. Other benefits, such as pensions, may have vesting provisions that require employees to stay with the firm for a number of years before any benefits are received, and these plans typically increase in value the longer the employee stays with the firm. If an employee leaves the firm prematurely, the accrued pension benefits can be forfeited or significantly reduced in value.

Another potential mechanism through which benefits can be used to achieve retention objectives is by adjusting pay to outside labor market opportunities. Oyer (2005), for example, develops a simple model demonstrating that firms can use benefits to effectively match compensation to economic conditions because the costs of cutting benefits are lower than the costs of cutting wages. His empirical evidence from work stoppages is generally consistent with this justification for benefits.

More recently, the compensation literature has begun to explore the incentive effects of benefits. The management literature suggests that dissatisfaction with benefits may result in general job dissatisfaction, higher levels of absenteeism, and lower levels of performance (Carrahar, Hart, & Carrahar, 2003). Even and Macpherson (2001) posit that benefits can affect productivity by altering employees' incentives to invest in firm-specific knowledge. Analytical models by Marino and Zbojnik (2008), Oyer (2008), and Zou (1997), in turn, investigate how benefits can reduce employees' marginal cost of effort, thereby allowing firms to induce higher effort. Rajan and Wulf (2006) and Oyer (2008) offer empirical evidence consistent with these models.

Although empirical studies provide some support for the use of benefits for attraction, retention, and incentive purposes, little *direct* evidence exists on the extent to which firms actually tailor their benefits offerings to achieve these objectives. Instead, most studies rely on the associations between benefits and worker or job characteristics or between benefits provision and outcomes such as turnover rates or productivity. In contrast, we provide direct tests of firms' use of benefits, together with other cash and non-cash compensation elements, to achieve different compensation objectives.

### **2.3 Compensation Objectives and Equity**

Equity-based compensation, such as stock and stock option grants, is a form of variable pay that is generally more long-term oriented than variable cash pay such as annual bonuses. Unlike short-term cash compensation, equity-based pay typically has a multi-year vesting period during which the employee cannot sell the stock or exercise the option. Although the majority of studies on equity-based compensation focus on equity grants to executives, recent research investigates broad-based equity grants that cover most or all workers at all organizational levels. These studies provide a variety of incentives-based explanations of broad-based equity grants. First, like the provision of cash-based variable pay, equity-based pay increases the effort-performance expectancy and can lower agency costs. Second, broad-based equity grants provide a common goal, thereby promoting teamwork and trust across individuals, departments, and business units (Kroumova & Sesil, 2006). Third, by providing an observable goal, broad-based equity grants can be useful when worker effort is only partially observable (Pendleton, 2006). Fourth, stock and stock option plans encourage employees to focus on a broader range of tasks and outcomes and, therefore, complement other incentives when employees face multiple tasks with varying degrees of observability (Holmstrom & Milgrom, 1994; Prendergast, 1999). Finally, employee ownership can improve employee performance by creating a common interest among employees, increasing identification with the firm, and making workers feel as if they are owners (Long, 1978), a state of mind or psychological experience that is labeled psychological ownership (Pierce, Rubenfeld, & Morgan, 1991; Pierce, Kostova, & Dirks, 2001; Kruse & Blasi, 1997; Kruse, Freeman, & Blasi, 2008).

Although the potential advantages from using equity for incentive purposes are many, recent research questions the incentive effects of providing equity to lower-level employees, as is the case under broad-based equity plans, because these employees individually can have only a minimal effect on firm performance. Instead, these studies emphasize their use for achieving other compensation objectives. One of the most prominent explanations is the retention benefits that arise from equity's vesting provisions. Employees must hold on to their equity grants for multiple years before they vest and can be sold or exercised, and unvested equity typically must

be forfeited if the worker leaves the firm prematurely. These provisions make it costly for employees to move to another company.

The organizational psychology literature argues that equity-based pay can improve retention because it psychologically (as well as financially) “locks” employees into the organization. Two primary arguments are put forward to support these claims (Klein, 1987; Liu, Lin, & Lin, 2009). First, the instrumental satisfaction argument assumes that employee ownership can increase an employee’s influence on company decision making, which increases organizational commitment (and thereby reduces voluntary turnover). Second, the extrinsic satisfaction argument states that, if employee ownership is financially rewarding, then organizational commitment will be higher and turnover lower.

Oyer (2004) provides another explanation for broad-based equity grants being useful for retention even though they do not directly affect incentives. He presents a model in which adjusting compensation contracts is costly and employees’ outside opportunities are positively correlated with firm performance. Under these assumptions, broad-based equity compensation is a deferral that assists the firm in meeting employees’ dynamic reservation wages. In support of this prediction, Wilson and Peel (1991) find for a sample of 52 UK engineering firms that broad-based employee share ownership is associated with lower quit rates.

Lazear (2005) presents an alternative reason for providing broad-based equity plans. He derives a model in which firms use equity grants to attract and sort workers based on their private knowledge of the firm’s future prospects. In this model, equity grants are not used for incentive and/or retention purposes. Lazear (2005) rejects the use of stock options for retention purposes because there are other compensation mechanisms that can include vesting periods, and to the extent that workers are risk averse, non-vested pay should take the form of debt as opposed to equity.

A number of prior empirical studies examine some of the factors influencing the use of options for non-executive employees or broad-based equity plans.<sup>2</sup> However, one limitation of these studies is that the authors do not know the specific compensation objectives that their

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<sup>2</sup> See, for example: Core & Guay, (2001); Sesil, Kruomova, Blasi, & Kruse, (2002); Oyer & Schaefer, (2005); Kroumova & Sesil, (2006); Pendleton, (2006); Jones, Kalmi, & Makinen, (2006).

sample firms are attempting to achieve using these compensation elements, instead relying on indirect proxies for these objectives. In one of the few studies examining the direct relation between firms' stated compensation objectives and equity-based pay, Ittner et al. (2003) find no significant relation between the importance of attraction, retention, and incentive objectives and ongoing equity grants to non-executive employees, though they do find a relation between retention objectives and initial equity grants to new hires.

## **2.4 Research Questions**

The preceding discussions highlight the large number of theories linking attraction, retention, and incentive objectives to an organization's compensation choices. Yet despite the many (sometimes conflicting) theories and the importance placed on the compensation objectives-pay strategy relationship by academics and practitioners alike, direct evidence regarding the choice of overall pay strategies in response to an organization's specific compensation objectives is limited. Moreover, few studies have examined the joint use or potential tradeoffs between the various cash and noncash cash elements, even though the theories discussed above suggest that fixed and variable cash pay, benefits, and equity grants are all potentially useful for achieving attraction, retention, or incentive objectives. Consequently, we extend prior empirical compensation studies by examining the following two research questions:

To what extent does the importance of the units' stated compensation objectives relate to the choice of pay strategy elements including cash pay levels, benefits, and eligibility for variable cash and noncash pay?

To what extent do organizations make tradeoffs across the various pay elements to achieve their compensation objectives?

### 3. Research Method

#### 3.1 Sample and Data

Our sample consists of European business units or subsidiaries participating in a broad survey of human capital practices conducted by a leading international human resources consulting firm in 1999. The European human resources directors or equivalents from 500 firms were contacted by mail and telephone to request their participation. In return for participation, respondents were promised a personalized benchmarking report comparing their answers to those of other responding firms in their industry and country. Those agreeing to participate were mailed the extensive 204 question survey (the vast majority of which did not deal with compensation issues). Survey questions fell into three categories: yes/no responses for the use of specific human resources practices, responses on Likert scales, and blank spaces for respondents to provide percentages for items such as the proportion of employees falling into different categories (e.g., percent university educated) and the proportion of total compensation consisting of a specific type (e.g., benefits as a percent of total compensation). No spaces were provided for comments from respondents. The survey was translated into six languages, with a process of translation and back-translation used to ensure the integrity of the questions' intent. Contacts were provided in each country to answer any questions encountered in filling out the survey and follow-up phone calls were made to prompt completion of the survey.<sup>3</sup>

The consulting firm requested that each participating firm provide information on only one of its European business units or subsidiaries (hereafter denoted "units") and identify the unit's identity and headquarters location. Our final sample consists of 173 responding European units (each belonging to a different firm) that also have available information for the country-specific archival data used in our analyses (a final response rate of 34.6 percent).<sup>4</sup> The respondents belong to large corporations and 10 percent are business units or subsidiaries of

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<sup>3</sup> The primary focus of the survey was not on compensation practices, and discussions with the consulting firm indicate that fewer than 15 percent of the respondents received any kind of compensation advice from the firm. Consequently, our results are unlikely to be driven by the compensation recommendations provided by the firm. Given the advantages of receiving accurate benchmarking data, the investment in time needed to fill out the 20-page survey, and the consulting firm's extensive efforts to personally assist respondents in interpreting and filling out the survey, we believe the data are reliable.

<sup>4</sup> The consulting firm did not provide us with information on early versus late responders or respondents versus non-respondents, so we are not able to assess these potential response biases.

multinationals headquartered outside Europe.<sup>5</sup> Nearly all of the participants (95 percent) report tailoring their compensation policies to local labor market conditions.<sup>6</sup> Thus, the responses reflect practices in the responding European units rather than compensation practices for the firms as a whole.

Table 1 provides descriptive statistics on the responding units' industries and headquarters locations.<sup>7</sup> The units are headquartered in 16 countries, with the largest concentrations in the United Kingdom (40.5 percent) and Germany (15.6 percent). The sample covers a wide variety of manufacturing and service industries, with none of the specific industry groups from which respondents were asked to select comprising more than 11 percent of the sample.

