HOW GOVERNANCE COSTS
DRIVE COMPENSATION OF MANAGERS AND SALESPeOPLE IN
BUSINESS-TO-BUSINESS FIELD SALES

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Abstract

Two key issues in business-to-business (B2B) sales force management are 1) how much a given sales role should be compensated (pay level) and 2) how much of the compensation should be fixed versus variable (pay structure). We examine the paychecks drawn by people in over 14,000 selling jobs and over 4,000 sales management jobs in five B2B industry sectors in five European countries. We show how anticipated frictions inside the firm appear to play a major role in both pay level and pay structure. Decision makers in sales management appear to compromise between the economic imperative to connect pay to productivity and the sociological imperative that pay be seen as legitimate and fair to other employees. This compromise must be struck not only by those setting salespeople’s pay, but also by those setting the pay of first-line sales managers. We show that both the level and nature of compensation are keyed to the job’s challenge. For salespeople, more challenging jobs pay better at a decreasing rate, while for sales managers, pay increases at an increasing rate for job challenge. This suggests that sales managers make a particularly valuable contribution. We also show that the structure of pay appears to reflect decision makers’ desire to motivate high performers, but without raising governance costs to very high levels. In particular, variable pay appears to be used as a way to delegate the most contentious compensation judgments to a third party—the customer base.

Key words: compensation, motivation, justice theory, pay disparity, governance costs, sales management
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INTRODUCTION

In many B2B industries, personal selling in the field is a critical marketing function. One of the most pressing issues concerns compensation. How much should a salesperson earn (the question of *pay level*), and how much of that pay should be guaranteed (salary) rather than contingent on achievement (the question of *pay structure*)? Some practitioners believe that an even more important issue is the level and structure of pay for the managers who supervise salespeople. Elling et al. (2002) assert that a poor manager can ruin a number of salespeople and seriously reduce the achievements of each one, while an excellent manager can develop several great salespeople, each of whom consistently generates high returns.

A large body of research yields insight about compensation in general, but is difficult to apply to B2B field sales, a job with unusual features (Gomez-Mejia and Balkin 1992). Research specific to sales roles has not kept pace with management’s need to understand the level and structure of sales compensation. In particular, insights have been generated by a self-contained literature on optimal salesperson compensation, based on economic theories (Albers 2002). However, Brown et al. (2005) conclude that it is difficult to apply these insights to many selling situations, in particular given that the field sales role is becoming more complex and longer in its time orientation (Jones et al. 2005). Complicating the compensation research issues further, most empirical salesperson compensation research concerns pay structures, ignoring pay levels, while research on compensation of sales managers is almost nonexistent. Albers (2002) points to the great difficulty of getting detailed and accurate data on compensation in sales, a subject firms consider sensitive.
Our research addresses whether existing results on field salespeople can be directly extended to sales managers. Our results show that as job challenge increases, salespeople are paid more, but at a decreasing rate. In contrast, manager pay rises with job challenge at an increasing rate (like a Chief Executive Officer). We suggest that challenging sales management jobs involve heavy doses of coaching and enabling. In these roles, managers can substantially improve the performance of multiple salespeople (each of whom books business). Thus, holders of the most difficult sales management jobs can have a multiplier effect on revenue that justifies paying them at increasing rates, in spite of the governance costs created by large disparities in pay.

We test our research hypotheses using a unique data set covering more than 14,000 salesperson roles and more than 4,000 sales manager roles operating in five European countries and in five B2B industry sectors. We supplement these data with privately commissioned data about each country’s taxation, as well as publicly available data on cost of living. Despite extensive literature on this topic, our investigation provides some new and interesting results. First, it uses a new theoretical approach to develop a conceptual model linking compensation level and structure, drawing on literature from sales force management, compensation theory, equity theory, and transaction cost analysis. Second, we investigate both sales managers’ and salespersons’ compensation. Sales manager compensation has never been investigated empirically to the best of our knowledge, let alone in the same framework as that of salespeople. Interestingly, we provide evidence for a differing impact of job challenge on sales managers versus on salespeople and for the value of sales managers for companies. Third, our study is the first compensation study to examine the sales (or sales manager) role at a micro level. Prior research has examined the person filling the selling role (e.g., age, education), and/or has
averaged across sales roles at the firm level, usually based on survey data about “typical” sales positions inside a firm. Thus, in this paper, we model individual-level data, whereas other research uses proxies such as average compensation of salespeople across an entire sales force.

In particular, we control in a careful way for differences in the nature of the selling task. Data of this nature are very difficult to obtain, particularly on a large scale. Fourth, with this multi-source, multi-country secondary data, we discern patterns in pay level and structure at the individual job/paycheck level. Thus, we examine both level and structure of sales pay plans, i.e. how much sales personnel earn (level) and in what form they derive the income (the structure of fixed and variable pay). These two key descriptors of pay are not always investigated together in the compensation literature, although theory and practical insight both indicate that they are related. Our results confirm this insight. Fifth, we focus on post-tax remuneration, rather than pre-tax remuneration traditionally modelled in the literature, since we believe sales personnel are motivated by disposable income, and therefore companies set compensation policies with tax considerations in mind. Variations in the tax environment serve to magnify variation in the compensation environment, and strengthen the test of our major explanatory mechanism, which is the management of friction due to internal transaction costs.

In this paper, we argue that pay level and pay structure decisions are linked, and are both driven by governance costs. These are internal transaction costs which arise when the firm cannot compensate its employees in an economically appropriate way (that is, in proportion to their productivity). Governance costs arise in part because managers have imperfect information and are bounded in their rationality. We show how anticipated frictions inside the firm appear to play a major role in both pay level and pay structure. Decision makers in sales management appear to compromise between the economic imperative to connect pay to productivity and the
A sociological imperative that pay be seen as legitimate and fair to other employees. We make no claims of optimality, but do suggest managerial implications, as well as future research directions.

Our approach suggests that firms try to reduce internal transaction costs, and do so in part by shifting the burden of compensation decisions to their customer base. Our results also suggest that top sales managers have exceptional value to the firm, and are paid accordingly. These are new perspectives in the sales force literature; we believe our exceptional database goes a long way toward demonstrating the field validity of these ideas.

A CONCEPTUAL MODEL OF COMPENSATION LEVEL AND STRUCTURE

Challenges in Sales Compensation Research

Face-to-face selling on the customer’s premises (field selling) is particularly important in the B2B sector, in which skilled salespeople work to solve customer problems to create a sale, and then work within their own firms to ensure that obligations to the customer are honored. In B2B, salespeople are often the principal means of promotion and of gaining market feedback, and can strongly influence profitability. Accordingly, top salespeople may be paid astonishingly well.

