THE EFFECT OF THE EXTERNAL LABOR MARKET ON THE GENDER PAY GAP AMONG EXECUTIVES

CRISTINA QUINTANA-GARCÍA AND MARTA M. ELVIRA*

To date, few empirical studies have explored potential differences in the effects of external labor market hiring on the compensation of male and female managers. Using longitudinal data from a sample of public high-technology firms on individual top executives' total compensation in the United States, and the separate components of base and variable pay, the authors study the effects of being an external hire for men and women. The results suggest that women who are external labor market hires are disadvantaged, in both base and variable compensation, compared with internal placements. The analyses also provide some evidence that having greater representation of women in top positions reduces the disadvantaging effects for women of being an external hire.

Women's representation in top management is the subject of ample research (e.g., Reskin and McBrier 2000; Kalev, Dobbin, and Kelly 2006). Far less is known about gender differences in work outcomes once women reach top executive positions (Gayle, Golan, and Miller 2012; Shin 2012). As has been stressed recently, "access to high-paying jobs and the rewards that await workers once they are hired are important factors in studying the gender pay gap" (Kahn 2014: 285). Specifically, a significant pay gap exists between male and female executives that is attributable to unobserved factors, with estimates varying between 5% and 16% (Bertrand and Hallock 2001; Blau and Kahn 2006; Muñoz-Bullón 2010; Elkinawy and Stater 2011, but see Gayle et al. 2012 for contrary evidence). The still unexplained portion of pay differentials is usually interpreted as evidence of gender inequality (Elvira and Saporta 2001; Elkinawy and Stater 2011),

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although we need to understand fully how various employment practices affect compensation. For example, in recent decades external market forces are increasingly influencing the organizational distribution of work and rewards (Bidwell, Briscoe, Fernandez-Mateo, and Sterling 2013). Because much research on gender inequality has focused on internal promotions, little is known about the impact of external hiring on pay differentials (Fernandez and Abraham 2011).

In this study, we explore the effects of adopting an external labor market (ELM) strategy on gender differences in executive compensation. The theory of incomplete information, social capital, and the opportunity structure for discrimination framework serve as the study's foundation. On the one hand, promotion within the firm differs from external hiring in the level of information that a firm has about employees (Granovetter 1981; Halaby 1988). Differences in access to such information might affect the characteristics of workers who enter jobs through hiring versus internal promotion and, consequently, their pay levels (Bidwell 2011). On the other hand, for executives, base salary is complemented by variable pay, usually subject to less formalization and more subjective valuation, which opens a structural opportunity for differential treatment in compensation between male and female executives.

At the management level, to our knowledge, few studies explore the effect of ELM moves on male and female managers' compensation. Some research suggests that the process of changing companies explains much of the observed gender gap. Brett and Stroh (1997) studied a sample of managers at different levels from 20 Fortune 500 companies. Examining only cash compensation while controlling for human capital and industry, this study showed that male managers who changed companies between 1989 and 1991 improved their compensation relative to those who remained in their firms. This effect was not observed for female managers. Researching a sample of 1992 MBA graduates and considering practically the same variables as above, Dreher and Cox (2000) also concluded that pay differentials among graduates who changed employers were a white male phenomenon. Similarly, using data from U.S. managers and professionals collected through surveys in 1991 and 1999, Lam and Dreher (2004) found that cash compensation levels (base salary plus bonus) were significantly higher among males who followed an ELM strategy than among men who remained with the same firm (stayers). Again this pattern does not appear among female managers, for whom cash compensation was similar between stayers and movers.

Some contradictory evidence exists: Valcour and Tolbert (2003), using a sample of primarily managerial and professional employees in dual-earner couples in the United States, found no gender earnings differences for intra- and interorganizational mobility. For both men and women, moving between organizations tends to depress earnings while job changes within an organization relate to increased earnings. More recently, Kronberg

(2013) found that in the 1990s externalization closed the gender gap mostly among workers who already occupied good positions (such as executive jobs) and left a firm voluntarily.

Overall, most prior studies have considered cash compensation as the outcome variable, have lacked information about employers (i.e., firm characteristics and organizational practices), and have mixed managers belonging to different organizational levels (though pay components typically differ across levels). Regarding the first issue, a large (if not the largest) portion of executives' total compensation comes from long-term components (i.e., restricted stock awards, stock options, and other long-term incentive payouts) (Elkinawy and Stater 2011; Gayle et al. 2012; Shin 2012). The use of stock options, incentive bonuses, and other components of variable compensation may widen the pay gap between women and men (Elvira and Graham 2002; Muñoz-Bullón 2010). Base pay is determined largely by the level of an individual's occupational category whereas variable pay is set through a less formalized process.

Given prior research limitations, our study aims to advance understanding of how ELM moves relate to the gender gap in executive compensation by 1) focusing on top executives, who may constitute a relatively homogeneous group in terms of pay elements, work experience, skills and abilities, and education (Bell 2005); 2) taking into account the total direct compensation awarded to executives, while analyzing the gender pay gap separately for base salary and variable pay; and 3) including organizational variables such as the proportion of women in top executive positions, in addition to considering individual human capital and firm-level factors. For the empirical setting, we have chosen firms from the high-technology sectors, which show an increasing influence of external market forces on labor practices (DiPrete, Goux, and Maurin 2002; Siegel and Hambrick 2005) and that operate in similar labor market conditions, allowing for relative data homogeneity.

Women Executives' Compensation and External Managerial Recruitment

Research shows a persistent gender wage gap, which has been explained from various perspectives. Human capital theory (Becker 1964; Hashimoto 1981) predicts that earnings differences emerge from variation in the broad array of individual abilities and educational investments among workers. A common empirical finding is that women have inadequate firm-specific human capital, different educational backgrounds, shorter tenures, and more interrupted careers than do men. These variables partially explain the gender wage gap (Blau and Beller 1988). Nevertheless, the evidence for this human capital hypothesis is mixed. For instance, Petersen and Saporta (2004) indicated that initial gender differences in job levels and salaries decrease to the extent of disappearing as seniority increases. This equalization may happen because, with seniority, it becomes harder to discriminate

and also because more information is available about employees. Such a declining gap should mean that once women break the glass ceiling and become top executives, their compensation would equal that of their male counterparts.

Few articles on the executive pay gap have measures of education or work experience. Gayle et al. (2012) showed that female executives have backgrounds and experiences that differ from male executives and that women are paid more and have higher pay-for-performance sensitivity than do men with a similar rank, background, and experience. They also found that women are promoted internally more quickly than men are (as long as they remain in the firm), which results in their having significantly less job experience than male executives have.

We wonder whether the gender gap might widen with the increasing reliance on external hiring. Firms using internal labor markets (ILMs) to recruit and promote managers should have access to accumulated performance information to help place competent internal employees (female or male) with suitable human capital in executive positions (Bidwell 2011). Then individuals would be promoted and rewarded according to their ability and skills, if and when they were assigned to a more senior position (Fee, Hadlock, and Pierce 2006).