### **3.2 Compensation Variables**

#### ***Cash Pay***

The unit's cash pay strategy is assessed using two variables. PAY VS MKT includes both base and variable cash pay, and indicates where the operation positions its cash pay relative to its labor market. The variable is measured on a seven-point scale ranging from "below the market average" to "above the market average." This relative comparison is a common method used by firms, in conjunction with benchmarking studies, to set their compensation levels. Respondents were instructed to use whatever labor market (geographic and/or industry) in which they compete for employees when answering questions related to relative compensation

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<sup>5</sup> At the time of the survey, more than a third of the respondents belonged to firms in the Euro 500 (based on revenues) and more than a quarter in the Global 500. Seventy-two percent of the responding units operate in a single European country, and 35.3 percent are subsidiaries. Including indicator variables for single versus multiple countries and for business unit versus subsidiary in our tests had no effect on the reported results. Units operating in multiple countries reported significantly lower cash pay and benefits relative to their labor markets and greater likelihood of making 50 percent or more of their employees eligible for stock grants. The subsidiary indicator was not significant in any of the models.

<sup>6</sup> The few firms that do not tailor compensation to local conditions are European companies with no geographic dispersion.

<sup>7</sup> The survey did not ask respondents to provide information on the size of the European business unit or subsidiary for which they provided information. Consequently, neither the benchmarking report nor our analyses provide information on the association between unit size and compensation practices. Given the lack of data on unit size, we examined the influence of *firm* size on the units' compensation practices in the 110 firms with available data on Worldscope. The inclusion of the natural logs of total assets, number of employees, or market value of equity in our models had no effect on the reported results. Market value was positively associated with benefits levels relative to the unit's labor market, but the three size measures were not statistically significant in any of the other models.

levels. The typical respondent sets cash pay at or near the market average (mean = 4.5, median = 4.0). Actual responses range from 1 to 7, with 14.8 percent reporting relatively low pay versus the market (1 to 3 on the scale) and 36.0 percent reporting cash pay at the market average (4 on the scale). To provide some indication of the use of variable cash pay (such as performance-based bonuses and profit-sharing that are paid out in cash), the second variable (% VARIABLE) measures the breadth of eligibility for variable cash pay. Respondents were asked to fill in a blank response space with the percentage of employees eligible to participate in a cash-based incentive or profit-sharing plan that is directly tied to performance. The responses range from 0 to 100 percent of the unit's employees (mean = 38.9 percent, median = 19.0 percent).

### *Employee Benefits*

We use two variables to capture different attributes of employee benefits provision. Respondents were instructed to include the following benefits when answering the benefits questions: pensions, private healthcare, life insurance, short-term sick pay in excess of the statutory minimum, long-term sick pay, company cars, and holidays above the statutory minimum. Explicitly excluded were perquisites such as physical office space, parking spaces, and special dining rooms. Our first variable assesses the *level* of benefits using a question asking respondents where their operations position benefits levels relative to their labor markets. The variable BENEFITS VS MKT is measured on a seven-point scale ranging from "below the market average" to "above the market average." The units in the sample tend to provide benefits slightly above the market (mean = 4.6, median = 5.0). Actual responses range from 1 to 7 on the survey scale, with 47.6 percent of the respondents providing benefits at or below the market average (1 to 4 on the scale).

Second, we examine the *mix* of compensation between benefits and other forms of remuneration (i.e., base and variable cash pay plus equity grants). Even though benefits may be set above average labor market levels, other forms of compensation may also be set at the same, or even higher, levels relative to the market. Consequently, higher benefits levels, in and of themselves, do not indicate that benefits comprise a greater proportion of compensation. Respondents were asked to fill in a blank space with the percentage of the unit's total compensation that is comprised of benefits (with the survey instructing respondents to answer

this question based on their internal accounting records).<sup>8</sup> The variable %BENEFITS equals the percentage of total compensation provided in the form of benefits (mean = 15.8 percent of compensation, median = 15.0 percent).<sup>9</sup>

### ***Broad-Based Equity Grants***

We investigate the extent of equity grant coverage using variables capturing the proportions of employees eligible for stock or stock option compensation. We examine stock options and stock grants separately to allow for the possibility that the different payoff structures from these instruments have differential effects on their use for achieving compensation objectives. In addition, recent work questioning the incentive effects of broad-based equity grants primarily focuses on stock options. Examining stock options separately from stock grants allows us to investigate these claims more directly.

%OPTIONS and %STOCK equal the percentages of employees eligible to receive stock options or stock grants as compensation, respectively.<sup>10</sup> Each of these variables ranges from 0 percent to 100 percent of employees, with mean eligibility rates of 22.6 percent for stock options and 27.7 percent for equity. These measures make no explicit distinction between broad-based equity grants and other grants. In contrast, the National Center for Employee Ownership survey used by Sesil et al. (2002), Oyer and Schaefer (2005), and Kroumova and Sesil (2006) defines a broad-based plan as one that grants stock options to at least 50 percent of the organization's employees. Pendleton (2006) goes further, defining an "all-employee share plan" as one open to at least 80 percent of the workforce, while Jones et al. (2006) focus on broad-based plans covering 100 percent of workers. Given differences in opinion over the definition of a broad-based plan, we use two additional variables to investigate different cutoffs for the presence of these plans. 50% OPTIONS and 50% STOCK are indicator variables that equal one if

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<sup>8</sup> Although the survey detailed the types of benefits to include in responding to the benefits questions, this variable will be a noisy indicator of the relative importance of benefits versus other compensation components if the respondents' accounting systems vary in the benefits used to answer this question.

<sup>9</sup> As a convergent validity check, we correlated our two benefits variables with another question asking how satisfied employees are with their benefits (ranging from 1 = "not at all" to 7 = "completely"). The correlations between perceived satisfaction with benefits and both BENEFITS VS MKT ( $r = 0.66$ ) and %BENEFITS ( $r = 0.23$ ) are significant at the 1 percent level (two-tailed).

<sup>10</sup> Stock purchase plans are excluded. The survey does not provide information on the percentage of compensation from equity grants for the unit as a whole, equity percentages for various organizational levels, or equity grants relative to the market average.

at least 50 percent of employees are eligible to receive stock options (19.0 percent of observations) or stock grants (27.2 percent of observations), and zero otherwise. 100% OPTIONS and 100% STOCK equal one if *all* employees are eligible to receive these forms of compensation (13.0 percent of observations for options and 17.4 percent for stock), and zero otherwise.

### 3.3 Compensation Objectives Variables

We assess the organization's compensation objectives using seven items that reflect the organization's stated importance of compensation design for incentive, attraction, and retention purposes. Consistent with the incentive-based compensation literature (e.g., Prendergast, 1999), which argues that incentives are provided to improve employee performance by increasing pay-performance sensitivity, we measure the stated importance of incentives as a compensation objective using two questions asking the extent to which: (1) compensation is used as a means to motivate employees to improve business performance, and (2) top performers receive significantly higher compensation than average performers. The two questions use fully-anchored, five-point scales ranging from "strongly disagree" to "strongly agree." Actual responses to each question range from 1 to 5, with respondents generally agreeing with these statements (mean = 3.7 and median = 4.0 for each question).

We measure the stated importance of attraction as a compensation objective using three questions on the importance of the following elements in attracting *quality* individuals to the organization: (1) competitive base cash levels, (2) competitive base and variable cash plus equity pay levels, and (3) competitive total remuneration levels (total cash and non-cash pay, including benefits). All three items are measured on five-point, fully-anchored scales ranging from "1 = strongly disagree" to "5 = strongly agree," with actual responses ranging from 1 to 5 for each question. The typical response falls between "neutral" and "agree" (means = 3.4 to 3.7).

The stated influence of retention requirements on compensation practices is evaluated using questions on the importance of two issues to the retention of *key* employees: (1) total cash and non-cash pay, and (2) a competitive reward program. The five-point, fully-anchored response scales range from "1 = strongly disagree" to "5 = strongly agree." The mean (median)

response to the first question is 3.8 (4.0), with a range from 2 to 5. The mean (median) response to the second question is 3.7 (4.0), with a range from 1 to 5.

We conduct a number of tests to assess the psychometric properties of the compensation objectives constructs. Confirmatory factor analysis using maximum likelihood estimation shows that all items load significantly on the latent variable of interest, with standardized loadings ranging from 0.54 to 0.95. Further, the composite reliability of the constructs, which is similar to Cronbach's alpha, ranges from 0.67 to 0.81 indicating reliability, and the variance extracted for each latent variable exceeds the cut-off of 0.50 proposed by Fornell and Larcker (1981). We also compare the fit of the original factor model to that of a model in which we sequentially constrain the correlation between two of the three latent variables to unity. For all three comparisons, the fit of the original (unconstrained) model is significantly better than the constrained model.

Convergent validity tests provide further support for the constructs' validity. Annual turnover rates for employees hired in the past two years are negatively correlated ( $p = 0.035$ , two-tailed) with retention objectives and are not significantly correlated with attraction or incentive objectives, indicating that units having greater retention needs have successfully used their compensation plans to retain employees. Similarly, incentive objectives are negatively correlated with the average amount of time required to fill job vacancies from the external labor market ( $p < 0.01$ ), consistent with incentive objectives being more important than attraction and retention objectives when it is easier to fill vacancies. Finally, respondents were asked about their effectiveness in (1) attracting the right people, (2) retaining the right people, and (3) motivating the right people (on a scale from 1 = strongly disagree to 5 = strongly agree). The variable ATTRACT has a significantly larger correlation with the units' perceived ability to attract the right people than either RETAIN or INCENT ( $p < 0.10$ , Fisher  $z$  transformation), RETAIN has a significantly larger correlation than the other two objectives with retaining the right people, and INCENT a significantly larger correlation with motivating the right people.