There is a large literature on compensation, reflecting many perspectives, principally organization theory and behavior, international management, I/O psychology, sociology, economics (including principal-agent theory), labor economics, law, and strategy (Werner and Ward 2004). Yet B2B sales jobs are curiously absent from compensation research, both empirically and conceptually. Indeed, compensation texts urge caution in applying compensation insights due to its exceptional features (Gomez-Mejia and Balkin 1992). No two
sales territories are alike, so every job is unique, making it difficult to establish baselines (Ryans and Weinberg 1987). Unlike most jobs, information is asymmetric; salespeople know their territories, customers, and competitors much better than does management. Salespeople are autonomous: they are out in the field, away from direct observation and contact. Further, for many sales jobs, it is very difficult to specify the best route to success. These factors suggest that the monitoring and assessment of performance are difficult. All of this complicates a first-line sales manager’s efforts to calibrate appropriate salary levels, person by person, year by year—and to convince both her superiors and her subordinates that her multiple judgments are correct. However, salespeople do generate visible outcomes for which they can be held (at least somewhat) accountable. Thus, contingent (incentive) pay can be used as substitute for salary, and is more justifiable than in almost any other occupational setting (Gomez-Mejia and Balkin 1992).

The stage is set for high governance costs and internal frictions. Managers will have a difficult time settling on the proper amount to pay and in what form. Thus, their judgments will be a challenge to explain, both to subordinates and to superiors. Chang and Dubinsky (2005) note that salespeople, even more than other employees, are acutely sensitive to organizational justice, for three reasons. First, rewards substitute for close supervision (which sales jobs cannot have). Second, few employees can get incentive pay, opening up distinctive fairness issues. Third, the salesperson’s autonomy makes her feel she has little representation or voice. The result: salespeople care a great deal about fairness in general and fair compensation in particular.

A self-contained literature on sales pay has developed, largely within marketing, recently reviewed by Albers (2002), Krafft, Albers, and Lal (2004), and Brown et al. (2005). Much of this literature focuses on optimal compensation (in particular, as per agency theory). In practice,
sales pay is subject to an enormous variety of forces, leading Zoltners and Sinha (2001) to conclude that compensation is extraordinarily complex and is difficult to model. Further, it is a challenge to get comprehensive data on sales pay, particularly across organizations. Data typically describe the person holding the role (e.g., age, experience), rather than the demands of the role.

*Pay Dispersion: Difficult to Harness, Impossible to Ignore*

A substantial literature on wage differentials (pay disparities) concerns differences in pay among people doing the same job (horizontal pay differentiation) and across types of jobs (vertical pay differentiation). For reviews, see Heyman (2005), Siegel and Hambrick (2005), and Nickerson and Zenger (2006). This pay disparity literature neatly divides into two opposing camps. One camp (including economic and psychological theories of motivation based on expected rewards) holds that pay disparity across individuals and across job descriptions is functional, indeed essential to attract and retain qualified people and to induce them to accept more difficult jobs (Milkovich and Newman 2002). The sales force compensation literature is dominated by this viewpoint.

However, a growing body of research argues that wide pay disparities are dysfunctional (Bloom 1999). This opposing camp rests on social comparison theory, a large and established literature originating the 1950s and reviewed by Nickerson and Zenger (2006). A seminal contribution is Adams’ (1965) theory of inequity in social exchange, which holds that people monitor the ratio of contributions to rewards and compare their own ratio to that of a relevant reference group. Unfortunately for management, individuals are quick to consider themselves relatively deprived (Martin 1981). Employees tend to have inflated perceptions of their personal contribution (Zenger 1992); most consider themselves underpaid (Heneman and Judge 1999).
Field salespeople are no exception (Anonymous 2001): 69% think they deserve more pay (whereas only 39% of sales managers think their subordinates are underpaid). Jaramillo, Carrillat, and Locander (2003) show that underperforming salespeople protect their self images via positive illusions, information filters, and understating how well others perform. Zoltners and Sinha (2001) assert, based on over two thousand consulting interventions, that salespeople agree they should be paid more. If most people think they perform relatively well, it is no surprise if they do not trust their managers to rate their performance objectively. Further, they focus on those colleagues whose performance they perceive as comparable, but who earn more (Martin 1981), also resulting in a sense of unfairness (Nickerson and Zenger 2006). Employees also resent vertical pay disparity across job ranks.

Employees peg their compensation using a social comparison process with others’ pay, which spotlights gross compensation (Siegel and Hambrick 2005). But organizations cannot overlook net pay, because it is after-tax income that motivates employees by determining the employee’s lifestyle. In some tax regimes, after-tax income differentials can be compressed to levels that leave employees wondering why they should work harder (Gottschalk and Smeeding 1997). Hence, our hypotheses focus on the level of take-home pay.

How Job Challenge Influences Pay Level

A review by Lazear (1995, p. 260) notes the curious omission of task characteristics (job demands), even though “the entire notion of a ‘job’…seems central to the thinking of businesspersons and administrators.” This is understandable because it is difficult to compile detailed data on role demands. In B2B field sales, all jobs look superficially alike, but conceptually they are scalable from low to high job challenge (Davenport 2001). Low-challenge sales jobs demand relatively little know-how or problem solving, and typically involve repetitive
small sales to transactional customers. In contrast, high-challenge sales jobs involve consultative relationship management of jumbo accounts. These jobs demand leadership of internal cross-functional teams on the supplier’s side, which work with corresponding teams on the customer’s side. Similarly, sales managers’ variations in job challenge may come from supervising less versus more challenging sales roles, or from variations in depth of supervisory responsibility or other strategic roles in the firm.

We hypothesize that firms will award higher pay as job challenge rises. This horizontal pay disparity may increase other employees’ feelings of injustice. However, it is likely that the more challenging the sales job, the more valuable and visible is the contribution of salespeople who do the job well. Further, competitors will poach the best performers if the firm does not reward them (Cappelli 1999). Hence, decision makers can readily agree that it is in the firm’s interest, *internal frictions notwithstanding*, to motivate the jobholder to work harder and smarter.

Does the same argument apply to sales managers themselves? One viewpoint, common among salespeople, is that their first-line supervisors are mere “paper pushers” who have little impact on sales district outcomes. However, better sales managers can make a very significant difference, by enabling and coaching their multiple subordinates, and by securing organizational resources for promising customers (Anderson 1996). Therefore, empowering a number of these salespeople has multiplier effects on revenue and profits (MacKenzie, Podsakoff, and Paine 1999). This multiplier effect is not seen with field salespeople, who do not supervise other salespeople and therefore cannot themselves easily influence the performance of multiple other salespeople (Zoltners, Sinha, and Lorimer 2004). This may call for compensating sales manager roles not at constant but at increasing rates to job challenge. We therefore posit that:

H1a: The *level* of take-home pay increases with job challenge for salespeople.
H1b: The level of take-home pay increases at an increasing rate with job challenge for sales managers.

**How Job Challenge Influences Pay Structure**

Shaw, Gupta, and Delery (2002) argue that when employees perceive that pay differences are indeed based on legitimate grounds, pay dispersion is accepted and functional. This leads firms to introduce variable pay by devising pay-for-performance schemes that award contingent compensation whenever an employee demonstrates superior performance. The challenge is to devise a rating system that truly captures performance—and is seen to do so, both by subordinates (those who are paid) and upper managers (those who judge whether compensation schemes help the organization meet its goals). Governance costs arise when firms cannot compensate in an economically appropriate way, either because subordinates fight the perceived injustice (friction downstairs) or because management criticizes the decision maker’s judgments (friction upstairs).