Consistent with the theory of incomplete information, the trend toward market-based employment has reduced the influence of firm-specific human capital on pay and thus, the rewards to seniority. As a result, externally hired managers may obtain a salary premium relative to those who are promoted internally. Employers have incomplete information about outside potential employees. Because many higher-level jobs are subject to great uncertainty and demand a threshold level of performance, firms may require stronger visible credentials from outside hires than from those people promoted from within (Fee et al. 2006; Bidwell 2011). The purchase of skills valuable to the firm requires the provision of extra rewards in order to attract employees and to obtain their agreement to this sort of transactional employment relationship (Valcour and Tolbert 2003). Another potential reason for higher pay is that experienced managers receiving an ELM offer may anticipate short-term employment. Companies that tend to hire managers from outside the organization do not emphasize career development or security. Consequently, expectations of short-term employment may lead to greater compensation in exchange for the lack of employment security (Brett and Stroh 1997).

Research indicates that ELM career moves generally lead to compensation advantages for men but not for women (Brett and Stroh 1997; Dreher and Cox 2000; Lam and Dreher 2004). For women at the executive level, several factors may result in a cumulative career disadvantage attributable to ELM career strategies. Because less is known at the point of hire compared with the time of promotion, the decision on which working conditions (e.g., pay) to offer is usually highly subjective. As a result, differential treatment in

setting salaries is more likely to affect new hires than long-tenure employees, whose actual performance has been observed (Gerhart 1990). The status of a new hire leaves women more vulnerable to differential treatment because such an approach is easier to justify when less information is available (Petersen and Saporta 2004; Kronberg 2013).

Some employers may even stereotype women as less sophisticated negotiators and offer them lower salaries and/or take a harder bargaining approach (Dreher and Cox 2000). If women are less inclined to negotiate their wage upward (Babcock and Laschever 2003), then their pay may decline more when negotiations are more frequent, such as in external transitions. Additionally, female managers may be disadvantaged in the ELM because they are less well connected than male managers to formal and informal social networks that provide access to career opportunities and information. The use of such networks, especially for external hiring, has grown over time (Marsden and Hurlbert 1988; Moss and Tilly 2001). Network-based hiring generates gender inequality in access to jobs and favors the persistence of differential allocation to higher levels (Fernandez and Sosa 2005; Gorman and Kmec 2009).

Overall, incomplete information and social capital research suggest potential mechanisms that disadvantage women in external mobility. Thus, a growing emphasis on ELMs among executives may lead to higher compensation levels for men and generate more opportunities for gender pay gap increases. Our baseline hypothesis is as follows.

Hypothesis 1: The compensation penalty for female executives relative to men recruited through the external labor market will be larger than that of internally promoted employees.

Beyond gender-specific characteristics, organizational structures offer varying opportunities for unjustified differential treatment of men and women. The opportunity structure for discrimination refers to the structural conditions under which discrimination is feasible and successful, focusing on dimensions that may inhibit or facilitate differential treatment (see Petersen and Saporta 2004). We surmise that the increasing use of incentive and performance-based compensation may unwittingly open the door to gender biases. Base pay, the fixed component of compensation, is determined largely by the individual's job rank rather than job performance. Differential treatment of men and women in base salary for the same position is presumably easy to document, the evidence is mostly unambiguous, and the potential complainant is clear (the woman discriminated against). The opposite holds when compensation depends not only on the position occupied but also on the employee's productivity, qualifications, or merit. Bonuses, stock options, and other long-term components of compensation are more often performance-based and thus subject to greater uncertainty

and lower transparency. These variable pay elements could justify pay differences within jobs that can be hard to assess (Petersen and Saporta 2004).

The limited formalization of setting variable pay gives firms greater discretion in designing pay plans and criteria for pay allocation (Elvira and Graham 2002). For instance, women are considered to be more risk-averse and less confident than men, so they are expected to behave in ways that are different from men during pay negotiations. These expectations may reinforce the gender gap by encouraging women to choose less risky pay packages (Kulich et al. 2011). Therefore, relative to base salary, variable pay may represent a structural opportunity for differential treatment (Petersen and Saporta 2004), which might be more likely to occur during hiring than during promotion because it is harder for external candidates to detect and challenge discrimination (Bidwell et al. 2013).

Empirical evidence indicates that the gender earnings gap is greater for variable pay than for base salary. Chauvin and Ash (1994) found that most of the unexplained difference in total pay between male and female business school graduates was attributable to gender differences in the performance-contingent portion of pay (commissions, bonuses, and profit sharing). Using data from all full-time employees of a financial corporation, Elvira and Graham (2002) reported that women in the same occupations and with similar characteristics (tenure and performance rating) received lower bonuses than men. Studies of U.S. firms' top executives found that a substantial part of the estimated gap in total pay was because of differences in variable pay (Elkinawy and Stater 2011; Muñoz-Bullón 2010).

In short, existing research suggests that the use of incentive pay could widen the earnings gap between women and men, so we hypothesize the following.

Hypothesis 2: The penalty for female executives relative to men will be larger for variable than for fixed compensation, especially among employees recruited through the ELM.

Another organizational characteristic typically related to the gender wage gap is the sex composition of organizations, occupations, or work groups. Regarding executives, the proportion of women in top management has grown substantially, even as women continue to be underrepresented. Data suggest that women's pay increases in jobs with a higher proportion of women employed in that type of job. As women advance through the ranks, any differences in the treatment of men and women that arise from imperfect information about women's abilities will narrow (Bell 2005). Furthermore, social identity theory suggests that people have a tendency to evaluate in-group members more favorably than out-group members and to develop mutual liking and attraction (Tajfel and Turner 1979). Consistent with these processes, male decision makers are more likely than their female counterparts to hire and promote male candidates (Beckman and

Phillips 2005; Gorman 2006). Thus an increasing female presence in top corporate jobs may help reduce the gender gap in executive pay (Shin 2012). Wages would also be higher because the higher proportion of women would give them more organizational power (Pfeffer 1981) and would potentially facilitate actions in favor of other women on the top management team (TMT), for example, in job allocation and compensation decisions.

A higher representation of women in the TMT can have a positive impact on female executives' pay. Evidence suggests that women across an organization earn more when they have female managers (Hultin and Szulkin 1999) or a female CEO (Cardoso and Winter-Ebmer 2010; Flabbi, Macis, Moro, and Schivardi 2014). Bertrand and Hallock (2001) found that as the participation of women in top managerial jobs grew, the gender compensation gap declined. Expectations that women are risk-averse and less confident than men when negotiating their pay may increase the gender gap by encouraging women to accept a lower variable compensation (Byrnes, Miller, and Schafer 1999; Kulich et al. 2011). Such expectations may cause negative reactions toward those women who do not comply with gender stereotypes. For example, women are penalized socially more than men are for negotiating for higher pay (Bowles and Babcock 2012). A higher proportion of women in the TMT may help increase the bargaining power of other females, encouraging them to negotiate for desirable job conditions (Beckman and Phillips 2005). When a higher proportion of female managers are employed, women are more likely to be negotiating the terms of their employment with other women and to have a greater likelihood of success (Rousseau 2005; Cohen and Broschak 2013). The presence of women in the TMT and in other top corporate jobs can also be a proxy for some of the firm's cultural and institutional climate, such as female-friendliness or an egalitarian environment (Shin 2012).

The board of directors, which often includes some members of the TMT, directly influences the design of compensation packages for top executives, as it is legally responsible for monitoring, rewarding and, if necessary, firing top executives. A greater proportion of female directors on the board could be associated with a more favorable evaluation of female executives and greater access to compensation information for executives generally, thus potentially reducing the gender gap in pay. In fact, evidence does support that having more female board members is associated with a smaller gender gap in executive compensation (Shin 2012). Using various data samples from ExecuComp over the long term, Bell (2005), Elkinawy and Stater (2011), and Carter, Franco, and Giné (2015) found that female representation in the boardroom mitigates the gender pay gap among executives.