Overall, these analyses provide support for the reliability and the discriminant and confirmatory validity of the three compensation objectives. We therefore compute the

constructs INCENT, ATTRACT, and RETAIN by averaging the standardized scores of the items' loading on each construct.

### **3.4 Country-Level Variables**

Although we expect the unit's pay strategy to be affected by the organization's stated compensation system objectives, we also expect compensation choices to be affected by labor market characteristics, tax advantages, and government spending on benefits. In Europe, there is substantial heterogeneity in these characteristics. We therefore examine whether differences in these national characteristics impact pay practices.

#### *Labor Market Characteristics*

We control for several labor market issues that potentially influence the supply and demand for different types of compensation. First, we control for the extent to which regulations that increase employment protection affect compensation design. Such legislation increases the employer's firing costs, costs which might be (partly) undone when setting other components of the compensation contract (Lazear, 1990). We proxy for such legislation using indicators gathered by the OECD on employment protection measures related to the procedures and costs involved in dismissing individuals or groups of workers and the procedures involved in hiring workers on fixed-term or temporary work agency contracts.<sup>11</sup> Our measure of employment protection laws (EPL) is the 1999 average of the OECD Employment Protection Legislation indicator for regular contracts (procedural inconveniences, notice and severance pay for no-fault individual dismissals, difficulty of dismissal) and short-term contracts (e.g., Pagano & Volpin, 2005). This variable is a country-level measure for the unit's headquarters location, and its value increases with the strictness of protections.

Second, we control for general labor market conditions because of their impact on employees' outside labor market opportunities. Specifically, we include the country-level unemployment rate in the operation's headquarters location (UNEMPLOY), obtained from Eurostat.

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<sup>11</sup> For further information on these indicators, see [http://www.oecd.org/document/11/0,3746,en\\_2649\\_37457\\_42695243\\_1\\_1\\_1\\_37457,00.html](http://www.oecd.org/document/11/0,3746,en_2649_37457_42695243_1_1_1_37457,00.html).

### *Tax Advantages*

We include proxies for the tax advantages the company and its employees receive from the provision of different types of compensation. Each variable is computed for the unit's headquarters country. Employee and company tax rates for cash pay are proxied using the country's maximum individual and corporate tax rates (European Union, 2003), with similar results found when we use averages of the country's minimum and maximum. Employee tax advantages from benefits are measured using a construct based on three variables capturing the percentages of pension benefits, insurance benefits, and company car value that are not subject to income taxes, as reported by AGN-International.<sup>12</sup> The EMP BENEFIT construct equals the average standardized values for these indicators. Company tax advantages from benefits (denoted FIRM BENEFIT) are proxied using the average standardized values for the percentage of pension benefits and the percentage of company car value that are deductible by the firm, as reported by AGN-International.

We examine equity-related employee tax advantages (denoted EMP EQUITY) using an indicator variable that equals one if equity grants receive favorable tax treatment (e.g., lower taxes than cash compensation, deferred taxation, etc.), and zero otherwise (KPMG, 2001; European Union, 2003). Company tax advantages from equity grants (denoted FIRM EQUITY) are proxied using an indicator variable that equals one if the company makes lower or no social security payments on equity-based compensation, and zero otherwise (KPMG, 2001; European Union, 2003).

### *Government Spending*

Many European countries provide extensive health and pension benefits to their citizens, potentially reducing the need for companies to provide these benefits.<sup>13</sup> Consequently, we include two variables in our benefits provision models that capture the percentages of 1999 gross domestic product spent on health (HEALTH) and pension (PENSION) benefits in the operations' European headquarters country, as reported by the European Commission.

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<sup>12</sup> These data are available at [www.agn-europe.org](http://www.agn-europe.org).

<sup>13</sup> Despite this fact, in Europe there is substantial within-country heterogeneity in the benefits provided by private employers (for a discussion see Oliver & Cravens (2001)).

### **3.5 Workforce Composition**

We include the following unit-level variables in our tests to control for differences in workforce composition that potentially influence the organization's pay strategy. Respondents filled in blank spaces in the survey with the percentages of the unit's employees falling into each of these categories.

#### ***Unionization***

Prior studies find greater emphasis on benefits in unionized firms than in non-unionized firms (e.g., Freeman, 1981; Olson, 2002), and mixed associations between unionization and employee ownership plans (Kruse, 1996). We control for potential union effects on compensation practices using the percentage of the operation's employees covered by a collective bargaining agreement (BARGAIN).

#### ***Workforce Age***

Theoretical and empirical studies indicate that employee age can influence compensation design. For example, workers' compensation preferences can change as they age, leading to greater provision of benefits and fewer stock option grants in firms with older employees (e.g., Eaton & Rosen, 1983; Rhine, 1987; Amuedo-Dorantes & Mach, 2003; Decressin et al., 2005). We include the average age of the workforce (AGE) to control for this possibility.

#### ***Knowledge Workers***

Another issue highlighted in the compensation literature is the extent to which employees can contribute to firm value or possess inside information regarding the firm. We proxy for these attributes using two variables representing the percentages of employees classified as university graduates or holders of professional certifications (%UNIVERSITY) and the percentage of knowledge workers (%KNOWLEDGE). Knowledge workers represent managerial, professional, and technical employees who create value by processing existing information to create new knowledge that can be used to improve products and processes, and typically are more highly educated and skilled than other workers. Studies indicate that firms employing a greater proportion of highly educated employees and technical or other knowledge workers are more likely to provide benefits and place greater emphasis on equity-based pay (e.g., Anderson, Banker, & Ravindran, 2000; Ittner et al., 2003; Decressin et al., 2005).

### *New Employees*

Compensation theories suggest that pay practices can be significantly different for new employees than for more experienced employees. Some of these theories argue that new employees are expected to work harder in the absence of explicit performance-based contracts in order to convince superiors that they have high potential (Landers, Rebitzer, & Taylor, 1996; Gompers & Lerner, 1999). Furthermore, new workers may be more willing to supply effort without performance-based compensation because doing so increases the likelihood that the worker will survive in the firm long enough to attain the high compensation earned by experienced employees. An alternative perspective is that companies do not know the ability of the new employee and use performance-based compensation (such as variable cash and/or equity-based pay) to induce effort and/or to attract more capable employees (Gibbons & Murphy, 1992). As the company gains more experience with the employee, there is less uncertainty about the employee's ability and less need to impose costly compensation risk on the agent through performance-based pay, and an appropriate fixed hourly wage or salary is paid. We investigate the influence of new employees on pay philosophies using the percentage of employees with two or fewer years tenure (NEW EMP).

### **3.6 Innovation and Growth Strategies**

Research indicates that firms in growth environments and those following innovation strategies tend to employ significantly different compensation plans than other firms, including greater use of equity grants (Baber, Janakiraman, & Sok-Hyon, 1996; Core & Guay, 1999; Ittner et al., 2003) and greater provision of certain benefits to executives (Rajan & Wulf, 2006). We measure the firm's focus on innovation (denoted INNOV) using a question on the unit's focus on product offerings, ranging from 1 = "improving existing products or services" to 7 = "developing new products or services." We measure the operation's growth opportunities using two indicators: (1) the stage of growth in the firm's primary industry, and (2) the operation's growth in market share. Both items are measured on four-point, fully-anchored

scales that range from “decreasing” to “rapid growth.” We compute GROWTH using the average standardized scores for these two items (Cronbach’s  $\alpha = 0.59$ ).<sup>14</sup>

#### 4. Descriptive Statistics and Correlations

Table 2 provides descriptive statistics for the variables used in our study, followed by descriptive statistics on country-level compensation practices and objectives in Table 4. The data show considerable differences in pay practices both within and across countries. Irish, Dutch, and Swedish units tend to provide the highest cash pay relative to their labor markets. On average, more than 50 percent of employees of Finnish, Irish, and Swiss units are eligible for cash-based variable pay, but fewer than 30 percent of employees of German, Dutch, Portuguese, and Spanish units are eligible. The lowest mean benefits eligibility and benefits as a percent of total compensation are found in the Italian units, with substantially greater benefits provision in Belgian, Irish, and Swedish units. Fewer than 10 percent of Portuguese and Spanish employees are eligible for stock option grants and fewer than 6 percent of Italian, Dutch, Portuguese, and Swedish employees are eligible for stock grants. In contrast, one-third or more of the Belgian, British, Dutch, Finnish, French, Irish, and Swiss units have broad-based stock or stock option plans covering at least 50 percent of their employees. Furthermore, the standard deviations in compensation practices *within* countries indicate that the units tailor their pay philosophies to their particular requirements, even after taking country-level factors into account.

The relative importance of the three compensation objectives varies considerably across countries. The mean incentive objectives score is substantially greater than the overall sample average in the French, German, and Swiss units and is substantially lower in Portuguese and British units. While French, Irish, and Spanish units rate *both* attraction and retention objectives as important, German units only rate attraction objectives as important while rating retention objectives as relatively unimportant. Moreover, Spanish and Swedish units rate retention objectives important and attraction objectives unimportant. These differences highlight the fact

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<sup>14</sup> A common proxy for innovation and growth opportunities is the firm’s market-to-book ratio. We are able to obtain publicly-available information on market-to-book ratios for 117 firms in our sample. Market-to-book is positively correlated with both INNOV and GROWTH at the 1% level (0.32 and 0.36, respectively). These correlations provide evidence of convergent validity in these two measures

that the three compensation objectives do not move in lock-step, and that the relative importance of each objective varies with country differences in labor markets and competitive settings, as well as with unit-level characteristics.