One way to pay for performance without arousing excessive internal resistance (upward and downward) to pay disparity is to devise a formula that ties variable pay to an objective indicator or set of indicators that the decision maker cannot manipulate. This is more readily done in sales than in most occupations; Hay’s “job challenge” measure is such an indicator. As discussed above, low-challenge jobs differ from high-challenge jobs in their required degree of know-how, problem solving, and leadership skills (Davenport 2001). At first glance, the internal-friction argument suggests that a high proportion of pay in challenging sales jobs will be variable (“incentive-loaded compensation” in the terms of Ghosh and John 2000).

However, the argument runs afoul of considerations of feasibility. Creating a pay-for-performance formula becomes more difficult as jobs become more challenging, complex and less routine – in short, less programmable or observable (Eisenhardt 1985). Typically, higher
challenge sales jobs entail more consultative, value-added team selling to more demanding customer purchasing teams over a longer time horizon. Similarly, higher challenge sales management jobs involve deeper supervisory responsibilities of more challenging sales jobs (Davenport 2001). Reliance on variable pay in this environment will encourage gaming, discourage teamwork, and shorten the jobholder’s time horizon. We expect job challenge to create different pay structures as follows:

The greater the role challenge, the lower the proportion of total pay generated by pay-for-performance formulas
H2a: for salespeople,
H2b: for sales managers.

How the Tax Environment Magnifies Internal Transaction Costs

Our fundamental argument is that economic considerations drive firms to single out and reward high performers in challenging sales jobs, but bounded rationality, imperfect information, and the risk of internal friction come together to hamper a manager’s efforts to do so. Factoring in national taxation systems introduces a new complication by magnifying the risk of internal friction upward and downward. Hence, tax variation enables us to assess indirectly the internal friction explanatory mechanism.

A burdensome (“oppressive”) national income tax regime 1) calculates taxable income and imposes levies such that effective tax rates are high, and 2) is steeply progressive, meaning rates increase sharply with income. Thus, employees keep small shares of what they earn on the margin, and employers find that incremental pay triggers high incremental payroll taxes. There are multiple explanations for the choice to impose burdensome income taxes. Collectivist cultures may favor burdensome tax regimes as a means of reducing income inequality (Gottschalk and Smeeding 1997), feminine cultures may choose oppressive tax systems in order to offer a decent lifestyle to low-income (i.e., vulnerable, weak) citizens, and cultures
characterized by a high level of uncertainty avoidance may prefer high levels of taxation in order to decrease risks through the development of social welfare systems (Hofstede 1997). Regardless of the reason, a more burdensome tax regime stresses the company seeking an equitable and motivational compensation system for its sales organization.

Rewarding sales-related performance creates internal frictions even with zero taxation. Subordinates may feel under-rewarded, while superiors question whether the higher-paid B2B field salespeople are worth their paychecks (which can be breathtaking). Burdensome tax regimes exaggerate the risk of friction in two ways. First, to insure that post-tax differentials among performance levels are large enough to be motivating, a firm must create very large gross pay differentials. Firms will be obliged to pay a high-performing sales employee whatever it takes to make sure that motivating pay premiums are still in the employee’s bank account after s/he pays taxes. Second, tax brackets change as gross pay changes for the employer, boosting employers into higher brackets of payroll tax as well. The combined tax burden—employee and employer—leads to enormous differences across employees in their total cost to the company.

These two considerations (employee and employer) amplify the risk of internal transaction costs. Although employees live on post-tax pay, they do track and make social comparisons on gross pay differentials (Baron and Kreps 1999, Heyman 2005). When management decides by fiat (via salary mechanisms) who will receive these tax-exaggerated pay premiums, the usual negative effects of pay dispersion will be worsened: managers are likely to face charges of unfairness (from below) and misallocation of resources (from above). These internal transaction costs are intensified in oppressive tax regimes.

One way to defuse internal tension is to shift the contentious decision to a third party that cannot be manipulated by management—the customer base. Variable pay systems empower
customers, whose orders trigger compensation. When the customers’ collective decisions
designate the high or low performer, it is more difficult to accuse management of errors in
judgment. Customers’ self-interested agendas are independent of internal supplier politics.

Therefore, we hypothesize that:

The proportion of total pay that is due to variable sources increases as the employee’s
taxation burden increases
H3a) for salespeople,
H3b) for sales managers.

The proportion of total pay that is due to variable sources increases as the employer’s
taxation burden increases
H4a) for salespeople,
H4b) for sales managers.

The Relation of Pay Structure to Pay Level

Organizations relying on variable pay shift downside risks from the organization to the
individual, but are also obligated to pay potentially huge sums when high-powered incentives
motivate the jobholder to new performance heights. Both parties may object. Individuals
typically are highly averse to downturns (Gerhart 2001). Organizations, taken aback by the sums
they owe, may regret having promised pay for performance and may even try to renege,
dismissing stellar achievement as a “windfall” (Gomez-Mejia and Balkin 1992, Hill 2001).

Yet, for sales jobs, firms can’t afford not to reward salespeople somehow when they
generate results from their customers: otherwise, salespeople may shirk, behave unethically,
sabotage, or quit. One solution is to combine variable pay with higher average take-home pay.
Weiss (2001) argues that firms that embrace variable pay can outbid the average total pay at
salary-only firms because they can offer lofty pay to high performers, while avoiding the risk of
high pay for poor performance. This holds for sales managers as well, since their variable pay
may be hinged to the performance of their subordinates. Employees may also see compensation

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systems involving heavy variable pay as equitable because jobholders can change performance quarter to quarter, allowing poor performers to move up. And they may frame pay volatility as a form of risk, which deserves (even requires) the possibility of offsetting higher returns. Conversely, it is unlikely that salary-only firms will pay well, given their assumption of the risk of poor performance. We therefore posit:

The level of take-home pay increases with the proportion of total pay due to variable sources
H5a: for salespeople,
H5b: for sales managers.

Baseline Influences on Pay Level and Pay Structure

Our premise is that sales personnel care about how well their compensation allows them to live, to the point that management must factor this into pay structure and pay level. If so, the cost of living in a country should influence pay levels, which should be adjusted upward to reflect high costs (Milkovich and Newman 2002).

Industry factors should also matter. Multi-industry studies typically do find industry effects, which may capture important elements of the competitive and task environment (Milkovich and Newman 2002), as well as industry-specific norms (Gomez-Mejia and Balkin 1992).

Firms that operate in only one country (national firms) may not follow the same compensation strategy as multi-country (international) firms (Werner and Ward 2004). International firms have reason to harmonize practices over countries, whereas national firms are free to reflect local norms.

The size of the employer is an important factor, but the nature of its impact is controversial. Concerning pay level, it is taken for granted that large firms pay better than small firms for all jobs, though it is unclear why (Milkovich and Newman 2002), and the difference is
rapidly fading away (Hollister 2004). Concerning pay structure, does firm size influence reliance on variable pay? The limited literature that addresses this question empirically suggests that small firms rely more on variable pay and less on salary, perhaps because they cannot afford overhead. However, in a study of over fourteen thousand middle and top managers, Gerhart and Milkovich (1990) find the reverse. Misra, Coughlan, and Narasimhan (2005) and John and Weitz (1989) study field salespeople, and also find that larger companies turn to variable pay. Misra, Coughlan, and Narasimhan (2005) argue that this arises from two factors: lower risk aversion in large versus small firms, and higher sales productivity in large firms. John and Weitz (1989) explain the size result as a reaction to governance costs: the larger the firm, the more judgments must be made, and the more difficult it is to keep these judgments consistent and to explain them convincingly to salespeople.