We expect these female representation effects to be magnified for external hires, for whom negotiations may take center stage in the recruiting process from the start and are typically more visible than for internally promoted candidates whose career follows an accepted path.

Therefore, we hypothesize the following.

Hypothesis 3: The pay penalty for female executives will be reduced in firms with a higher proportion of women at the firm's top levels, especially among employees recruited through the ELM.

Methods

Data and Sample

Our research question is especially salient in settings such as high technology and other growing sectors in which employment relationships rely increasingly on ELMs, as manifested by the decline in average employment tenure (DiPrete et al. 2002). Moreover, the high-technology sectors are characterized by a flatter wage-tenure profile among the more highly educated workers than in more traditional industries (DiPrete et al. 2002). These features make it easier to analyze the dynamics of the ELM relative to industries that still rely heavily on ILMs. Focusing on high-technology manufacturing firms also enables relatively homogeneous data to be obtained because such firms operate in similarly dynamic environments, with the corresponding consequences for executive rewards compared with relatively stable settings (Siegel and Hambrick 2005).

Specifically, we study a panel data set of U.S. public high-technology manufacturing firms. We use the executive year as the level of analysis and create a database using different sources of information. The panel of U.S. public high-technology firms is drawn from Thomson Reuters Datastream's ASSET4 ESG, the world's largest environmental, social, and governance rating database. It contains objective and systematic quantitative and qualitative company-level data on public companies worldwide for at least four years for most companies, with 2007 to 2011 being the most common period. Therefore, we identify a panel of firms with available information on organizational practices that are explanatory variables in this study for the stated period. Variables drawn from this database include the percentage of women on the board of directors and a range of diversity management practices. ASSET4 ESG contains data on 167 U.S. public high-technology manufacturing companies.[1]

Having selected the companies, we draw information concerning compensation of their top executives from the ExecuComp database. For the highest-paid executives of the U.S. public companies, ExecuComp contains comprehensive information on base salary and variable components of compensation (bonuses, total value of restricted stock grants, total value of stock options granted, long-term incentive payouts, and so forth) as

[1]The high-technology manufacturing sectors identified from the ASSET4 ESG are aerospace/defense; biotechnology/medical research; biotechnology/pharmaceuticals; communications equipment; computers/office equipment; healthcare equipment/suppliers; and semiconductors/semiconductor equipment. This selection derives directly from the OECD definition of high-technology sectors (OECD 2011).

reported in the proxy statements required by the U.S. Securities and Exchange Commission (SEC). The percentage of women among top executives is also estimated using ExecuComp. Biographical information (including whether hiring was from the internal or the external labor market) on each executive is obtained from the annual meeting proxy statements or Form 10-K, which are filed with the SEC. The SEC requires firms to follow strict format guidelines, producing a high level of consistency across reports. Regarding other firm-level variables, performance data (return on assets) and firm size (number of employees) come from Form 10-K's financial information.

As a result of this selection process, data availability constraints (missing data for one or more variables regarding organizational practices or personnel information for executives), and the elimination of two outlier observations (two CEOs whose total direct compensation is zero), our final sample includes 2,600 executive-year observations (814 unique individuals) from a total of 105 high-technology firms for the period 2006 to 2011 (with a maximum of five-year observations for each firm).

Measures

Dependent Variables

"Total direct compensation" derives from the measure reported as TDC2 by ExecuComp. TDC2 represents ex post total compensation consisting of salary, bonus, other annual compensation, total value of restricted stock grants, long-term incentive payouts, all other compensation, and the value of options exercised. This measure appears in thousands of 2011 constant dollars. We use a logarithmic transformation of TDC2 to account for its skewed distribution. To estimate the two dependent variables useful for testing Hypotheses 2 and 3, we disaggregate total direct compensation into two forms of pay: "base salary," which is the part of TDC2 that does not depend on the individual's job performance, and "variable pay," which includes the remaining components of TDC2 (bonus, other annual compensation, total value of restricted stock grants, and so forth). We also take these variables in thousands of 2011 constant dollars and use their logarithmic transformation.

Independent Variables

The first independent variable used in the regression analysis is "female executive," measured by a dummy variable that assumes value 1 if the executive is female, and 0 otherwise. Then, we include in the models another independent variable called "executive hired through the ELM," coded as a dummy variable with value 1 when the executive (male or female) was hired externally. These executives remain coded as an external hire in subsequent years, which allows us to compare the compensation with the executives who reached the TMT position through internal promotion. "Female

executive hired through the ELM" is the main variable, an interaction between the two previously described values.

Finally, to test Hypothesis 3, three independent variables concerning women's representation are included: "percentage of women in the top management team," "percentage of women on the board," and "female CEO," which is a dummy variable taking value 1 when the CEO is a woman, and 0 otherwise.

Control Variables

We control for several individual and firm-level variables that may influence executive compensation. Concerning human capital, we consider four attributes: "occupation title," "age," "firm tenure," and "job tenure." We construct occupational categories based on the annual title variable in ExecuComp. More than 13,100 unique occupation titles are in this database, and many of these titles represent similar occupations. Based on previous studies (Bertrand and Hallock 2001; Muñoz-Bullón 2010), we construct 11 broad occupational titles: chief executive officer (CEO)/chair, vice chair, president, chief financial officer (CFO), chief operating officer (COO), other chief officers, executive vice president, senior vice president, group vice president, vice president, and other occupations. These occupational titles are operationalized as dummy variables that take value 1 when the executive occupied such a function, and 0 otherwise. We also include executives' age, firm tenure (number of years at their firm of employment), and job tenure (number of years in the current occupation) as proxies for experience that affect compensation (Muñoz-Bullón 2010; Kulich et al. 2011). Information related to other human capital variables (e.g., education, experience in the industry, total number of companies for which the executive has worked) is not reported consistently for a large portion of the sample, so we omit it from the analysis.

Executive pay is a function of firm size, which in turn has been proxied by various measures (Renner, Rives, and Bowlin 2002). We have operationalized "firm size" as the logarithm of the number of employees. Finally, if managers are paid for performance, compensation should increase as profitability rises (Muñoz-Bullón 2010). To control for firm performance, we use return on assets (ROA).

Gender pay differences may be reduced in companies that implement diversity practices to promote a diverse workplace, enhancing perceptions of organizational justice and inclusion (Reskin and McBrier 2000; Kalev et al. 2006). Thus, we include controls for six organizational practices: the existence of a diversity and equal opportunity policy, the promotion of positive discrimination, the existence of a work–life balance policy, the provision of flexible working hours that promote work–life balance, support for employee skill training or career development, and the provision of regular staff and business management training for managers. These variables are

included in the ASSET4 ESG database in terms of yes/no descriptions. We code the variables 1 when the practice is present in a firm (yes), and 0 otherwise.

We apply the generalized estimating equation (GEE) regression method, which is particularly suited to control for firm heterogeneity. The GEE algorithm accounts for correlation between records within the same cluster (data collected about the same firm during successive periods of time), thus providing improved standard error estimates and more efficient parameter estimators than fixed- and random-effects models (Liang and Zeger 1986; Zorn 2001; Castilla 2007). The GEE approach is less computationally intensive than either fixed effects or random effects. Therefore, it often proves less subject to instability and convergence problems.