Pearson correlations between our variables are reported in Table 3. Panel A presents the associations between the compensation elements. PAY VS MKT has a strong positive correlation with % BENEFITS ( $r = 0.47$ ), but is not significantly associated with the other pay elements. The correlation between the two benefits variables is 0.20. Although this correlation is statistically significant, the relatively small magnitude indicates that these variables are capturing distinct attributes of benefits provision. BENEFITS VS MKT is positively correlated with % STOCK and 50% STOCK ( $p < 0.10$ , two-tailed), but is not statistically associated with any of the stock option variables. All of the cash- and equity-based variable pay elements are significantly correlated at the 10 percent level (two-tailed).

Panel B of Table 4 reports correlations between our independent variables. The three compensation objective measures are positively associated, with correlations of 0.31 between INCENT and ATTRACT, 0.39 between INCENT and RETAIN, and 0.65 between RETAIN and ATTRACT.<sup>15</sup> Although these objectives have significant, positive associations in the overall sample (with an especially strong correlation between attraction and retention objectives), the associations between the individual objectives vary across countries. In untabulated tests, we calculated non-parametric Spearman correlations between the three compensation objectives for each of the seven countries with 10 or more observations. In four of the countries, ATTRACT is more highly correlated with RETAIN than with INCENT, but in the other three countries the

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<sup>15</sup> One potential explanation for the significant correlations between our compensation objectives variables is that the relations are driven by the questions' proximity in the survey. However, this does not appear to be the case in this study. The three indicators for attraction objectives are question 16 to 18 in the questionnaire and are included in a section containing nine questions on the reasons quality individuals are attracted to the company. The three questions on the use of compensation practices for attraction purposes load on a separate factor from the other reasons for attracting quality individuals, indicating that compensation is a distinct method for attracting desired workers. The two retention objectives indicators are questions 43 and 51 in the survey and are included in a group of 13 questions asking about methods used to retain key employees. The two retention questions used in our RETAIN construct load on a separate factor than the other retention methods. Finally, our two indicators for INCENT are questions 98 and 99 in a section on rewarding human capital, and load on a separate factor than the other questions in this section. This evidence indicates that the compensation objectives questions used in our analyses are capturing distinct methods for achieving these three objectives (relative to other methods that are not related to compensation), and that the questions' location in the survey has little influence on the significant correlations between the three compensation objectives constructs.

largest correlations are between RETAIN and INCENT. Moreover, there is virtually no association between ATTRACT and RETAIN ( $r = -0.02$ ) in Spanish units, while British units exhibit virtually no association between ATTRACT and INCENT ( $r = 0.01$ ).<sup>16</sup>

Incentive objectives have significant, positive associations with growth and innovation strategies and are negatively associated with the percentage of employees covered by collective bargaining agreements (BARGAIN) and favorable firm tax treatment for stock and option grants (FIRM EQUITY). GROWTH and INNOV are also positively correlated with retention objectives, with INNOV positively correlated with attraction objectives as well. Both ATTRACT and RETAIN are negatively correlated with country-level expenditures on retirement benefits.

## 5. Results

### 5.1 Cash Pay

We use multivariate ordinary least squares models to examine the determinants of cash-based pay. Because observations within countries may not be independent, we cluster standard errors by headquarters country. As reported in Table 5, PAY VS MKT is positively associated with each of the compensation objectives. The model's adjusted  $R^2$  is 0.341, with attraction and retention objectives explaining more of the variation in this choice than incentives.<sup>17</sup> As discussed earlier, higher cash pay relative to others in the labor market makes the unit more attractive to job applicants and increases retention and incentives to work hard by making it more difficult to find another job with comparable pay. Consequently, higher cash pay levels are used to achieve each of these compensation objectives.

In contrast, % VARIABLE, which represents the percentage of workers eligible for performance-based variable cash pay (e.g., bonuses or profit-sharing), is only significantly associated with incentive objectives. These results are similar when the three compensation objectives are included individually. This evidence indicates that the units use cash-based

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<sup>16</sup> The large correlation between ATTRACT and RETAIN raises concerns about potential multicollinearity problems in our tests. Although Variance Inflation Factor (VIF) scores indicate no problems with multicollinearity, we also estimated the models including one of these variables at a time. The results were consistent with those reported in the tables, suggesting that multicollinearity is not driving the coefficient signs or the significance of these variables.

<sup>17</sup> The adjusted  $R^2$  is 0.144 when INCENT is included without the other two objectives, 0.285 when ATTRACT is entered alone, and 0.271 when RETAIN is entered alone.

variable pay to provide effort incentives to employees, not to attract or retain better workers (e.g., Gerhart & Trevor, 1996).

Units with greater growth opportunities tend to offer lower cash pay levels and to make more extensive use of variable cash pay; innovative units also make more employees eligible for variable cash pay. The latter evidence is consistent with prior studies that have found greater use of riskier variable pay in innovative environments with greater growth opportunities. The only other significant association in the two cash pay models is the positive coefficient on UNEMPLOY in the PAY VS MKT model. Country-level tax differences, collective bargaining, and the composition of the labor force exhibit no significant effects on cash-based pay choices.

## 5.2 Provision of Benefits

While the evidence in Table 5 indicates that the units in our sample use higher cash pay levels to achieve their compensation objectives, a key question is why these units also use non-cash pay since cash pay allows employees to purchase or not purchase stock, stock options, or benefits such as cars, insurance, or pensions based on their own personal preferences. We begin examining this issue in Table 6, which reports results from multivariate ordinary least squares models examining the provision of benefits. When BENEFITS VS MKT is the dependent variable, the coefficient on INCENT is not statistically significant, while the coefficients on ATTRACT and RETAIN are both positive and significant ( $p < 0.10$ , two-tailed). When ATTRACT is included without RETAIN (not tabulated), the model's adjusted  $R^2$  equals 0.143, a statistically significant increase over the model with INCENT alone (adjusted  $R^2 = 0.036$ ). RETAIN remains significant and positive when included without ATTRACT, with an even larger adjusted  $R^2$  of 0.207. Thus, attraction and retention objectives both play roles in the level of benefits provided, but retention explains a significantly larger proportion of the variation in this compensation element.

Benefit levels are lower than the market when employees receive greater tax advantages from benefits provision, but company tax advantages have no significant effect.<sup>18</sup> Units in

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<sup>18</sup> Further examination indicates that some of the unexpected relations between taxes on certain types of compensation and their use by the respondents is due to the units substituting one type of compensation element

countries spending a greater proportion of GDP on national pension benefits have lower overall benefits levels since higher national pensions reduce the need for this benefit. Higher unemployment rates are also associated with lower benefits levels, consistent with unemployment worsening employees' outside labor market opportunities and reducing the need to provide benefits. However, the opposite is true in countries spending more on national health benefits, where the units in our sample provide higher benefits relative to others in their labor market.

Neither INCENT nor ATTRACT is significant when % BENEFITS is the dependent variable ( $p > 0.10$ , two-tailed). RETAIN, in contrast, is again positive and significant ( $p < 0.01$ , two-tailed), regardless of whether it is entered with or without the attraction variable. Consistent with the arguments that firms undo higher firing costs by lowering benefits, units in countries with stronger employee protections provide lower benefits as a percent of compensation. Similar to the results using BENEFITS VS MKT, benefits as a percent of compensation are lower the higher the unemployment rate and the greater the state's pension benefits. Benefits remain higher in countries spending a greater percentage of GDP on national health expenditures. In contrast to the insignificant relations between workforce composition and benefits levels, the percentage of compensation provided in the form of benefits is negatively associated with the percentage of knowledge workers and positively associated with the percentage of new workers (consistent with benefits being used to retain new employees). Growth units, in turn, provide a smaller percentage of total compensation through benefits, consistent with the riskier pay packages in these environments. The coefficient on employee tax advantages from benefits provision is again negative, but is not statistically significant, and company tax advantages remain insignificant.<sup>19</sup>

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when taxes on another are higher. For example, when taxes on benefits are higher, eligibility for variable cash pay is higher. Similarly, when tax benefits to the units from the provision of equity-based compensation are higher, cash pay versus the market is lower.

<sup>19</sup> Further evidence on the relative importance of attraction and retention objectives to benefits provision is provided by respondents' answers to a series of questions regarding the importance of eight specific types of benefits for (1) recruitment and (2) retention: pensions based on defined contributions (provided to at least some employees by 46.5 percent of the units), pensions based on service and salary (48.7 percent), private healthcare (73.5 percent), life insurance (75.6 percent), short-term sick pay in excess of statutory minimums (66.6 percent), long-term sick pay (66.6 percent), company cars (79.3 percent), and holidays above statutory minimums (64.5 percent). With the exception of company cars, a greater percentage of units that offer these benefits rate them to be "major differentiators" or

### 5.3 Equity Grant Eligibility

Table 7 reports equity grant results. Tobit is used when % OPTIONS and % STOCK are dependent variables due to the large number of observations clustered at zero, and logit is used when indicators for 50 percent and 100 percent eligibility are dependent variables. Standard errors are again clustered by country. The results provide mixed support for recent theoretical work arguing that broad-based equity grants are more likely to reflect attraction and retention objectives than incentives (e.g., Lazear, 2005; Oyer, 2004; and Oyer & Schaeffer, 2005). ATTRACT is positive and significant in all three *stock option* models, and INCENT is positive and significant in the 50% OPTIONS and 100% OPTIONS models. While the positive coefficients on ATTRACT support theories that broad-based option plans are used to attract employees, the significant positive associations between INCENT and the two more extensive option grant variables are inconsistent with claims that incentive objectives are likely to play little if any role in the adoption of broad-based plans. RETAIN is *negatively* associated with the use of stock options, consistent with Lazear's (2005) theory that stock options are unlikely to be used for retention objectives, despite their vesting provisions.