MODEL DEVELOPMENT AND ESTIMATION

Sample

Key variables are compiled by the Hay Group, the world’s largest compensation consulting firm, which uses the information to generate and sell benchmarking reports by industry and country, as well as for consulting. Hay uses a highly formalized job evaluation methodology, adopted by over 40% of the Fortune 1000 companies, based on its own proprietary position evaluation methodology (Sperling 2001). The central variable is the Hay point, an overall index of the job challenge of any job (here, each sales or sales management role). This index is painstakingly calibrated by Hay consultants in conjunction with personnel from human resources and sales management within each company, based on detailed information about tasks, duties and responsibilities of each job type. This information is combined to provide a
single overall measure of skills or job requirements, described below. Hay also draws on each company’s archives to ascertain the pay level and composition (fixed versus variable) actually earned by the individuals filling these thousands of jobs.

Our dataset contains fixed and variable compensation in 2002 for 14,424 salespeople and 4,957 sales managers from national or international organizations operating in five European countries (France, Germany, Italy, the Netherlands, and the United Kingdom), and five industrial sectors (consumer, financial, industrial goods, trade and other sectors). Roughly two-thirds of salespeople and half of sales managers work for national companies. In the sales arena, researchers have followed human capital theory, typically relying on measures of sales people characteristics - averaged at the sales force level - to investigate sales personnel compensation issues (e.g., Coughlan and Narasimhan 1992, Krafft 1999, Misra, Coughlan, and Narasimhan 2005, Krafft, Albers, and Lal 2004). Examining sales job characteristics rather than salespeople’s, as the Hay data permits us to do, is likely to substantially enrich our understanding of sales compensation. See Tables 1 and 2 for the structure of the sample.

Measures

Take-home pay. Total compensation measures are adjusted to account for income and social taxes, country by country, bracket by bracket. Ernst & Young, a prominent international tax accounting firm that regularly computes such figures for the business press, provided the 2002 tax figures for every € 5,000 earnings ranging between € 5,000 and € 250,000, assuming sales personnel are prototypical, i.e. married with two children under 16. Using these tax and earning figures, we estimated employees’ taxes through piecewise regression analysis in order to maximize the fit. This approach abstracts from the principles of tax systems and gets directly into
actual taxes, given actual pay ranges for real people in each country. Because the resulting figures for take-home pay vary substantially across industries, we standardize take-home pay by industry (mean=0 and standard deviation =1). See Tables 1 and 2 for raw figures and Tables 3 and 4 for descriptive statistics.

*** INSERT TABLES 3 AND 4 HERE ***

Firm size is operationally defined as the average of firm sales and total number of employees (each expressed as a Z score). Corporate sales range from € 9 million to € 8,000 million with a mean of € 1,128 million (using individual salespeople as units of analysis). Total employees range from 50 to 20,000 with a mean of 4,179 employees. The average corporation studied would place about 2500th in the AMADEUS (2004) ranking of European companies for sales. The average total number of employees for an observation in our dataset is the same as the average for the 2000th to 2500th European companies. Thus, although the companies we study were not randomly selected, they appear typical in some key respects.

Job challenge. The Hay point system is a proprietary method for rating the content of any job, and is considered a standard scale for measuring the “value” of a job both within and across organizations (Baron and Kreps, 1999, p. 285). Hay points capture the skills needed for a job through a combined measure of know-how (i.e., capabilities, knowledge and specialized techniques), problem-solving (i.e., requirements to deal with unusual situations) and accountability (i.e., empowerment, authority and magnitude). Davenport (2001) tests the nomological validity of Hay points for sales positions, showing that increasing points match the progression of the selling task from basic roles (transactional selling) to relationship selling, then to consultative selling, and finally to value-added selling. As these jobs become more challenging, they demand a longer time horizon and necessitate multiple, diverse indicators
assorted to more complex and rigorous customer demands. They also require more teamwork, as salespeople go from individual selling to leading sales teams that deal with purchasing teams.

The Hay index is comparable across jobs and across firms. It is not, however, linear (Sperling 2001). A given position can gain an increment only if it is at least 15% more challenging than the closest lower job, on grounds that smaller differences are not noticeable enough to be measured reliably (or appreciated by employees).³ Although this minimum 15% gradient in measurement could introduce convexity into the relationship between Hay points and take-home pay, most jobs exhibit linear relationships in most firms (Sperling 2001).

Salespeople’s Hay points range from 104 to 994, whereas managers’ Hay points range from 285 to 997. Managers tend to operate in higher ranges of job challenge: the average number of Hay points is 405 for a salesperson and 600 for a sales manager (Tables 3 and 4).

*Ratio of variable to fixed pay.* We divide percent of total (i.e. gross) cash compensation that is variable (setting the minimum at .01) by the percent that is fixed. We log this odds ratio, which is interpretable as the relative emphasis on variable versus fixed, in order to decrease heteroscedasticity, as recommended by Cooper (1993). On average, 13% of take-home pay comes from variable pay (implying that the average odds ratio would be 13 divided by 87, or 0.149; and the average log odds ratio would be the log of 0.149, or -.1.90).

*Cost of living.* We used the 2002 comparative price levels (Organization for Economic Co-Operation and Development, 2003), which measure price-level differences between countries for a representative basket of consumer goods and services.⁴

*Employer’s tax burden.* Corporate tax burden is operationalized by calculating the ratio of corporately-paid social taxes triggered by variable pay to variable pay itself:
Employer's tax burden = \frac{\left\{ \text{(Employer taxes triggered by gross total pay)} \right\} - \left\{ \text{(Employer taxes triggered by base salary)} \right\}}{\left\{ \text{(Gross total pay)} - \text{(Base salary)} \right\}}.

This shows how much of variable pay must be matched by payroll taxes. This is a proxy for the weight of tax burden on the employer side, and is higher in more burdensome tax regimes. By focusing on the proportion triggered after salary, we capture the payroll tax brackets into which performance pay moves an employer in a given tax regime.

Employee's tax burden. We calculate the proportion of taxes employees pay out of their pay check. This is a proxy for the weight of tax burden on the employee side. However, as employer’s and employee’s tax burden are strongly correlated, we run a regression of the form: Employee’s tax burden = constant + β*(employer’s tax burden), separately for the field salesperson data and the sales manager data. We then use the residuals of this regression model, called Excess Employee’s tax burden, in place of the variable Employee’s tax burden, in order to avoid multicollinearity. When those residuals are positive, on the whole, Employee’s tax burden is greater (compared to Employer’s tax burden); when the residuals are negative, on the whole, Employee’s tax burden is lighter (compared to Employer’s tax burden). Consistent with our earlier logic for the taxation variables, our theory predicts that the residuals should have a positive coefficient in the (ratio of variable to fixed pay) regression equation.