Results

Table 1 reports descriptive statistics (mean, standard deviations, and correlations) for the variables used in the analyses.

Concerning women's representation in top executive positions, 64 out of 814 executives in the sample (7.86%) are female. Female executives represent 174 out of 2,600 executive-year observations in the study (6.69%). We obtained information for 2,564 executive observations related to the labor market used to recruit them (174 female and 2,390 male executives). Out of 167 firms in the sample, 48 have at least one woman in their TMTs (28.74% of the sample). Only four women are CEOs in this sample, consistent with the known number in this sector. The ELM was used to hire 38.50% of all female executives compared with 42.34% of male executives. This tendency has been changing in recent years as ELM career strategies grow in importance. We have identified 253 new executive recruitments in our database over the past six years: 13 out of 25 new female executives (52.00%) were recruited externally, compared with 150 out of 228 new male executives (65.79%). In absolute values, the mean of variable pay is $4,340,700 compared with a base salary mean of $593,800. The substantive amount of variable compensation validates the significance of the gender gap in this component.

Table 2 presents descriptive statistics regarding gender differences in human capital, as well as firm size and profitability, first for the full sample and then for the subsample of externally recruited executives. Concerning the share of women in each occupation, the low proportion of women in the top three occupational categories (CEO/chair, vice chair, and president) is remarkable. Women in the sample and the subsample were about two years younger than the men, had about two fewer years of seniority in the firms, and had one fewer year in the current position. The difference in individual characteristics is small but statistically significant, so these might relate to the gender gap. Female executives work in significantly larger firms than their male counterparts do (in terms of number of employees).

Table 1. Summary of Descriptive Statistics

Variable	*Mean*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*	*25*	*26*	*27*	*28*	*29*	*30*	*31*
1. Total direct compensation (log)	7.85	1.08	1.00																														
2. Base salary (log)	6.25	0.53	0.63	1.00																													
3. Variable pay (log)	7.47	1.43	0.92	0.56	1.00																												
4. Female executive	0.06	0.24	−0.03	−0.04	−0.01	1.00																											
5. Executive hired through the ELM	0.42	0.49	−0.06	−0.06	−0.05	−0.01	1.00																										
6. Female executive hired through the ELM	0.02	0.15	−0.08	−0.07	−0.06	0.60	0.19	1.00																									
7. CEO/chair	0.19	0.39	0.39	0.40	0.29	−0.09	0.04	−0.07	1.00																								
8. Vice chair	0.01	0.12	−0.01	0.00	−0.02	−0.03	−0.02	−0.02	−0.02	1.00																							
9. President	0.13	0.34	0.26	0.27	0.18	−0.08	−0.00	−0.05	0.58	−0.05	1.00																						
10. Chief financial officer (CFO)	0.17	0.38	−0.08	−0.10	−0.06	0.02	0.00	−0.01	−0.22	−0.04	−0.17	1.00																					
11. Chief operating officer (COO)	0.05	0.22	0.02	0.02	0.00	−0.03	−0.06	0.00	−0.11	−0.03	0.15	−0.10	1.00																				
12. Other chief officer	0.07	0.25	−0.02	−0.01	−0.01	0.07	−0.03	0.05	−0.11	0.02	−0.10	−0.08	−0.06	1.00																			
13. Executive vice president (VP)	0.29	0.45	−0.03	0.00	−0.00	0.04	−0.03	0.05	−0.31	−0.08	−0.25	0.08	−0.01	0.05	1.00																		
14. Senior VP	0.18	0.39	−0.14	−0.16	−0.09	0.00	0.06	0.00	−0.23	−0.05	−0.18	0.14	−0.10	−0.04	−0.30	1.00																	
15. Group VP	0.02	0.16	0.00	−0.03	0.01	0.07	−0.06	0.01	−0.08	−0.02	−0.06	−0.03	−0.04	−0.03	−0.10	−0.07	1.00																
16. VP	0.11	0.31	−0.22	−0.25	−0.19	0.02	−0.03	0.02	−0.16	−0.04	−0.14	0.01	−0.07	−0.06	−0.22	−0.16	−0.05	1.00															
17. Other	0.07	0.26	−0.06	−0.04	−0.04	−0.00	−0.01	−0.01	−0.10	−0.03	−0.09	−0.11	−0.03	−0.05	−0.15	−0.13	−0.03	−0.07	1.00														
18. Age	51.7	6.78	0.16	0.20	0.12	−0.09	0.00	−0.04	0.22	0.12	0.07	−0.11	−0.05	−0.01	−0.03	−0.06	−0.04	−0.07	−0.04	1.00													
19. Firm tenure	10.1	8.17	0.16	0.13	0.10	−0.04	−0.56	−0.14	0.16	0.07	0.10	−0.05	0.02	0.04	−0.06	−0.13	−0.00	0.03	0.01	0.29	1.00												
20. Job tenure	3.89	4.10	0.15	0.12	0.06	−0.05	−0.09	−0.04	0.31	−0.00	−0.01	−0.01	−0.03	0.01	−0.17	−0.06	−0.05	0.05	−0.05	0.31	0.40	1.00											
21. Firm size (log)	9.44	1.40	0.35	0.34	0.32	0.05	−0.06	−0.02	0.00	−0.00	−0.01	−0.01	−0.03	0.01	0.11	−0.06	0.04	−0.09	0.01	0.09	−0.02	−0.04	1.00										
22. ROA	6.50	21.39	0.17	0.13	0.19	0.05	−0.11	−0.01	0.00	−0.01	0.00	0.00	0.03	−0.04	0.02	−0.03	0.02	−0.03	0.01	0.07	0.06	0.04	0.14	1.00									
23. Existence of diversity and equal opportunity policy	0.90	0.29	0.05	0.05	0.04	0.04	−0.01	0.00	0.00	0.04	−0.01	−0.00	0.02	0.00	0.01	−0.05	0.04	−0.02	0.07	0.01	−0.00	0.01	0.12	0.01	1.00								
24. Promotion of positive discrimination	0.29	0.45	0.25	0.26	0.22	0.03	−0.10	−0.01	−0.00	−0.01	−0.04	−0.00	0.01	−0.02	0.05	−0.01	0.09	−0.10	0.04	0.10	0.13	−0.00	0.42	0.15	0.39	1.00							
25. Existence of a work–life balance policy	0.54	0.49	0.23	0.25	0.22	0.02	−0.02	−0.01	−0.00	−0.01	−0.04	−0.00	0.01	−0.02	0.05	−0.01	0.09	−0.10	0.04	0.10	0.13	−0.06	0.42	0.15	0.04	0.39	1.00						
26. Provision of flexible working hours or working hours that promote a work–life balance	0.27	0.44	0.23	0.26	0.22	0.05	−0.02	0.02	0.00	0.01	−0.00	−0.00	−0.01	−0.00	0.13	−0.10	0.05	−0.15	0.03	0.02	−0.04	−0.06	0.28	0.12	0.09	0.41	0.48	1.00					
27. Support for employee skill training or career development	0.73	0.44	0.22	0.23	0.20	−0.00	−0.01	0.01	−0.01	0.02	−0.00	−0.02	0.01	0.09	−0.05	−0.01	−0.13	0.06	0.01	0.00	−0.01	0.24	0.08	0.34	0.17	0.30	0.40	0.36	1.00				
28. Provision of regular staff and business management training for managers	0.35	0.47	0.21	0.25	0.19	0.06	−0.08	−0.02	0.00	0.03	−0.03	0.00	−0.02	−0.01	0.03	−0.05	0.07	−0.05	−0.00	−0.00	0.03	−0.04	0.30	0.12	0.12	0.31	0.32	0.32	0.34	1.00			
29. Percentage of women in the TMT	6.86	10.84	0.07	0.04	0.08	0.40	0.00	0.24	−0.00	0.02	−0.02	−0.00	−0.02	−0.01	0.07	−0.05	0.14	−0.06	−0.05	−0.03	−0.10	−0.03	0.14	0.11	0.09	0.06	0.06	0.06	−0.00	0.14	1.00		
30. Percentage of women on the board	12.81	8.66	0.22	0.23	0.22	0.07	−0.06	−0.00	−0.00	0.04	0.00	0.00	0.01	−0.00	0.08	0.00	0.06	−0.15	0.01	−0.00	−0.02	−0.10	0.22	0.05	0.04	0.23	0.23	0.22	0.25	0.33	0.15	1.00	
31. Female CEO	0.003	0.06	0.09	0.07	0.08	0.23	−0.04	0.02	0.12	−0.00	−0.00	−0.02	−0.01	−0.01	−0.03	−0.02	−0.01	−0.02	−0.01	0.00	0.04	0.04	0.05	−0.01	0.02	0.04	0.04	0.05	0.03	0.03	0.13	0.11	1.00