Consistent with prior studies (e.g., Anderson et al., 2000; Decressin et al., 2005; Ittner et al., 2003), we find some evidence (albeit with mixed statistical significance) that broad-based option eligibility is greater in units with larger proportions of highly-trained employees or knowledge workers (%UNIVERSITY and %KNOWLEDGE). A greater percentage of new employees is also positively associated with % OPTIONS, but not with the two more restrictive broad-based option proxies. Finally, units with older average workforce ages are more likely to make most or all of their employees eligible for option grants. The only country-level variable that is significant in the stock option models is the strength of employee protection laws, which is negatively related to very broad-based eligibility (50% OPTIONS and 100% OPTIONS).<sup>20</sup>

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"essential" for retention purposes compared to the percentage rating them to be "major differentiators" or "essential" for recruitment (i.e., attraction) purposes (with pensions related to service and salary, life insurance, and long-term sick pay significantly different at the 5 percent level, two-tailed). Company cars, on the other hand, are considered more important for recruitment (significant at the 10 percent level).

<sup>20</sup> In countries with stronger employee protection laws, part-time and temporary or contract workers may be entitled to the same pay as comparable full-time, permanent workers, which may reduce some of the incentive, attraction, or

Favorable company and employee tax treatment are not related to the use of stock options, suggesting that tax advantages do not drive companies to use option-based compensation.

Like the stock option results, the 50 percent and 100 percent *stock grant* eligibility variables are positively associated with INCENT, again suggesting that companies use broad-based equity plans to pursue incentive objectives. However, ATTRACT is *negatively* associated with 100% STOCK, and RETAIN is no longer significant in any of the stock grant models. This evidence implies that companies tend to use stock options rather than stock grants to achieve employee attraction objectives, and that neither type of equity is used to achieve retention objectives. Growth units and units with a larger percentage of employees covered by a collective bargaining agreement are positively associated with stock grant plans that cover all workers (100% STOCK). The significant association with collective bargaining coverage may reflect unions that have given up cash pay raises in return for equity participation (Kruse, 1996). INNOV, on the other hand, is negatively associated with 50% STOCK but is not significant in the two other models. Employee tax advantages from equity grants are positively associated with the use of broad-based stock plans using all three measures, but company social security payment savings from equity grants are negatively associated with %STOCK and 100%STOCK. None of the other country-level variables are statistically significant in the stock grant models. Together with the stock option evidence, the stock grant results indicate that providing effort incentives to workers is one of the primary objectives of broad-based equity plans that cover 50 percent or more of employees, contradicting theories that broad-based plans are used primarily for attraction and retention purposes.<sup>21</sup>

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retention advantages from providing stock options to most or all of the workforce, some of whom may have little influence on firm value or may not be with the unit for an extended period of time.

<sup>21</sup> To provide additional evidence on the importance of equity-based pay for achieving compensation objectives, we correlated the three compensation objectives variables with responses to a question asking “to what extent stock plans/options are an issue in the locations/industries in which you operate?” (with 1 = “not important” and 7 = “very important”; actual responses range from 1 to 7 with a mean of 4.3 and a median of 5.0). The Pearson correlation between responses to this question and the percentage of employees eligible for *either* stock or stock option grants (which corresponds to the joint inclusion of these two types of equity in the importance question) is 0.35 ( $p < 0.01$ , two-tailed), indicating that eligibility for equity-based pay increases when these compensation elements are more important in the labor market. With respect to the three compensation objections, the perceived equity importance score has a correlation of 0.17 ( $p = 0.028$ , two-tailed) with INCENT and 0.27 ( $p < 0.01$ , two-tailed) with RETAIN, but an insignificant 0.08 with ATTRACT.

## 5.4 Tradeoffs Between Compensation Elements

The previous analyses treat the various pay choices as independent. But, the choice of an overall business unit pay strategy encompasses multiple compensation elements, and economic, management, and organizational psychology theories contend that more than one pay attribute can contribute to the achievement of incentive, attraction, or retention compensation objectives. In particular, these attributes can be complements or substitutes, in the sense that the use of one element increases (decreases) the benefits of using another element. For example, variable cash pay can substitute for performance-based non-cash pay. The theory of equalizing differences also predicts that workers trade off compensation for benefits, implying that cash and non-cash pay are substitutes (Rosen, 1986).

If some of the pay elements are substitutes and/or complements, then this might affect our estimates of the impact of the compensation objectives on the individual pay elements. For example, our finding that retention objectives are positively related to benefit offerings but negatively related to the use of broad-based stock option plans could be driven by the two pay elements being substitutes.<sup>22</sup>

To examine whether complementarity and/or substitution effects are driving our results, we first test for the presence of these effects. Following Arora and Gambardella (1990) and Arora (1996), we test for complementarity and substitution effects between the pay elements by calculating pair-wise correlations conditional on observables. That is, we regress each pay element on all the independent variables used in Tables 5–7 and subsequently correlate the residuals, where a positive (negative) correlation implies complements (substitutes).

The results of the pair-wise conditional correlations, presented in Panel A of Table 8, show that when units set cash pay higher (lower) than their labor markets, they also tend to set benefits higher (lower) than their markets.<sup>23</sup> Further, benefit levels versus the market are also positively associated with more extensive eligibility for variable cash pay but negatively associated with % OPTIONS. Finally, eligibility for stock and option grants is positively

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<sup>22</sup> That is, retention objectives might only be driving one pay element, but due to not controlling for the substitution effect, we also find a (spurious) association between retention objectives and the second pay element (for a discussion, see Grabner and Moers, 2012).

<sup>23</sup> To simplify presentation, only results using % OPTION and % STOCK as choice variables for stock and option eligibility are reported.

correlated. These results suggest that (1) benefit levels versus the market and the two cash pay variables are complements, (2) benefit levels versus the market and % OPTIONS are substitutes, and (3) % OPTIONS and % STOCK are complements.

Given the existence of complementarity and substitution effects, we subsequently examine the impact of this by re-estimating each of the models in Tables 5 to 7 after including all of the other compensation choices as independent variables.<sup>24</sup> The results are summarized in Panel B of Table 8. To simplify presentation, only the coefficients for the three compensation objectives are reported. The coefficients on the three compensation objectives variables are similar in sign and significance to those in the earlier tests. The exceptions are the relations between INCENT and both 50% OPTION and 50% STOCK, between ATTRACT and BENEFITS VS MKT, and between RETAIN and % OPTION, which continue to have the same signs but are now insignificant at the 10 percent level (two-tailed). In sum, the analyses in Table 8 identify potential complementarity and substitution effects among the various pay elements, but indicate that the observed associations between the individual elements and the three compensation objectives are generally robust to the other elements' inclusion in the models.

## **5.5 U.S. and Japanese Subsidiaries**

Our analyses include 16 European subsidiaries of U.S. and Japanese corporations. The compensation practices of these subsidiaries may be influenced by their headquarters, leading to practices that may be less reflective of local conditions. Therefore, we include separate indicators for U.S. and Japanese subsidiaries in our models (not reported in the tables). Our statistical inferences do not change when these indicators are included in our models.<sup>25</sup> However, the inclusion of the indicators highlights several interesting differences in the U.S. and Japanese subsidiaries. Units owned by U.S. firms report significantly lower benefits versus

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<sup>24</sup> The large number of compensation choices and relatively small sample size in our study makes the estimation of a system of simultaneous equations infeasible. In addition, Larcker and Rusticus (2010) show that in the absence of good (independent) instruments for each endogenous choice, a simultaneous equations or other instrumental variables approach may not provide results that are superior to ordinary least squares estimates. As an alternative method for taking account for the correlations among the compensation measures, we estimated a Seemingly Unrelated Regression system that included the various compensation choices as dependent variables. The results from this estimation were qualitatively the same as those presented in the tables.

<sup>25</sup> Excluding these subsidiaries from our sample also has no effect on our primary results.

market but greater eligibility for variable cash pay and stock option grants, reflecting a tradeoff between fixed and performance-based compensation. In contrast, Japanese-owned units report greater benefits versus market and benefits as a percent of total compensation, but lower eligibility for stock option grants and no use of broad-based option plans covering 50 percent or more of their employees. This evidence indicates that the U.S.- and Japanese-owned units have made opposite tradeoffs between relatively fixed benefits and more variable options-based pay.

## **6. Conclusion**

Compensation is a key component of control systems. Through the choice of pay practices, organizations can influence the attraction and retention of the types of employees meeting their requirements, and can provide incentives for employees to increase effort and take desired actions. Although numerous prior studies have examined compensation choices, the vast majority have focused on the use of executive pay for incentive purposes and have typically ignored the provision of benefits, a significant element in most firms' compensation packages. Relatively few studies have examined the overall pay strategy of the organization, which encompasses a wide variety of choices including the positioning of pay and benefits levels relative to the labor market, the use of fixed versus variable pay, the balance between short- and long-term compensation, and the breadth of eligibility for different pay elements. Moreover, most studies ignore the attraction and retention objectives of pay plans, despite the fact that surveys find these two objectives to be more important than the provision of incentives in most companies, and that conflicting theories have been put forward that link different compensation objectives to the use of different types of pay.