Estimation Procedures for Salespeople

Based on the hypotheses described previously, we estimate the parameters of the following model specifications for salespeople across countries.\textsuperscript{5}

\begin{equation}
\text{Take Home Pay}_i = \alpha_0 + \alpha_1 \text{Job Challenge}_i + \alpha_2 \text{Job Challenge}_i^2 + \alpha_3 \text{Firm Size}_i + \alpha_4 \text{Cost of Living}_i + \alpha_5 \ln[\text{Ratio Variable to Fixed Pay}]_i + \varepsilon_i
\end{equation}
\[
\ln[\text{Ratio Variable to Fixed Pay}_i] = \beta_0 + \beta_1 \text{Job Challenge}_i + \beta_2 \text{Firm Size}_i + \beta_3 \text{Excess Employee’s Tax Burden}_i + \beta_4 \text{Employer’s Tax Burden}_i + \epsilon_2 \tag{2}
\]

where:

Subscript i: Salesperson or sales manager  
Take Home Pay: Net pay standardized by industry  
Job Challenge: Hay points  
Firm Size: Sum of standardized number of employees and standardized firm sales  
Cost of Living: Comparative price level index of a country  
Ln[Ratio Variable to Fixed Pay]: Log of ratio of variable to fixed compensation (this variable is standardized by industry when it is the dependent variable of equation 2)  
Excess Employee’s Tax Burden: Residual from regression of employee’s tax burden on employer’s tax burden  
Employer’s Tax Burden: Ratio of corporately-paid social taxes triggered by variable pay to variable pay itself

Equation (1) specifies pay levels, equation (2) specifies pay structure, and both dependent variables are standardized within industry. As noted earlier, the mean and range of sales pay is ordinarily industry specific, in part because of different conditions in different industries. We conducted extensive subgroup comparisons, which suggest that the overall patterns of coefficients within industries differ in magnitudes but are comparable in signs. Our interest is in testing substantive explanations; hence, we focus on the direction of effects.

Since a subset of independent variables and the observations are common to both models, there is a possibility of correlation between the error terms in the two equations. Thus, we treat the two equations as SUR (Seemingly Unrelated Regressions) to maximize the efficiency of the estimation (Gatignon 2003, Greene 2002). In addition, we estimate the parameters of the equations (1) and (2) using OLS (Ordinary Least Squares). The OLS estimators in the two equations are comparable and significant across the two approaches (i.e. separate OLS regressions or SUR system). However, the levels of significance for SUR coefficients are higher due to the model’s efficiency. Further, we check with the Breusch-Pagan LaGrange Multiplier
test (Breusch and Pagan 1980) whether the system is more efficient than single equations and find it is highly significant.6

Finally, we estimate separate models for national and international firms, whose compensation practices may reflect a need to harmonize compensation over all the locations in which the international firm operates (Gooderham, Nordhaug and Ringdal 1999). Results appear in Table 5.

*** INSERT TABLE 5 HERE ***

Estimation Procedures for Sales Managers

We use the same procedure as above to calibrate models (1) and (2) for the sample of sales managers, contrasting OLS and SUR estimation. We once again carry out the estimation separately for international and national companies. The OLS estimators in the two equations are significant across the two approaches. As expected, the levels of significance for SUR coefficients are higher. We test the model’s efficiency using the Breusch-Pagan LaGrange Multiplier test. This significant test confirms that the system approach is more efficient than single equations.7 The SUR estimates of the parameters of the two equations are presented in Table 6.

*** INSERT TABLE 6 HERE ***

In addition to the analyses presented above, we performed a number of alternative analyses (i.e., per country) to test the stability of our results for both salespeople and sales managers. The results were substantially similar to the results presented in Tables 5 and 6, in both direction and significance of impact.
RESULTS

Our results for salespeople (Table 5) and sales managers (Table 6) are remarkably similar in the qualitative nature of the effects. Further, international and national companies are also remarkably similar in the nature of effects, although the magnitudes vary. We discuss each of the hypothesis tests below in turn.

Our parsimonious model of net-pay level and variable-pay usage yields four systems of equations (international and national firms for managers and salespeople). Model variance explained is respectable, ranging from 44 to 53 percent. Results largely conform to the hypotheses. We turn first to how job challenge operates for different take-home pay levels. We postulate that the more demanding the job, the more employees are paid (H1a and H1b). Our empirical estimations show that this effect is positive and concave (in Hay points) for salespeople, while it is convex for sales managers (as indicated by the positive and significant coefficient of squared job challenge). With a mean of 600 points (standard deviation 146), many managers operate in a much higher zone of Hay points than do most salespeople (mean 404 points, standard deviation 121).

We turn next to the impact of job challenge on the fraction of variable pay in the employee’s paycheck (calculated pre-tax). H2a and H2b posit that a lower fraction of pay is based on objective performance indicators and awarded in incentive pay (and hence, salary is a higher fraction of total pay) as jobs become increasingly challenging. Our results support these hypotheses for both sales managers and salespeople, in either national or international firms.

We hypothesize that firms turn to variable pay to compose pay packages as tax regimes become more burdensome at either the salesperson level (H3) or the employer level (H4). On the employee side, the more of their pay employees give over to taxes, the more burdensome the
tax system. Burdensome tax regimes on the employee side drive firms to base more of the paycheck on variable pay; our empirical results thus support H3 for both types of firms and both types of sales professionals.

On the employer side (H4), we hypothesize that as increasing pay forces employers to assume higher payroll tax burdens, firms respond by increasing their reliance on variable pay to fill out the paycheck. Put differently, firms in burdensome systems easily enter into zones of high payroll taxes. They prefer to do so when the customer generates results, rather than relying on sales managers to award salary. The results support H4, for both salespeople and sales managers in either national or international companies.

Finally, H5a and H5b postulate that pay structure and pay level should be studied together; our empirical results bear this out as well. Take-home pay rises significantly with the fraction of pay that is keyed to performance for any type of company, and for sales managers as well as salespeople.

Beyond our stated hypotheses, most of our baseline influences also operate as expected. As noted earlier, the national/international nature of the company and the type of industry play roles in terms of magnitude of effects. Firms do offer more take-home pay in countries with higher costs of living. And, surprisingly, larger firms offer lower take-home pay to salespeople, whether they are national or international. For sales managers, there is no difference between larger and smaller national firms.

The larger the firm, the higher the fraction of pay that is linked to performance, both for salespeople (in both national and international firms) and sales managers (in national firms). Table 7 summarizes the hypotheses and empirical results of our analysis.

*** INSERT TABLE 7 HERE ***
DISCUSSION

We employ an unusually large and varied cross-national data set with a unique capacity to represent the challenge of the individual sales or sales management role, independent of the characteristics of the job holder. We bring a new viewpoint to compensation research and to sales force compensation in particular. Our results show that the realized compensation levels and compensation structures of over 18,000 people in B2B field sales roles reflect an apparent balancing of two conflicting imperatives: the economic incentive imperative (to reward better performers by heightening pay dispersion), and the sociological/psychological justice imperative (to contain employee resentment of wide pay differentials and to allay corporate concerns about excessive compensation budgets). This complex trade-off is conducted against a backdrop of severe information asymmetry, as well as bounds on the decision maker’s rationality. These features, ever present in compensation judgments, are magnified by the nature of B2B field selling: a vital function, unique territories, autonomous salespeople operating away from managerial oversight and contact, and multi-faceted responsibilities that complicate the assessment of performance and the specification of tasks and objectives. Our results indicate that compensation reflects governance costs: all these factors drive compensation in a manner that is difficult to explain by productivity alone.