Note: Correlations above the value 0.04 or below the value −0.04 are significant at the level of $p < 0.05$.

Table 2. Comparison of Human Capital and Firm Variables by Gender

	Full sample of executives			*Executives hired through the external labor market (ELM)*		
	% Male executives in the occupation (n = 2,426)	*% Female executives in the occupation (n = 174)*		*% Male executives hired through the ELM in the occupation (n = 1,012)*	*% Female executives hired through the ELM in the occupation (n = 67)*	
Human capital						
Occupation title						
CEO/chair	98.02	1.97		99.56	0.43	
Vice chair	100	0		100.00	0.00	
President	98.89	1.10		99.32	0.67	
Chief financial officer (CFO)	92.02	7.97		95.43	4.56	
Chief operating officer (COO)	97.24	2.75		90.47	9.52	
Other chief officer	86.95	13.04		83.33	16.66	
Executive vice president (VP)	91.68	8.31		89.89	10.10	
Senior VP	93.01	6.98		94.34	5.65	
Group VP	81.42	18.57		81.25	18.75	
VP	91.31	8.68		89.90	10.09	
Other	93.53	6.46		95.00	5.00	
	All male executives (mean)	All female executives (mean)	*p*	Male executives hired through the ELM (mean)	Female executives hired through the ELM (mean)	*p*
Age	51.87	49.38	***	51.81	49.95	*
Firm tenure	10.21	8.67	*	4.92	2.94	***
Job tenure	3.95	3.06	**	3.90	2.76	*
Firm variables						
Firm size (log)	9.44	9.40		9.20	9.05	
Firm size	29,820.46	40,769	**	27,071.34	22,116.91	
ROA	6.20	10.56	*	3.66	4.43	

Note: Means for men and women are significantly different at the following levels: ***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

Female executives work for companies with significantly higher accounting performance, an important determinant of executive compensation. Analyzing the subsample of executives hired through the ELM, however, we see no significant difference in firm size and corporate performance between female and male executives' companies.

Table 3 shows regression results examining the effect of using the ELM to recruit executives based on total direct compensation. The models include an additional set of variables at each stage. First, we enter the main independent variables regarding whether recruitment was through the ELM (model 1 in Table 3). Then, we use hierarchical regression analysis to incorporate the control variables for human capital, firm characteristics, and organizational practices in models 2 and 3.

Consistent with Hypothesis 1, coefficients in Table 3 show that female executives encounter a significant disadvantage in total direct compensation if hired through the ELM, after accounting for control variables (the negative effect amounts to 46.2% of compensation in model 3). The variable "female executive" has a positive effect ($b = 0.241$, $p < 0.05$ in model 3). That is, after controls, female executives have higher total compensation than do men, but this advantage is significantly reduced if the woman is an outside hire. Thus, the main comparison effects are between females who are external hires and those who are internal placements.

We ran an additional model that confirms this result relates to a premium in compensation associated with the ILM for female executives. Notice that model 1 in Table 3 as well as models 1 and 2 in Table 4 show that, in general, externally hired executives are paid less than those promoted internally. This result contrasts with previous research on samples of employees and CEOs (e.g., Harris and Helfat 1997; Murphy and Zábojník 2004; Bidwell 2011). Nevertheless, after controlling for firm characteristics and organizational practices, the variable "executive hired through the ELM" loses significance.

Among the control variables (Table 3, model 3), firm size has a relevant and significant positive effect on executive compensation, confirming that larger companies pay better than smaller ones (Brett and Stroh 1997; Renner et al. 2002): larger firms employ better-qualified and better-paid managers (Kostiuk 1990; Muñoz-Bullón 2010). ROA also has a positive impact on total compensation, as expected (Muñoz-Bullón 2010). Both firm and job tenure, reflecting experience (Muñoz-Bullón 2010; Kulich et al. 2011), are associated with higher total compensation. Three organizational practices positively influence executive pay: the promotion of positive discrimination, the existence of a work–life balance policy, and support for employee skill training or career development.

Table 4 presents analyses testing Hypothesis 2. Models 1 and 4 contain the main independent variables. A negative, significant coefficient occurs for the variable of female executive hired through the ELM. After including control variables, such a coefficient remains significant in models 3 and 6.

Table 3. GEE Regression Results on Total Direct Compensation

	Total Direct Compensation (log TDC2)					
	Model 1		*Model 2*		*Model 3*	
Female executive	0.097	(0.107)	0.315**	(0.101)	0.241*	(0.093)
Executive hired through the ELM	−0.112*	(0.044)	−0.045	(0.050)	0.055	(0.047)
Female executive hired through the ELM (interaction: female executive × executives hired through the ELM)	−0.587**	(0.173)	−0.554**	(0.157)	−0.462**	(0.145)
Human capital						
Occupation title						
CEO/chair			0.834***	(0.086)	0.874***	(0.079)
Vice chair			−0.220	(0.161)	−0.263	(0.149)
President			0.031	(0.074)	0.053	(0.068)
Chief financial officer (CFO)			0.025	(0.054)	0.031	(0.050)
Chief operating officer (COO)			0.214*	(0.101)	0.328***	(0.093)
Other chief officer			0.045	(0.082)	0.142	(0.076)
Executive vice president (VP)			0.018	(0.074)	−0.044	(0.069)
Senior VP			−0.245**	(0.081)	−0.119*	(0.075)
Group VP			0.031	(0.138)	−0.029	(0.127)
VP			−0.630***	(0.089)	−0.420***	(0.082)
Other			−0.274**	(0.095)	−0.317***	(0.088)
Age			0.010**	(0.003)	0.003	(0.003)
Firm tenure			0.009**	(0.003)	0.008***	(0.003)
Job tenure			0.000	(0.005)	0.010*	(0.005)
Firm variables						
Firm size (log)					0.211***	(0.016)
ROA					0.004***	(0.000)
Organizational practices						
Existence of a diversity and equal opportunity policy					−0.045	(0.060)
Promotion of positive discrimination					0.101*	(0.049)
Existence of a work–life balance policy					0.224***	(0.045)
Provision of flexible working hours or working hours that promote a work–life balance					−0.062	(0.053)
Support for employee skill training or career development					0.198***	(0.047)
Provision of regular staff and business management training for its managers					−0.025	(0.045)
Constant	7.897***	(0.028)	7.169***	(0.176)	5.177***	(0.216)
N (executive-year observations)	2,561		2,424		2,333	
Wald chi-square	26.05***		652.18***		1309.45***	

Notes: ELM, external labor market. Standard errors are in parentheses. After controls, female executives have higher total compensation than do men, but this advantage is significantly reduced if the woman is an outside hire. Thus, the main comparison effects are between females who are external hires and those who are internal placements.