We investigate the effects of attraction, retention, and incentive objectives on the use of a variety of cash and non-cash pay elements. Using survey data on the human capital practices in the 173 European business units (each belonging to a separate firm), together with country-level archival data, we examine the extent to which attraction, retention, and incentive objectives, along with tax advantages, national labor market characteristics, workforce characteristics, and innovation and growth strategies, influence the use of cash-based pay, benefits, and equity grants. We find that higher cash pay relative to the unit's labor market is positively associated

with the unit's use of pay for attraction, retention, and incentive purposes. However, cash-based variable pay (i.e., bonuses and profit-sharing) is only used to achieve incentive objectives. Benefits are primarily used for retaining employees, despite theories highlighting the attraction and incentive benefits from their provision. Both broad-based stock and stock option grant programs that cover 50 percent or more of employees are positively related to incentive objectives. Option grant eligibility is also positively associated with attraction objectives, but negatively associated with retention goals. We find little evidence that broad stock grant eligibility is associated with either retention or attraction objectives, while broad-based stock and stock option grants serve different purposes (e.g., Oyer & Schaeffer, 2006). Taken together, this evidence provides mixed support for the conflicting economic theories on the use of broad-based equity grants.

We further find that country-specific labor market characteristics, labor regulations, and tax rules significantly influence compensation practices, beyond the influence of organization-specific compensation objectives, workforce characteristics, and unit strategy. Moreover, the evidence indicates that variations in the country-specific labor market variables do not eliminate the explanatory power of variations in the organization-specific compensation objectives, suggesting that these country-level factors provide only partial explanations for the compensation practices implemented by individual organizations.

The results of this study are subject to several caveats. First, although our measures of the compensation objectives are direct measures and an improvement over widely used proxies, they do reflect the perceptions held by the individuals responding to the survey. Therefore, the measures can contain errors due to potential "misperceptions." This is not a problem for our inferences, however, unless these misperceptions are somehow systematic. Second, our sample consists of firms participating in a survey conducted by a leading human resources consulting firm. Although the majority of firms in our sample did not receive any compensation advice from this consulting firm, there is a possibility that the selection of firms is not sufficiently random, which limits our ability to generalize the results. Third, we do not know the distribution of pay among benefits, equity, and cash, and do not know the percentage of cash pay that is variable, thereby limiting our ability to estimate the extent that these pay elements

are substitutes or complements. Finally, we rely exclusively on quantitative survey responses and statistical analysis, with respondents given no opportunity to provide qualitative comments or to discuss their compensation decisions. Qualitative, field-based research can build on our findings to provide more insight into the factors influencing an organization's choice of overall pay strategy.

Despite the above limitations, our paper provides some of the first evidence on the effects of compensation objectives on different cash and non-cash pay elements and the trade-offs between these elements. In particular, we provide strong evidence that the use of broad-based equity plans is driven by incentive objectives and not by retention objectives. To serve their retention motives, firms prefer to use employee benefits, which implies that not only are vesting provisions important, but also whether the non-cash pay element is equity-based or benefit-based.

Our results have two broad managerial implications. First, some compensation elements seem to be suitable for all compensation objectives or at least not conflicting among compensation objectives. For example, setting higher pay levels compared to the market helps in the achievement of all three compensation objectives, while variable pay schemes (employee benefits) help in achieving incentive (retention) objectives without affecting the other objectives. The identification of these compensation elements is important, as it simplifies the choice of these elements in achieving certain compensation objectives. Second, and in contrast, the use of broad-based stock option plans requires firms to make trade-offs among the compensation objectives. That is, while such option plans help in achieving incentive and especially attraction objectives, they seem detrimental for retention purposes. As a result, if firms want to focus on both attraction and retention, then emphasizing broad-based stock option plans is unlikely to be an effective strategy. Rather, the focus needs to be on employee benefits and setting attractive pay levels compared to the market. Similarly, exploiting the attraction benefits of broad-based stock option plans seems most beneficial when retention is less of an issue, which most likely occurs in slack labor markets. In that case, the firm can focus on attracting the right employees and subsequently incentivizing them while on the job, which implies an emphasis on variable pay and equity-based compensation.

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**Table 1**  
Composition of Sample by Business Unit Country and Industry

<u>Country</u>		<u>Industry</u>	
Belgium	5	Agriculture & Fishing	2
Finland	2	Energy & Water	11
France	10	Minerals and Allied Products	2
Germany	27	Chemicals	12
Ireland	6	Durable Goods	14
Italy	14	Non-Durable Goods	9
Netherlands	2	Building & Civil Engineering	3
Portugal	10	Distribution & Entertainment	9
Spain	10	Transportation & Communications	8
Sweden	5	Financial & Business Services	14
Switzerland	12	Software	10
United Kingdom	<u>70</u>	Other Services	18
		Other	<u>61</u>
	173		173

**Table 2**  
Descriptive Statistics for Variables Used in the Study

	Mean	Std. Dev.	25 <sup>th</sup> Pct.	Median	75 <sup>th</sup> Pct.
<i>Compensation &amp; Benefits</i>					
% BENEFITS	15.909	11.037	6.774	15.000	25.000
BENEFITS VS MKT	4.647	1.228	4.000	5.000	5.000
PAY VS MKT	4.497	1.119	4.000	4.000	5.000
%VARIABLE	39.666	40.639	2.500	20.000	90.000
% OPTIONS	23.462	36.510	0.000	3.000	26.568
50% OPTIONS	0.197	0.399	0.000	0.000	0.000
100% OPTIONS	0.139	0.347	0.000	0.000	0.000
% STOCK	28.574	39.802	0.000	0.000	57.135
50% STOCK	0.277	0.449	0.000	0.000	1.000
100% STOCK	0.185	0.389	0.000	0.000	0.000
<i>Compensation Objectives</i>					
INCENT	-0.045	0.839	-0.304	0.259	0.259
ATTRACT	0.028	0.815	-0.351	0.070	0.465
RETAIN	0.029	0.781	-0.416	0.236	0.236
<i>Firm Level</i>					
BARGAIN	49.456	41.238	0.000	60.000	90.000
AGE	38.409	4.313	36.000	38.970	41.300
INNOV	0.020	0.988	-0.911	-0.204	0.503
GROWTH	-0.034	0.876	-0.444	0.241	0.270
%KNOWLEDGE	42.039	30.625	15.000	35.000	70.000
%UNIVERSITY	32.241	23.946	15.000	25.000	45.000
%NEW	21.037	19.091	9.000	15.000	28.000
<i>Country Level</i>					
EPL	1.518	1.017	0.600	1.100	2.700
UNEMPLOY	8.225	3.525	6.200	6.200	9.300
HEALTH	6.859	0.796	6.300	6.700	7.500
PENSION	10.735	2.046	10.700	11.600	11.600
FIRM BENEFIT	0.008	0.712	-0.435	0.127	0.127
EMP BENEFIT	-0.007	0.410	-0.104	-0.104	0.007
FIRM EQUITY	0.665	0.473	0.000	1.000	1.000
EMP EQUITY	0.497	0.501	0.000	0.000	1.000
FIRM TAX	27.949	3.983	28.000	28.000	29.800
EMP TAX	45.993	10.247	45.000	50.000	50.000

% BENEFITS equals the percentage of total compensation provided as benefits. BENEFITS VS MKT measures the level of benefits the firm provides compared to the labor market. It is measured on a seven-point scale ranging from "below the market average" to "above the market average." PAY VS MKT measures the level of cash pay the firm provides compared to the labor market. It is measured on a seven-point scale ranging from "below the market average" to "above the market average." % VARIABLE is the percentage of business unit employees eligible to

**Table 2 (contd.)**  
Descriptive Statistics for Variables Used in the Study

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participate in a cash incentive or profit sharing plan that is directly tied to the performance of their division or operating unit. % OPTIONS and % STOCK equal the percentages of employees eligible to receive stock options or stock grants as compensation. 50% OPTIONS (100% OPTIONS) and 50% STOCK (100% STOCK) are indicator variables that equal one if at least 50 percent (100 percent) of employees are eligible to receive stock options or stock grants as compensation, and zero otherwise. INCENT is the average standardized score for two survey questions that ask to what extent is compensation used to motivate employees to improve performance and to what extent do top performers receive significantly higher compensation. ATTRACT is the average standardized score of the answers to three survey questions that ask the extent to which compensation is used to attract quality individuals to the firm.

RETAIN is the average standardized score of the answers to two survey questions that ask the importance of total cash pay, non-cash pay, and competitive rewards programs to the retention of key employees. BARGAIN is the percentage of employees covered by a collective bargaining agreement. AGE is the average employee age. INNOV is the average standardized response of the firm's focus on (1) developing new products instead of improving existing products and (2) acquiring new customers instead of maintaining current customers. Both items are measured on seven-point scales. GROWTH is the average standardized scores for two items: (1) the stage of growth in the firm's primary industry and (2) the operation's growth in market share. Both items are measured on four-point, fully-anchored scales that range from "decreasing" to "rapid growth." %KNOWLEDGE is the percentage of employees classified as knowledge workers. %UNIVERSITY is the percentage of employees with a university degree. %NEW is the percentage of employees with two or fewer years' tenure. EPL is the 1999 country-level average of the OECD Employment Protection Legislation indicators. UNEMPLOY is the country-level unemployment rate. HEALTH and PENSION capture the 1999 country-level public expenditures on health care and retirement benefits as a percentage of GDP. FIRM BENEFIT is the average standardized values of the percentages of pension benefits and company car value that the firm can deduct from taxes. EMP BENEFIT is the average standardized score of the percentages of pension benefits, insurance benefits, and company car value that are exempt from personal income taxes. FIRM EQUITY is an indicator variable that takes on the value of one if the firm makes lower or no social security payments on equity-based compensation, and zero otherwise. EMP EQUITY is an indicator variable that takes on the value of one if equity grants receive favorable personal tax treatment, and zero otherwise. FIRM TAX is the country's maximum marginal corporate tax rate. EMP TAX is the country's maximum personal tax rate.