Our findings (such as the higher pay levels in higher cost-of-living countries) are consistent with the hypothesis that firms target take-home pay, knowing that employees are motivated by what they live on. Our results further suggest that firms adapt to the tax environment to make sure that not just pre-tax pay, but after-tax pay, rewards differentials in performance in a meaningful way. Compensation research, while copious, is almost exclusively conducted within a single country, usually in North America. Cross-national comparisons are
rare (Werner and Ward 2004). Tax considerations do not enter in single-country studies. Our setting allows a rare look at how international considerations drive compensation.

The cornerstone of personnel administration is the notion that some jobs are more demanding and/or more valuable to the organization than others. Therefore, organizations peg their compensation to job demands, which involves breaking roles into associated tasks and paying more for tasks which are more difficult or for which performance has higher payoff to the employer (Milkovich and Newman 2002). Our results indicate that the effect of job challenge on take-home pay for field sales is positive and concave – that is, that increasing levels of job challenge result in take-home pay that increases but at a decreasing rate. This need not imply, of course, that salespeople whose tasks become more challenging (i.e., with higher levels of Hay points) are never rewarded proportionately; at some point, such people may also be promoted (into sales management jobs) rather than paid more as field salespeople. In spite of the potential negative side effects of pay dispersion, organizations do pay more to motivate people to take higher-level sales jobs. Our results indicate that job demands are not a surrogate for human capital: the correlations among features of the individual and demands of the job are small. This mirrors O’Shaughnessy, Levine, and Cappelli (2001), who study over fifty thousand managerial and professional jobs. Also using Hay points to measure job design, they find (p. 20) that Hay points offer “a far more complete measure of skill and job requirements than those used in the past to explain wage outcomes.”

Our analysis finds that the structure of pay influences the level of pay. Sales personnel cannot achieve the highest levels of net pay on salary alone. Overall, the greater the proportion of pay that is contingent on performance, the higher is the level of net pay. In other words, volatility is one price of high take-home pay. In this way, firms both auto-fund high pay and
reduce their risk of overpaying salespeople who fail to achieve. This supports agency theory’s contention that pay for performance solves many incentive problems.

However, variable pay is not a panacea. The more challenging the job, the less firms rely on pay for performance, *ceteris paribus*. A likely explanation is that, even for field sales, performance becomes very difficult to observe, i.e. specify and monitor in a timely way. Firms therefore cut back contingent pay and rely more on salary. This creates a tension: firms do use some variable pay to achieve high take-home-pay levels, but they are obliged to reduce reliance on contingent pay. Thus, firms must offer very high salaries for very challenging jobs—and high salaries create internal frictions.

This friction accounts for the surprising finding that burdensome tax regimes drive firms to more transparent compensation structures that are more directly linked to employee output. Given the nature of the sales function, firms cannot wholly replace compensation with non-pecuniary means of motivating people. Our results are consistent with the hypothesis that as tax regimes become more burdensome, managers avoid internal governance costs by shifting the delicate task of awarding the money to a judge that is difficult to accuse of favoritism or other types of internal politics. That judge is the customer base: collectively and without collusion, they generate the high performer’s pay slip when they generate their purchase orders.¹⁰

An intriguing and unexpected finding is that, larger B2B companies in Europe tend to pay sales personnel less, as well as to rely on variable pay more (for salespeople in either national or international firms, and for sales managers in national firms). Reliance on variable pay may be explained by the governance costs of making and defending salary judgments on a large scale, and has been found in prior studies in the U.S. (John and Weitz 1989). But that
larger companies also pay less is unexpected, and is the reverse of overall patterns in the U.S. (Heneman and Judge 1999; Misra, Coughlan, and Narasimhan 2005).

Could this be a European effect? We speculate that it is, for two reasons. First, moving from one employer to another is difficult in Europe. Coming from a large employer is a form of insurance: it opens doors in case an employee wishes (or needs) to find another job. Employees may accept a discount to get this insurance. Second, European firms, relative to U.S. firms, tend to pay employees in a package that is less heavily weighted toward compensation and more heavily weighted toward benefits in kind (Lemieux 1996). Such benefits include education, travel, entertainment, and transportation, and require an infrastructure in human resources. Large firms have economies of scale, and can pay in perquisites much more efficiently than can small firms. Rather than offering salespeople enough take-home pay to afford a lifestyle, large firms may thus be able to economically offer the lifestyle itself.

Limitations and Conclusions

This study has its limitations. Pay is a complex phenomenon, driven by many considerations and subject to path dependence. Ours is a parsimonious, cross-sectional, as-if model in only five countries. We cannot trace the actual process, nor directly test our posited causal mechanisms. Further, our measures, which come from multiple sources, are approximate and the sampled firms may not be wholly representative of B2B firms, even in Western Europe. Future research would yield more insights, as well as establish the validity of the mechanisms proposed here. Nevertheless, the study offers insights based on individual salespeople’s and sales managers’ profiles, rather than on an average self-reported by the employer, as other studies in the sales force compensation arena have done.
Taken together, these findings suggest that an optimal (first-best) compensation plan may not be feasible. The fundamental compensation challenge in B2B field selling is to reward better efforts and higher ability in the face of an uncertain relationship between the salesperson’s (or sales manager’s) inputs and the customer-mediated outputs. Internal frictions limit a manager’s ability to implement pay plans designed to make these distinctions. Add in high income taxes, and the pre-tax salaries distinctions necessary to leave motivating sums in employee bank accounts become very large. Our results suggest that managers use “the voice of the market” to reduce governance costs, an important concern that deserves further scrutiny by scholars of sales force management.
<table>
<thead>
<tr>
<th>Industry/Region</th>
<th>Take Home Pay (€)</th>
<th>% Variable Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Consumer Goods (n=3,638)</td>
<td>34492.59</td>
<td>9522.07</td>
</tr>
<tr>
<td>Industrial Goods (n=6,541)</td>
<td>37978.25</td>
<td>10800.80</td>
</tr>
<tr>
<td>Financial Services (n=3,648)</td>
<td>39550.72</td>
<td>12797.51</td>
</tr>
<tr>
<td>Trade (n=362)</td>
<td>26205.46</td>
<td>15475.10</td>
</tr>
<tr>
<td>Other industries (n=235)</td>
<td>32366.83</td>
<td>7071.91</td>
</tr>
<tr>
<td>France (n=7,823)</td>
<td>37044.58</td>
<td>11864.86</td>
</tr>
<tr>
<td>Germany (n=576)</td>
<td>43995.00</td>
<td>11249.04</td>
</tr>
<tr>
<td>Italy (n=1,378)</td>
<td>34266.39</td>
<td>11858.68</td>
</tr>
<tr>
<td>Netherlands (n=1,147)</td>
<td>31221.70</td>
<td>6656.32</td>
</tr>
<tr>
<td>United Kingdom (n=3,500)</td>
<td>39172.05</td>
<td>10374.72</td>
</tr>
</tbody>
</table>
Table 2
Summary Statistics for Sales Managers by Industry and by Country