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$ (two-tailed test).

Table 4. GEE Regression Results on Base Salary and Variable Pay

	Base salary (log)						*Variable pay (log (TDC2 – Base salary))*					
	Model 1		*Model 2*		*Model 3*		*Model 4*		*Model 5*		*Model 6*	
Female executive	−0.022	(0.052)	0.083	(0.048)	0.048	(0.042)	0.179	(0.144)	0.385**	(0.143)	0.269*	(0.134)
Executive hired through the ELM	−0.053*	(0.021)	−0.053*	(0.024)	−0.008	(0.021)	−0.107	(0.059)	−0.053	(0.071)	0.071	(0.068)
Female executive hired through the ELM (interaction: female executive× executives hired through the ELM)	−0.205*	(0.084)	−0.190*	(0.075)	−0.142*	(0.066)	−0.722**	(0.232)	−0.697**	(0.224)	−0.536*	(0.211)
Human capital												
Occupation title												
CEO/chair			0.402***	(0.041)	0.422***	(0.036)			0.913***	(0.123)	0.991***	(0.115)
Vice chair			−0.063	(0.076)	−0.077	(0.068)			−0.371	(0.232)	−0.370	(0.219)
President			0.059	(0.035)	0.095**	(0.031)			−0.055	(0.105)	−0.028	(0.099)
Chief financial officer (CFO)			−0.001	(0.026)	0.003	(0.023)			0.015	(0.077)	0.029	(0.072)
Chief operating officer (COO)			0.037	(0.048)	0.086*	(0.042)			0.147	(0.142)	0.313*	(0.135)
Other chief officer			0.030	(0.039)	0.072*	(0.034)			0.077	(0.116)	0.223*	(0.110)
Executive vice president (VP)			0.023	(0.035)	−0.016	(0.031)			0.079	(0.106)	0.019	(0.099)
Senior VP			−0.158***	(0.038)	−0.093**	(0.034)			−0.214	(0.115)	−0.047	(0.108)
Group VP			−0.095	(0.065)	−0.126*	(0.057)			0.148	(0.194)	0.097	(0.182)
VP			−0.348***	(0.042)	−0.238***	(0.037)			−0.681***	(0.126)	−0.418***	(0.119)
Other			−0.080	(0.045)	−0.097*	(0.040)			−0.259	(0.135)	−0.288*	(0.127)
Age			0.008***	(0.001)	0.004**	(0.001)			0.013*	(0.004)	0.005	(0.004)
Firm tenure			0.000	(0.001)	−0.001	(0.001)			0.005	(0.004)	0.008	(0.004)
Job tenure			0.001	(0.002)	0.007**	(0.002)			−0.018*	(0.007)	−0.008	(0.007)
Firm variables												
Firm size (log)					0.124***	(0.007)					0.255***	(0.023)
ROA					0.000*	(0.000)					0.007***	(0.001)

(continued)

Table 4. Continued

	Base salary (log)						*Variable pay (log (TDC2 – Base salary))*					
	Model 1		*Model 2*		*Model 3*		*Model 4*		*Model 5*		*Model 6*	
Organizational practices												
Existence of a diversity and equal opportunity policy					−0.039	(0.027)					−0.047	(0.086)
Promotion of positive discrimination					0.028	(0.022)					0.057	(0.071)
Existence of a work–life balance policy					0.103***	(0.020)					0.270	(0.065)
Provision of flexible working hours or working hours that promote a work–life balance					−0.029	(0.024)					−0.088	(0.077)
Support for employee skill training or career development					0.087***	(0.021)					0.261	(0.068)
Provision of regular staff and business management training for its managers					0.033	(0.020)					−0.028	(0.066)
Constant	6.281***	(0.014)	5.821***	(0.084)	4.637***	(0.090)	7.508***	(0.038)	6.657***	(0.250)	4.224***	(0.312)
N (executive-year observations)	2,564		2,427		2,347		2,550		2,413		2,322	
Wald chi-square	21.94***		777.42***		1614.28		17.58***		337.32***		788.63***	

Notes: ELM, external labor market. Standard errors are in parentheses.
***$p < 0.001$; **$p < 0.01$; *$p < 0.05$ (two-tailed test).

Also, the compensation penalty for female executives hired through the ELM is larger for variable pay ($b = 0.536$) than for base salary ($b = 0.142$), confirming Hypothesis 2. Externally recruited women made less in variable pay than their male counterparts, even after considering occupation, age, tenure, firm characteristics, and organizational practices.

To test Hypothesis 3, we conduct regression analyses relating women's representation in top executive levels to base salary and variable compensation. The results appear in Table 5.

The gender penalty for female executives hired through the ELM loses significance for base salary (see model 1) and is reduced for variable compensation, but remains significant after the inclusion of female representation. (The gap falls by about 20%, from −0.536 to −0.446 as model 3 in Table 5 shows.) For fixed and variable components of compensation, only two practices have a statistically significant effect on variable pay: the existence of a work–life balance policy and support for employee skill training or career development. Models 2 and 4 in Table 5 include the interaction terms between the significant variables related to female representation (the percentage of women in the TMT and on the board) and female executives hired through the ELM. The results indicate that such interactions are not statistically significant. Hence, women's representation variables do not seem to have a moderating effect.

To understand these results better, we run supplementary analyses that offer suggestive evidence for Hypothesis 3. As shown in Table 6, we separate the base salary and variable pay of executives recruited through the ELM by gender. This exploration offers a more accurate and direct analysis about how the different measures of representation of women in top positions separately influence the variable compensation for men and women. For externally hired executives, the presence of women on the board has a significant impact on the base salary of both women and men. Nevertheless, the value of the coefficients is very close to zero. Note that for the variable pay of externally recruited female executives, the coefficient of the percentage of women in the TMT is positive and significant. By contrast, the percentage of women in the TMT and as CEO have a negative and significant influence on compensation for their male counterparts. Consistent with Hypothesis 3, a higher level of female representation in top positions may represent a useful mechanism to reduce the gender gap in the compensation component, for which the penalty is larger.