**Table 3**  
Pearson Correlations Between the Variables Used in the Study

*Panel A: Correlations Between Compensation Variables*

		I	II	III	IV	V	VI	VII	VIII	IX
I	% BENEFITS	1.00								
II	BENEFITS VS MKT	0.20	1.00							
III	PAY VS MKT	0.47	0.12	1.00						
IV	% VARIABLE	0.17	0.04	0.07						
V	% OPTIONS	-0.06	0.03	-0.03	0.17	1.00				
VI	50% OPTIONS	-0.07	0.04	-0.02	0.15	0.95	1.00			
VII	100% OPTIONS	-0.03	-0.07	0.02	0.16	0.84	0.81	1.00		
VIII	% STOCK	0.10	0.16	0.05	0.17	0.23	0.20	0.12	1.00	
IX	50% STOCK	0.10	0.19	0.06	0.17	0.20	0.18	0.09	0.94	1.00
X	100% STOCK	0.12	0.05	0.04	0.17	0.19	0.18	0.20	0.86	0.77

*Panel B: Correlations Between Independent Variables*

		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX
I	INCENT	1.00																		
II	ATTRACT	0.31	1.00																	
III	RETAIN	0.39	0.65	1.00																
IV	BARGAIN	-0.11	-0.05	-0.08	1.00															
V	AGE	-0.12	0.00	-0.08	0.41	1.00														
VI	INNOV	0.19	0.05	0.17	-0.05	-0.29	1.00													
VII	GROWTH	0.24	0.16	0.33	-0.28	-0.42	0.30	1.00												
VIII	%KNOWLEDGE	0.11	0.04	-0.02	-0.19	-0.08	0.06	0.04	1.00											
IX	%UNIVERSITY	0.16	0.08	0.13	-0.34	-0.26	0.13	0.19	0.45	1.00										
X	%NEW	-0.01	-0.09	0.00	-0.40	-0.65	0.20	0.40	0.18	0.31	1.00									
XI	EPL	0.03	-0.08	-0.06	0.56	0.35	-0.07	-0.05	-0.04	-0.17	-0.18	1.00								
XII	UNEMPLOY	0.07	0.03	0.08	0.36	0.29	-0.11	-0.05	0.00	-0.16	-0.21	0.56	1.00							
XIII	HEALTH	0.12	0.10	-0.10	0.04	0.04	0.02	0.01	0.31	0.06	-0.10	0.02	-0.04	1.00						
XIV	PENSION	0.01	-0.15	-0.19	-0.16	-0.03	-0.07	-0.04	0.04	-0.05	-0.06	-0.29	-0.14	0.37	1.00					
XV	FIRM BENEFIT	-0.05	0.05	0.12	0.07	-0.18	0.05	0.11	-0.09	-0.11	0.12	0.17	0.18	0.11	-0.27	1.00				
XVI	EMP BENEFIT	0.00	0.05	0.03	0.08	0.15	-0.02	-0.09	-0.02	0.02	-0.14	0.15	-0.22	-0.21	-0.35	-0.42	1.00			
XVII	FIRM EQUITY	-0.16	-0.09	0.04	-0.10	-0.27	0.04	0.08	-0.29	-0.20	0.19	-0.14	-0.28	-0.34	-0.01	0.57	-0.12	1.00		
XVIII	EMP EQUITY	-0.10	0.09	0.16	-0.42	-0.37	0.06	0.08	-0.15	-0.05	0.21	-0.61	-0.35	-0.08	0.06	0.47	-0.13	0.71	1.00	
XIV	FIRM TAX	0.01	-0.05	-0.11	0.10	0.11	-0.17	-0.02	0.12	-0.07	-0.09	0.22	0.39	0.26	0.61	0.10	-0.32	0.04	-0.10	1.00
XX	EMP TAX	-0.06	0.06	0.08	0.00	-0.16	-0.05	0.09	-0.01	-0.16	0.13	0.03	0.31	0.35	0.08	0.75	-0.65	0.38	0.45	0.28

Correlations that are greater than 0.126 in absolute value are significant at the 10% level, two-tailed. Variable definitions are provided in the notes of Table 2.

**Table 4**

Mean Compensation Practices and Objectives by Business Unit Location (Standard Deviations in Parentheses)

	Total	Belgium	Finland	France	Germany	Ireland	Italy	Netherlands	Portugal	Spain	Sweden	Switzerland	United Kingdom
	Sample	(n = 5)	(n = 2)	(n = 10)	(n = 27)	(n = 6)	(n = 14)	(n = 2)	(n = 10)	(n = 10)	(n = 5)	(n = 12)	(n = 70)
% BENEFITS	15.90 (11.03)	20.0 (8.66)	17.5 (10.6)	13.97 (12.42)	15.84 (12.56)	21.16 (9.05)	5.62 (11.49)	12.5 (3.53)	16.44 (7.30)	10.82 (10.03)	23.97 (15.35)	13.27 (10.65)	18.1 (9.72)
BENEFITS VS MKT	4.65 (1.23)	5.4 (0.89)	4.5 (0.7)	5.0 (1.41)	4.66 (1.38)	5.0 (1.09)	3.5 (1.65)	5.0 (1.41)	4.3 (1.41)	4.9 (0.73)	5.0 (1.22)	4.58 (0.99)	4.72 (1.06)
% OPTIONS	23.46 (36.51)	38.4 (40.68)	17.75 (24.39)	16.36 (30.86)	16.12 (29.61)	41.02 (44.82)	0.80 (1.61)	51.0 (69.29)	9.39 (27.35)	9.21 (23.38)	22.50 (43.50)	16.94 (28.62)	33.87 (42.0)
PAY VS MKT	4.49 (1.11)	4.8 (1.09)	4.5 (0.7)	4.3 (1.49)	4.7 (1.06)	5.33 (1.03)	4.28 (1.26)	5.5 (0.70)	4.1 (1.10)	5.2 (0.63)	4.0 (1.41)	4.16 (1.19)	4.41 (1.05)
% VARIABLE	39.66 (40.64)	36.0 (40.83)	100.0 (0.0)	49.1 (46.37)	29.18 (34.86)	60.16 (47.49)	47.14 (46.52)	7.5 (10.60)	28.34 (33.14)	28.6 (39.3)	42.1 (38.85)	56.58 (42.33)	38.69 (40.77)
50% OPTIONS	19.7 (39.9)	40.0 (54.8)	0.0 (0.0)	10.0 (31.6)	14.81 (36.2)	33.3 (51.6)	0.0 (0.0)	50.0 (70.7)	10.0 (31.6)	10.0 (31.6)	20.0 (44.7)	8.3 (28.8)	28.6 (45.5)
100% OPTIONS	13.9 (34.7)	20.0 (49.7)	0.0 (0.0)	0.0 (0.0)	7.4 (26.7)	16.7 (40.8)	0.0 (0.0)	50.0 (70.7)	0.0 (0.0)	0.0 (0.0)	20.0 (44.7)	8.3 (28.8)	24.3 (43.2)
% STOCK	28.57 (39.80)	20.0 (35.57)	100.0 (0.0)	40.29 (43.16)	33.31 (43.19)	25.37 (37.05)	0.0 (0.0)	0.0 (0.0)	5.26 (11.33)	18.88 (26.92)	5.0 (11.18)	34.80 (41.58)	35.98 (43.18)
50% STOCK	27.7 (44.9)	20.0 (44.72)	100.0 (0.0)	40.0 (51.6)	29.6 (46.5)	33.3 (51.6)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	20.0 (42.2)	0.0 (0.0)	33.3 (49.23)	35.7 (48.3)
100% STOCK	18.5 (38.9)	0.0 (0.0)	100.0 (0.0)	20.0 (42.2)	25.9 (44.7)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	16.7 (38.9)	27.1 (44.8)
INCENT	-0.045 (0.839)	-0.04 (0.79)	-0.25 (0.01)	0.20 (0.93)	0.21 (0.73)	0.07 (0.56)	-0.07 (0.94)	-0.02 (0.40)	-0.38 (1.05)	-0.01 (0.72)	0.15 (0.44)	0.21 (0.77)	-0.20 (0.88)
ATTRACT	0.028 (0.815)	0.14 (1.11)	-0.33 (0.01)	0.26 (0.78)	0.23 (0.70)	0.46 (0.40)	-0.76 (1.18)	0.07 (0.56)	-0.14 (0.91)	0.38 (0.59)	-0.18 (1.29)	-0.07 (0.62)	0.05 (0.73)
RETAIN	0.029 (0.781)	0.12 (0.69)	-0.09 (0.46)	0.18 (0.86)	-0.19 (0.73)	0.64 (0.50)	-0.49 (0.97)	-0.66 (0.42)	-0.14 (0.68)	0.61 (0.53)	0.11 (0.93)	-0.07 (0.82)	0.11 (0.74)

**Table 4 (contd.)**

Mean Compensation Practices and Objectives by Business Unit Location (Standard Deviations in Parentheses)

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This table presents means and standard deviations for the compensation and objective variables tabulated by the location of the business unit. % BENEFITS equals the percentage of total compensation provided as benefits. BENEFITS VS MKT measures the level of benefits the firm provides compared to the labor market. It is measured on a seven-point scale ranging from “below the market average” to “above the market average.” PAY VS MKT measures the level of cash pay the firm provides compared to the labor market. It is measured on a seven-point scale ranging from “below the market average” to “above the market average.” % VARIABLE is the percentage of business unit employees eligible to participate in a cash incentive or profit sharing plan that is directly tied to the performance of their division or operating unit. % OPTIONS and % STOCK equal the percentages of employees eligible to receive stock options or stock grants as compensation. 50% OPTIONS (100% OPTIONS) and 50% STOCK (100% STOCK) are indicator variables that equal one if at least 50 percent (100 percent) of employees are eligible to receive stock options or stock grants as compensation, and zero otherwise. INCENT is the average standardized score for two survey questions that ask to what extent is compensation used to motivate employees to improve performance and to what extent do top performers receive significantly higher compensation. ATTRACT is the average standardized score of the answers to three survey questions that ask the extent to which compensation is used to attract quality individuals to the firm. RETAIN is the average standardized score of the answers to two survey questions that ask the importance of total cash pay, non-cash pay, and competitive rewards programs to the retention of key employees.