(n = 4957)

<table>
<thead>
<tr>
<th>Industry</th>
<th>Take Home Pay (€)</th>
<th>% Variable Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Consumer Goods (n= 1828)</td>
<td>51233.31</td>
<td>14135.65</td>
</tr>
<tr>
<td>Industrial Goods (n= 2246)</td>
<td>53002.42</td>
<td>11796.94</td>
</tr>
<tr>
<td>Financial Services (n= 724)</td>
<td>50381.94</td>
<td>12570.43</td>
</tr>
<tr>
<td>Trade (n= 79)</td>
<td>45280.73</td>
<td>9523.01</td>
</tr>
<tr>
<td>Other industries (n= 80)</td>
<td>53192.37</td>
<td>16348.21</td>
</tr>
<tr>
<td>France (n= 3,836)</td>
<td>51200.06</td>
<td>12632.30</td>
</tr>
<tr>
<td>Germany (n= 427)</td>
<td>57259.83</td>
<td>14236.95</td>
</tr>
<tr>
<td>Netherlands (n= 152)</td>
<td>51901.61</td>
<td>11462.38</td>
</tr>
<tr>
<td>United Kingdom (n= 542)</td>
<td>52148.75</td>
<td>13348.72</td>
</tr>
</tbody>
</table>
Table 3

Summary Statistics for Salespeople

(n = 14424)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. St(Take Home Pay) a</td>
<td>.00</td>
<td>1.00</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Ratio Variable to Fixed Pay b</td>
<td>-2.45</td>
<td>1.39</td>
<td>.46</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Job Challenge</td>
<td>404.75</td>
<td>91.92</td>
<td>.37</td>
<td>-.13</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Firm Size c</td>
<td>.11</td>
<td>2.05</td>
<td>.09</td>
<td>.06</td>
<td>-.07</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Cost of Living</td>
<td>.96</td>
<td>.07</td>
<td>.08</td>
<td>-.11</td>
<td>-.22</td>
<td>.57</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Excess Employee’s Taxes</td>
<td>.00</td>
<td>.04</td>
<td>.55</td>
<td>.35</td>
<td>.48</td>
<td>-.26</td>
<td>-.56</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7. Employer’s Taxes</td>
<td>.31</td>
<td>.17</td>
<td>-.08</td>
<td>.17</td>
<td>-.10</td>
<td>-.34</td>
<td>-.56</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Notes:

a This variable was standardized by industry because of heteroscedasticity as confirmed by the Levene’s tests of homogeneity of variances (p<.0001).

b This variable was measured as a natural logarithm.

c This variable was measured as the sum of total employees and sales revenues z-scores.
Table 4

Summary Statistics for Sales Managers

(n = 4957)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. St(Take Home Pay)(^a)</td>
<td>0.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>2. Ratio Variable to Fixed Pay (^b)</td>
<td>-2.41</td>
<td>1.30</td>
<td>0.36</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>3. Job Challenge</td>
<td>599.98</td>
<td>121.02</td>
<td>0.47</td>
<td>-0.13</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>4. Firm Size (^c)</td>
<td>-0.32</td>
<td>1.27</td>
<td>0.05</td>
<td>-0.18</td>
<td>-0.01</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>5. Cost of Living</td>
<td>0.96</td>
<td>0.04</td>
<td>0.05</td>
<td>-0.29</td>
<td>0.05</td>
<td>0.47</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>6. Excess Employee’s Taxes</td>
<td>0.00</td>
<td>0.03</td>
<td>0.72</td>
<td>0.34</td>
<td>0.42</td>
<td>0.35</td>
<td>-0.39</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>7. Employer’s Taxes</td>
<td>0.36</td>
<td>0.16</td>
<td>-0.14</td>
<td>0.28</td>
<td>-0.13</td>
<td>-0.18</td>
<td>-0.77</td>
<td>0.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Notes:
\(^a\) This variable was standardized by industry because of heteroscedasticity as confirmed by the Levene’s tests of homogeneity of variances (p<.0001).
\(^b\) This variable was measured as a natural logarithm.
\(^c\) This variable was measured as the sum of total employees and sales revenues z-scores.
Table 5
Salespeople Compensation Model Parameter Estimates
(T-statistics in parentheses)

Seemingly Unrelated Regressions Estimation

<table>
<thead>
<tr>
<th></th>
<th>International Companies</th>
<th>National Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>System R²=.44</td>
<td>System R²=.53</td>
</tr>
<tr>
<td></td>
<td>F(9, 10701)=921.32****</td>
<td>F(9, 18125)=2269.16****</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Model (1)</th>
<th>Model (2)</th>
<th>Model (1)</th>
<th>Model (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-8.63 **** (-37.52)</td>
<td>.64 **** (10.01)</td>
<td>-6.67 **** (-36.93)</td>
<td>1.85 **** (36.13)</td>
</tr>
<tr>
<td>Job Challenge</td>
<td>9987x10^-6 **** (13.89)</td>
<td>-3160x10^-6 **** (-23.74)</td>
<td>7813x10^-6 **** (12.79)</td>
<td>-5340x10^-6 **** (-46.82)</td>
</tr>
<tr>
<td>Job Challenge Squared</td>
<td>-4.32x10^-6 **** (-5.55)</td>
<td></td>
<td>-2.23x10^-6 *** (-3.33)</td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>-.07 **** (-5.55)</td>
<td>.12 **** (7.68)</td>
<td>-.05 **** (-11.63)</td>
<td>98715x10^-6 **** (23.90)</td>
</tr>
<tr>
<td>Cost of Living</td>
<td>6.80 **** (33.20)</td>
<td></td>
<td>5.33 **** (38.94)</td>
<td></td>
</tr>
<tr>
<td>Ratio Variable to Fixed</td>
<td>.43 **** (56.54)</td>
<td></td>
<td>.54 **** (100.21)</td>
<td></td>
</tr>
<tr>
<td>Excess Employee’s Taxes</td>
<td>15.50 **** (40.76)</td>
<td></td>
<td>17.16 **** (71.26)</td>
<td></td>
</tr>
<tr>
<td>Employer’s Taxes</td>
<td>1.51 **** (19.42)</td>
<td></td>
<td>1.32 **** (23.00)</td>
<td></td>
</tr>
</tbody>
</table>

* *** p<.0001  ** p<.001  * p<.01  * p<.1

a This variable was measured as the sum of total employees and sales revenues z-scores.
b This variable was measured as a natural logarithm.
c Those variables were standardized by industry because of heteroscedasticity as confirmed by the Levene’s tests of homogeneity of variances (p<.0001).
## Table 6
Sales Managers’ Compensation Model Parameter Estimates
(T-statistics in parentheses)