Finally, to check the robustness of our results, we include in all previously estimated models a control regarding the gender composition of the executive occupations, measured by the proportion of women in each occupation. This analysis should help identify whether a potential source of the differential treatment is the devaluation of individual women relative to men in the same occupation (Elvira and Graham 2002). The results (available on request) show that such control is not significant and does not alter our prior findings, perhaps because women are underrepresented in all

Table 5. GEE Regression Results on Base Salary and Variable Pay (log) with Female Representation Variables

	Base salary (log)				*Variable pay (log (TDC2 – Base salary))*			
	Model 1		*Model 2*		*Model 3*		*Model 4*	
Female executive	−0.007	(0.046)	−0.004	(0.046)	−0.002	(0.145)	0.002	(0.146)
Executive hired through the ELM	0.000	(0.021)	0.000	(0.021)	0.107	(0.068)	0.107	(0.068)
Female executive hired through the ELM (interaction: female executive × executive hired through the ELM)	−0.129	(0.067)	−0.251	(0.165)	−0.446*	(0.212)	−0.505	(0.524)
Human capital								
Occupation title								
CEO/chair	0.405***	(0.037)	0.405***	(0.037)	0.998***	(0.119)	0.999***	(0.118)
Vice chair	−0.090	(0.072)	−0.090	(0.072)	−0.311	(0.230)	−0.312	(0.230)
President	0.095**	(0.032)	0.093**	(0.032)	−0.052	(0.100)	−0.056	(0.100)
Chief financial officer (CFO)	0.005	(0.023)	0.004	(0.023)	0.040	(0.073)	0.039	(0.073)
Chief operating officer (COO)	0.079	(0.043)	0.079	(0.044)	0.327*	(0.137)	0.335*	(0.138)
Other chief officer	0.072*	(0.035)	0.071*	(0.035)	0.263*	(0.111)	0.264*	(0.111)
Executive vice president (VP)	−0.020	(0.032)	−0.021	(0.032)	0.031	(0.101)	0.029	(0.101)
Senior VP	−0.097**	(0.035)	−0.097**	(0.035)	−0.013	(0.110)	−0.015	(0.110)
Group VP	−0.149*	(0.058)	−0.151*	(0.058)	0.050	(0.183)	0.047	(0.183)
VP	−0.227***	(0.038)	−0.229***	(0.038)	−0.326**	(0.120)	−0.330**	(0.120)
Other	−0.094*	(0.041)	−0.094*	(0.041)	−0.241	(0.128)	−0.241	(0.128)
Age	0.004	(0.001)	0.004**	(0.001)	0.004	(0.004)	0.004	(0.004)
Firm tenure	−0.000	(0.001)	−0.000	(0.001)	0.011*	(0.004)	0.011*	(0.004)
Job tenure	0.007**	(0.002)	0.007**	(0.002)	−0.007	(0.007)	−0.007	(0.007)
Firm variables								
Firm size (log)	0.126***	(0.007)	0.126***	(0.007)	0.267***	(0.024)	0.265***	(0.024)
ROA	0.000*	(0.000)	0.000*	(0.000)	0.007***	(0.001)	0.007***	(0.001)
Organizational practices								
Existence of a diversity and equal opportunity policy	−0.043	(0.027)	−0.043	(0.027)	−0.079	(0.087)	−0.079	(0.087)
Promotion of positive discrimination	0.021	(0.023)	0.022	(0.023)	0.031	(0.072)	0.029	(0.072)
Existence of a work–life balance policy	0.102***	(0.020)	0.102***	(0.020)	0.257***	(0.065)	0.258***	(0.065)

(continued)

Table 5. Continued

	Base salary (log)				*Variable pay (log (TDC2 – Base salary))*			
	Model 1		*Model 2*		*Model 3*		*Model 4*	
Provision of flexible working hours or working hours that promote a work–life balance	−0.037	(0.024)	−0.037	(0.024)	−0.107	(0.077)	−0.100	(0.077)
Support for employee skill training or career development	0.081***	(0.022)	0.082***	(0.022)	0.227**	(0.077)	0.221**	(0.070)
Provision of regular staff and business management training for its managers	0.019	(0.021)	0.019	(0.021)	−0.110	(0.067)	−0.110	(0.067)
Female representation variables								
F1: Percentage of women in the TMT	0.002*	(0.000)	0.002*	(0.000)	0.008**	(0.002)	0.009**	(0.002)
F2: Percentage of women on the board	0.003**	(0.001)	0.003**	(0.001)	0.016***	(0.003)	0.015***	(0.003)
F3: Female CEO	0.105	(0.156)	0.078	(0.159)	0.340	(0.490)	0.295	(0.498)
Moderating effects of female representation variables								
Interaction: F1 × female executives hired through the ELM			0.001	(0.005)			−0.006	(0.016)
Interaction: F2 × female executives hired through the ELM			0.005	(0.006)			0.015	(0.019)
Constant	4.642***	(0.102)	4.658	(0.102)	3.920***	(0.319)	3.947	(0.321)
N (executive-year observations)	2,282		2,282		2,270		2,270	
Wald chi-square	1763.03***		1764.83***		834.33***		835.54***	

Notes: ELM, external labor market. Standard errors are in parentheses.
***$p < 0.001$; **$p < 0.01$; *$p < 0.05$ (two-tailed test).

Table 6. GEE Regression Results on Variable Pay (log) of Executives Hired through the ELM

	Base salary of female executives hired through the ELM		*Base salary of male executives hired through the ELM*		*Variable pay of female executives hired through the ELM*		*Variable pay of male executives hired through the ELM*	
Human capital								
Occupation title								
CEO/chair	0.166*	0.071	0.055***	(0.015)	−0.021	(0.105)	1.403***	(0.293)
Vice chair	—		−0.037	(0.032)	−0.071	(0.204)	−0.839	(0.570)
President	—		0.025*	(0.012)	0.018	(0.089)	−0.292	(0.249)
Chief financial officer (CFO)	0.000	(0.020)	0.001	(0.009)	−0.045	(0.064)	0.220	(0.180)
Chief operating officer (COO)	0.269***	(0.055)	−0.000	(0.018)	0.148	(0.121)	−0.326	(0.339)
Other chief officer	−0.023	(0.019)	0.017	(0.015)	0.279**	(0.098)	−0.226	(0.274)
Executive vice president (VP)	0.244***	(0.047)	0.002	(0.013)	0.196*	(0.090)	−0.386	(0.251)
Senior VP	0.210***	(0.050)	−0.003	(0.013)	0.131	(0.098)	−0.386	(0.273)
Group VP	0.174**	(0.055)	−0.006	(0.030)	0.106	(0.162)	−0.976*	(0.452)
VP	0.193***	(0.049)	−0.024	(0.016)	0.266*	(0.106)	−0.613*	(0.298)
Other	0.310***	(0.064)	−0.009	(0.016)	0.093	(0.113)	0.020	(0.317)
Age	−0.002	(0.001)	0.001*	(0.000)	0.001	(0.003)	0.081***	(0.010)
Firm tenure	0.001	(0.003)	0.002*	(0.001)	−0.018***	(0.003)	−0.285***	(0.009)
Job tenure	0.002	(0.004)	−0.001	(0.001)	0.008	(0.006)	0.069***	(0.018)
Firm variables								
Firm size (log)	0.021*	(0.008)	0.015***	(0.003)	−0.003	(0.021)	−0.023	(0.061)
ROA	−0.000	(0.000)	0.000**	(0.000)	−0.001	(0.001)	−0.004	(0.002)

(continued)