**Table 5**  
**Multivariate Analyses of the Determinants of Cash Pay Levels and**  
**Eligibility for Variable Cash Pay**

	PAY VS MKT	% VARIABLE
INCENT	0.203**	6.009*
ATTRACT	0.412**	-0.723
RETAIN	0.364**	2.748
BARGAIN	-0.001	-0.035
AGE	0.001	-0.187
INNOV	-0.218**	5.582*
GROWTH	0.059	11.259**
%KNOWLEDGE	0.004	0.060
%UNIVERSITY	-0.001	0.023
%NEW	0.001	-0.072
EPL	-0.024	0.307
UNEMPLOY	0.049*	0.529
FIRM TAX	-0.021	-0.513
EMP TAX	-0.004	-0.313
Adj. R <sup>2</sup>	0.341	0.097
N	173	173

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01 (two-tailed test)

PAY VS MKT measures the level of cash pay the firm provides compared to the labor market. It is measured on a seven-point scale ranging from “below the market average” to “above the market average.” % VARIABLE is the percentage of business unit employees eligible to participate in a cash incentive or profit sharing plan that is directly tied to the performance of their division or operating unit. Regressions are estimated using ordinary least squares with standard errors clustered at the country-level. Intercepts are included, but not separately reported. Definitions for the independent variables are provided in the notes to Table 2.

**Table 6**  
**Multivariate Analyses of the Determinants of Respondents' Benefits Offerings**

	BENEFITS	
	VS MKT	% BENEFITS
INCENT	0.025	0.563
ATTRACT	0.238*	-1.359
RETAIN	0.609***	4.050***
BARGAIN	-0.001	0.036
AGE	-0.018	-0.080
INNOV	-0.059	-0.722
GROWTH	-0.089	-1.833**
%KNOWLEDGE	0.003	-0.053**
%UNIVERSITY	0.000	0.023
%NEW	-0.002	0.101***
EPL	-0.004	-2.050**
UNEMPLOY	-0.029*	-0.494**
HEALTH	0.162*	3.110***
PENSION	-0.081*	-1.120**
FIRM BENEFIT	-0.052	0.413
EMP BENEFIT	-0.376**	-2.315
Adj. R <sup>2</sup>	0.211	0.110
N	173	173

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01 (two-tailed test)

BENEFITS VS MKT measures the level of benefits the firm provides compared to its labor market. % BENEFITS equals the percentage of total compensation provided as benefits. Regressions are estimated using ordinary least squares with standard errors clustered at the country level. Intercepts are included, but not separately reported. Definitions for the independent variables are provided in the notes to Table 2.

**Table 7****Multivariate Analyses of the Determinants of Broad-Based Stock Option and Stock Grants***Panel A: Stock Options*

	<u>% OPTIONS</u>	<u>50% OPTIONS</u>	<u>100% OPTIONS</u>
INCENT	5.406	0.598***	0.466***
ATTRACT	14.478**	0.948**	1.440***
RETAIN	-15.681*	-1.139**	-1.521***
BARGAIN	0.112	0.008	0.005
AGE	3.009**	0.113***	0.175*
INNOV	7.981*	0.149	0.290
GROWTH	9.595	0.293	0.657***
%KNOWLEDGE	0.105	0.004	0.018***
%UNIVERSITY	0.434**	0.016*	0.013
%NEW	0.776**	0.037	0.042
EPL	-8.969	-0.509*	-0.981*
UNEMPLOY	-0.409	0.012	-0.164
FIRM EQUITY	7.213	0.485	0.953
EMP EQUITY	25.369	0.914	0.609
Pseudo R <sup>2</sup>	0.037	0.179	0.322
N	173	173	173

\* p&lt;0.1, \*\* p&lt;0.05, \*\*\* p&lt;0.01 (two-tailed test)

*Panel B: Stock Grants*

	<u>% STOCK</u>	<u>50% STOCK</u>	<u>100% STOCK</u>
INCENT	17.974	0.508**	0.713***
ATTRACT	-0.301	0.13	-0.374**
RETAIN	15.504	0.298	0.203
BARGAIN	0.345	0.007	0.012***
AGE	-1.606	-0.034	0.025
INNOV	-1.598	-0.173**	-0.183
GROWTH	5.836	0.227*	0.538***
%KNOWLEDGE	0.032	0.003	0.003
%UNIVERSITY	0.21	0.003	0.000
%NEW	-0.44	-0.002	0.005
EPL	2.205	-0.296	-0.597
UNEMPLOY	-3.983	0.010	-0.017
FIRM EQUITY	-113.339***	-2.010	-15.979***
EMP EQUITY	127.713***	2.418*	16.220***
Pseudo R <sup>2</sup>	0.034	0.132	0.160
N	173	173	173

\* p&lt;0.1, \*\* p&lt;0.05, \*\*\* p&lt;0.01 (two-tailed test)

**Table 7 (contd.)**

**Multivariate Analyses of the Determinants of Broad-Based Stock Option and Stock Grants**

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% OPTIONS and % STOCK equal the percentages of employees eligible to receive stock options or stock grants as compensation. 50% OPTIONS (100% OPTIONS) and 50% STOCK (100% STOCK) are indicator variables that equal one if at least 50 percent (100 percent) of employees are eligible to receive stock options or stock grants as compensation, and zero otherwise. Intercepts are included, but not separately reported. Definitions for the independent variables are provided in the notes to Table 2. Tobit estimates are presented for % OPTION and % STOCK. Logit estimates are presented for 50% OPTIONS, 100% OPTIONS, 50% STOCK, and 100% STOCK. Standard errors are clustered at the country level.

**Table 8**  
Alternative Compensation Elements as Complements or Substitutes and Their Consequences

*Panel A: Conditional Correlations Between Compensation Elements*

	PAY VS MKT	%VARIABLE	BEN VS MKT	%BENEFITS	%OPTION	%STOCK
PAY VS MKT	1					
%VARIABLE	-0.018	1				
BEN VS MKT	0.294***	0.128*	1			
%BENEFITS	0.089	0.057	0.087	1		
%OPTION	-0.092	0.098	-0.144*	-0.046	1	
%STOCK	-0.038	0.097	-0.044	0.083	0.498***	1

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01 (two-tailed test)

*Panel B: Influence of Compensation Objectives on Individual Compensation Elements Controlling for Alternative Compensation Elements*

	PAY VS MKT	%VARIABLE	BEN VS MKT	%BENEFITS	%OPTION	50% OPTION	100% OPTION	%STOCK	50% STOCK	100% STOCK
INCENT	0.210**	5.257*	-0.054	0.198	3.549	0.458	0.276*	14.141	0.444	0.603***
ATTRACT	0.356*	-1.920	0.145	-1.667	16.098**	1.161***	1.475***	-1.372	0.155	-0.568***
RETAIN	0.232*	1.527	0.422**	3.060**	-13.389	-1.149***	-1.550***	24.041	0.422	0.236
Alternative Compensation Elements	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Control variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Adj. or Psd. R <sup>2</sup>	0.382	0.109	0.275	0.105	0.048	0.224	0.361	0.044	0.169	0.192
N	173	173	173	173	173	173	173	173	173	173

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01 (two-tailed test)

PAY VS MKT measures the level of cash pay the firm provides compared to the labor market. % VARIABLE is the percentage of business unit employees eligible to participate in a cash incentive or profit sharing plan that is directly tied to the performance of their division or operating unit. BENEFITS VS MKT measures the level of benefits the firm provides compared to its labor market. % BENEFITS equals the percentage of total compensation provided as benefits. % OPTIONS and % STOCK equal the percentages of employees eligible to receive stock options or stock grants as compensation. 50% OPTIONS (100% OPTIONS) and 50% STOCK (100% STOCK) are indicator variables that equal one if at least 50 percent (100 percent) of employees are eligible to receive stock options or stock grants as compensation, and zero otherwise. INCENT is the average standardized score for two survey questions that ask to what extent is compensation used to motivate employees to improve performance and to what extent do top performers receive significantly higher compensation. ATTRACT is the average standardized score of the answers to three survey questions that ask the extent to which compensation is used to attract quality individuals to the firm. RETAIN is the average standardized score of the answers to two survey questions that ask the importance of total cash pay, non-cash pay, and competitive rewards programs to the retention of key employees. The conditional correlations represent correlations between the compensation elements conditional on observables (control variables).