**Seemingly Unrelated Regressions Estimation**

<table>
<thead>
<tr>
<th></th>
<th>International Companies</th>
<th>National Companies</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>System $R^2 = .47$</td>
<td>System $R^2 = .48$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$F_{(9, 5099)} = 414.14^{****}$</td>
<td>$F_{(9, 4793)} = 440.24^{****}$</td>
<td></td>
</tr>
<tr>
<td>Dependent Variable</td>
<td>Model (3)</td>
<td>Model (4)</td>
<td>Model (3)</td>
</tr>
<tr>
<td>Intercept</td>
<td>-8.09 $^{****}$</td>
<td>-.76 $^{****}$</td>
<td>-6.28 $^{****}$</td>
</tr>
<tr>
<td></td>
<td>(-17.27)</td>
<td>(7.38)</td>
<td>(-13.07)</td>
</tr>
<tr>
<td>Job Challenge</td>
<td>7.49x10^{-6} $^{****}$</td>
<td>-2360x10^{-6} $^{****}$</td>
<td>1436x10^{-6}</td>
</tr>
<tr>
<td></td>
<td>(.82)</td>
<td>(-16.44)</td>
<td>(1.33)</td>
</tr>
<tr>
<td>Job Challenge Squared</td>
<td>2.62x10^{-6} $^{****}$</td>
<td>2.518x10^{-6} $^{***}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.83)</td>
<td>(3.08)</td>
<td></td>
</tr>
<tr>
<td>Firm Size$^a$</td>
<td>-.10 $^{****}$</td>
<td>.06 $^{**}$</td>
<td>- .02</td>
</tr>
<tr>
<td></td>
<td>(-5.15)</td>
<td>(2.73)</td>
<td>(-1.77)</td>
</tr>
<tr>
<td>Cost of Living</td>
<td>8.31 $^{****}$</td>
<td>5.82 $^{****}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(18.51)</td>
<td>(13.45)</td>
<td></td>
</tr>
<tr>
<td>Ratio Variable to Fixed$^b$</td>
<td>.51 $^{****}$</td>
<td>.49 $^{****}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(40.50)</td>
<td>(42.69)</td>
<td></td>
</tr>
<tr>
<td>Excess Employee’s Taxes</td>
<td>20.68 $^{****}$</td>
<td>21.42 $^{****}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(30.08)</td>
<td>(30.98)</td>
<td></td>
</tr>
<tr>
<td>Employer’s Taxes</td>
<td>1.52 $^{****}$</td>
<td>1.33 $^{****}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(13.31)</td>
<td>(11.42)</td>
<td></td>
</tr>
</tbody>
</table>

$^{****}$ p<.0001 $^{***}$ p<.001 $^{**}$ p<.01 $^*$ p<.1

$^a$ This variable was measured as the sum of total employees and sales revenues z-scores.

$^b$ This variable was measured as a natural logarithm.

$^c$ Those variables were standardized by industry because of heteroscedasticity as confirmed by the Levene’s tests of homogeneity of variances (p<.0001).
### Table 7

Summary of Hypotheses and Empirical Conclusions

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Expected Sign</th>
<th>Empirical Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1:</strong> The <em>level</em> of take-home pay increases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. with job challenge for salespeople.</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>b. at an <em>increasing rate</em> with job challenge for sales managers.</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>H2:</strong> The greater the role challenge, the lower the proportion of take-home pay generated by pay-for-performance formulas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. for salespeople.</td>
<td>-</td>
<td>Supported</td>
</tr>
<tr>
<td>b. for sales managers.</td>
<td>-</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>H3:</strong> The proportion of take-home pay that is due to variable sources increases as the <em>employee’s</em> taxation burden increases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. for salespeople.</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>b. for sales managers.</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>H4:</strong> The proportion of take-home pay that is due to variable sources increases as the <em>employer’s</em> taxation burden increases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. for salespeople.</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>b. for sales managers.</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>H5:</strong> The level of take-home pay increases with the proportion of pay due to variable sources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. for salespeople.</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>b. for sales managers.</td>
<td>+</td>
<td>Supported</td>
</tr>
</tbody>
</table>
REFERENCES


Baron, James N. and David M. Kreps (1999), Strategic Human Resources: Frameworks for General Managers, New York: John Wiley & Sons, Inc.


Brown, Steven P., Kenneth R. Evans, Murali Mantrala, and Goutam Challagalla (2005),
"Adapting Motivation, Control, and Compensation Research to a New Environment,"


Endnotes

1 Salesperson data are for all five countries, while sales manager data are for four countries only (France, Germany, the Netherlands, and the U.K.).
2 Details are available upon request from the authors.
3 For example, if a job rates 100 Hay points, the next job cannot have fewer than 115 points. If a job exists at 115 points, the next job cannot have fewer than 132 points (115% of 115 points). Going from 100 to 200 points can cover no more than five job steps (115, 132, 152, 175, 201), while going from 200 to 300 points can cover no more than three job steps (231, 266, 306).
4 This measure of purchasing power is not dependent on currency exchange rates.
5 Although the Chow test determined that the coefficients in our model are not identical in country sub-samples, we conducted our analysis on pooled country data because extensive country analysis provided evidence that the pattern of coefficients was overall consistent across countries. Analysis by country suggested differences in magnitude, not in direction of effects. As our purpose is to test the significance and direction of effects, we present the results of the cross-country analyses.
6 $\lambda_{LM}=177.11$ and 614.97 for salespeople working in international and national companies respectively, distributed as a chi-square with 1 degree of freedom, $p < .0001$.
7 $\lambda_{LM} = 185.17$ and 156.05 for sales managers working in international and national companies respectively, distributed as a chi-square with 1 degree of freedom, $p < .0001$.
8 Our dependent variable in models 2 and 4 is logged. In this log formulation, a linear regression coefficient implies a convex effect on the actual variable/fixed ratio (i.e., the antilog). However, for reasonable changes in the independent variables in our empirical data context, the true effect of any such change is essentially linear. Details of this analysis are available from the authors upon request.
9 A rival explanation for these findings is that firms reward not the job but the jobholder, and that challenging jobs are staffed by people with high levels of human capital. Hence, the most skilled people, not the most demanding jobs, are the recipients of income paid in a convex fashion. For the sales occupation, the relevant human capital is difficult to identify (Churchill et al. 1985), but two commonly-used indicators of human capital are job tenure and age. As we have these measures for the French sample, we tested this rival explanation on the French data by including job tenure and age in the system regressions, both with and without job challenge. The results show first that job tenure and age fail to add to the explained variance, and further that when job challenge is omitted from the estimation, explained variance drops sharply. We therefore surmise that firms appear not to use cues like demographics (e.g., job tenure or age) to fill sales jobs.
10 As noted above in the discussion of H3, burdensome tax regimes can occur in more collectivist national cultures (Gottschalk and Smeeding 1997), more “feminine” cultures, or cultures with a higher desire for uncertainty avoidance (Hofstede 1997). For example, Segalla, Rouziès, Besson and Weitz (2006), studying compensation preferences of sales managers for salespeople, found that managers from Germany (i.e., a high tax burden country) are less likely than managers from Anglo-Saxon countries (where taxes are lower) to favor incentive compensation. However, the tax regime (which is itself a product of culture) drives firms to pay for performance. Ironically, this pay structure itself creates uncertainty for sales personnel.