Table 6. Continued

	Base salary of female executives hired through the ELM		*Base salary of male executives hired through the ELM*		*Variable pay of female executives hired through the ELM*		*Variable pay of male executives hired through the ELM*	
Organizational practices								
Existence of a diversity and equal opportunity policy	−0.014	(0.029)	−0.002	(0.010)	−0.080	(0.077)	0.014	(0.216)
Promotion of positive discrimination	−0.010	(0.019)	0.033	(0.018)	0.017	(0.064)	0.249	(0.180)
Existence of a work–life balance policy	0.021	(0.016)	−0.003	(0.007)	−0.092	0.058	0.171	(0.162)
Provision of flexible working hours or working hours that promote a work–life balance	0.007	(0.017)	−0.012	(0.009)	0.021	(0.068)	−0.352	(0.190)
Support for employee skill training or career development	0.025	(0.021)	0.023**	(0.008)	0.163	(0.061)	0.167	(0.172)
Provision of regular staff and business management training for its managers	0.019	(0.020)	0.009	(0.008)	−0.095	(0.060)	−0.029	(0.167)
Female representation variables								
Percentage of women in the TMT	0.000	(0.000)	−0.000	(0.000)	0.026***	(0.002)	−0.036***	(0.006)
Percentage of women on the board	0.003***	(0.000)	0.000*	(0.000)	−0.003	(0.003)	−0.006	(0.008)
Female CEO	—		—		0.805	(0.424)	−2.437*	(1.184)
Constant	1.396	(0.087)	1.568	(0.038)	0.048	(0.281)	1.950**	(0.785)
N (executive-year observations)	67		1,012		67		1,012	
Wald chi-square	139.06***		332.54***		233.18***		324.72***	

Notes: ELM, external labor market. Standard errors are in parentheses. The symbol "—" represents coefficients omitted by STATA.
***$p < 0.001$; **$p < 0.01$; *$p < 0.05$ (two-tailed test).

occupations. (The highest proportion in an occupation is 18.57%, as seen in Table 2.) Moreover, we check whether different shares of variable pay for women and men could explain gender pay disparities at the executive level. We estimate variable compensation as a proportion of total pay independently for female and male executives. The share of variable pay for women is 76.90% while for men it is 78.40%. The difference is not statistically significant. Because the three female representation variables could be correlated with an unobservable variable related to the likelihood of there being females in top positions, we estimate models 2 and 4 in Table 5, adding female proportion variables and their interactions with the variable female executives hired through the ELM separately. (Results available on request.) The three female representation measures remain positive and significant but their interaction effects are not significant. Thus, the previous results are confirmed.

Additional analyses focusing on a subsample of executives who have remained in their job for at least five years (n = 678) show no gender gap with base salary or variable pay. (Results available on request.) Additionally, running the models in Table 6, we confirm that the presence of women in the TMT positively influences fixed and variable compensation of female executives hired externally but has a negative effect on both for their male counterparts. This finding seems to confirm that female representation in TMTs may reduce executive gender pay gaps in the long term, after a threshold of tenure in the job has been reached. Nevertheless, we are cautious about generalizing this result because the subsample represents only 26.07% of the full study sample.

Discussion and Conclusion

Limited research attention has been paid to the relationship between the increasing influence of the ELM and the gender wage gap, especially at the top executive level where the gap seems most persistent. We examine this relationship, considering also the effects of the levels of female representation at the top of the firms. We find that ELM hiring has a negative and significant effect on total direct compensation for female executives. Our findings are consistent with prior evidence that female managers benefit less than male managers do from ELM career strategies (Brett and Stroh 1997; Dreher and Cox 2000; Lam and Dreher 2004). Additional analyses show that women encounter a premium in total pay when promoted through the ILM. This result confirms the analysis of Gayle et al. (2012), who found that female executives' pay depends more on rank, background, and experience. The advantage for female executives in the ILM is attributable to differential promotion rates, as women are promoted more quickly than men; also, treatment of men and women becomes more equal as seniority increases (Petersen and Saporta 2004; Gayle et al. 2012). Based on the theory of incomplete information, we surmise that significant

differences occur in the mechanism governing internal versus external labor markets. Different forms of mobility lead to different employment outcomes (Bidwell 2011). Formalized pay processes within the ILM and accumulated personnel information tend to favor compensation for female executives. The fact that more performance-relevant information is available probably explains why inequality diminishes (Petersen and Saporta 2004). The lower performance and skill information and the amount of discretion in setting salaries through the ELM appear to widen the gender pay gap among executives. This finding is consistent with recent evidence that, for highly qualified women, formal hiring practices reduce the gender wage gap (Abendroth, Melzer, Kalev, and Tomaskovic-Devey 2015).

Note that the gender gap for total compensation of externally hired executives is mainly because of differences in variable pay awards, as reported in prior studies below the executive suite (Elvira and Graham 2002; Muñoz-Bullón 2010; Elkinawy and Stater 2011). The gap identified in our study cannot be explained by the segregation of women into smaller or less profitable companies: there were no significant differences in firm size for female and male executives hired externally. Likewise, corporate performance fails to explain the gender wage gap between executives hired through the ELM. This fact is inconsistent with the glass cliff theory, which predicts that women and other occupational minorities are more likely to occupy leadership positions in organizations that are struggling, in crisis, or at risk of failing (Ryan and Haslam 2007; Cook and Glass 2014). Our results, however, fit other empirical evidence demonstrating that no significant relationship is found between company profitability and the gender of the CEO and directors (Adams, Gupta, and Leeth 2009; Elsaid and Ursel 2011). The earnings gap may result from the opportunity for differential treatment that variable compensation affords. Women are considered more risk-averse than men, so they may be expected to negotiate their base salary more forcefully than their stock-based compensation (Muñoz-Bullón 2010). Additionally, a potential source of this differential treatment could be the devaluation of individual women relative to men in the same job (Elvira and Graham 2002). The theory of devaluation, considered at the individual level, suggests that social roles and skills associated with women are devalued in relation to characteristics associated with men (Steinberg 1990; England 1992). That subjective valuation in society is institutionalized in the wage-setting processes. Firms may pay individual executives based on the perceived productivity of their gender groups, with women viewed as being less productive than men. Hence, a devaluation perspective may explain inequality associated with variable pay, which affords a structural opportunity for differential treatment of male and female executives.

Regarding the compensation component when the gender gap is larger, our findings suggest that the presence of women in the TMT positively influences the variable pay of externally hired female executives, while it has a negative impact on that of their male counterparts. Female CEOs also

appear to be associated with lower compensation for male executives hired through the ELM. We interpret this result as evidence that the executive gender pay gap narrows, and it may reflect homophily among women to men's disadvantage (Elliott and Smith 2004). This result is consistent with in-group biases explained by social identity and demographic similarity theories, as well as with previous empirical evidence that higher female representation among managers and CEOs relates to lower gender inequality (Kalev et al. 2006; Cohen and Huffman 2007) and, in particular, a lower gender gap in compensation (Bell 2005; Shin 2012). It seems that women evaluate other women more favorably than men do. Additionally, women in organizations with a higher proportion of female managers may have greater bargaining power and so be more effective at negotiating employment terms (Beckman and Phillips 2005; Cohen and Broschak 2013). Finally, networks may advance women's conditions if they have more social ties with women than with men (Bell 2005). As a result, inequality might be alleviated.

It is possible that other unmeasured variables account for the results, such as the reputation of companies or research institutions where the executive worked previously, the specific recruitment methods used in the ELM, and the potential gender difference in the compensation negotiation process. Future research using questionnaires or other sources of information containing data on these variables would help address this question.

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