The Impact of Stock Purchase Plan Participation on Workers' Individual Cash Compensation

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This study investigates if stock purchase plan participation within an organization leads to (1) an increase in workers' individual cash compensation through enhanced individual job performance and (2) an increase in individual cash compensation beyond the cash compensation increase obtained through enhanced individual job performance. The sample consists of 5385 worker-year observations from a major financial institution. Results are consistent with the study's two hypotheses.

The widespread adoption of broad-based variable-compensation plans, with payouts that are contingent on business unit or organizational performance, are key in recent developments in compensation practices among North American firms (e.g., Chaykowski and Lewis 1995; Henderson 2000; Heneman, Ledford, and Gresham 2000; Long 1998; Martocchio 1998; McAdams 1996; Milkovich and Newman 2002; Zingheim and Schuster 2000). Broad-based variable compensation plans covering an important part, if not all, of the workforce of a particular firm are often put forward as a critical competitive tool to improve organizational performance (e.g., Chingos and KPMG Peat Marwick LLP 1997; Wilson 1999).

Today, stock purchase plans (SPPs) are the most prevalent form of employee ownership plans. In the United States, a survey by the National Association of Stock Plan Professionals (Sussman 1997) showed that 55 percent of sample firms offer a broad-based SPP. Findings from a survey by

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Arthur Andersen's Human Capital Services Group revealed that more than one-third of the largest firms in North America, Europe, and Asia offer some kind of global share plan to all their workers. It also seems that top management in many firms intends to introduce such a plan in the near future (Klaus 2000). Moreover, findings from PriceWaterhouseCoopers surveys indicate that broad-based SPPs are gaining ground compared with profit-sharing and stock-ownership plans (Hansen 1998). In Canada, a Conference Board survey (Isaac 1995) showed that approximately 54 percent of firms listed on the stock exchange offer an SPP and that for a large majority of these plans (80 percent), more that 50 percent of the workforce is eligible.

Under an SPP, workers can purchase, under favorable terms, common shares of the firm within a given time frame and at a given price, to be paid immediately or in installments. Shares provided to workers can be purchased either from the firm itself (i.e., treasury shares) or on the stock market. In the latter case, stock purchases are done through a trustee. SPPs can take many forms. For example, a firm can offer all workers with at least 1 year of seniority the option to purchase shares for a value of up to 6 percent of their salary, with the firm contributing between 25 and 85 percent of the purchase price depending on the firm's earnings. Under other plans, the firm's contribution is independent of its earnings; these plans then resemble a savings plan. Under most SPPs, workers immediately have the right to receive dividends and exercise voting privileges. Typically, most of a firm's employees are eligible for its SPP.

Surprisingly, despite their widespread adoption across North America, there are few studies on the organizational and employee outcomes of SPPs. Most of the evidence is about employee stock ownership plans (ESOPs), a form of employee ownership plan that has particular tax and legal attributes that actually constrain employees' discretion and ability to derive cash benefits from ownership [for further details, see Lawler, Mohrman, and Ledford (1998)]. To the best of our knowledge, this study is the first to investigate whether workers within an organization that rewards individual job performance gain a positive compensation outcome by joining an SPP.

Empirical Evidence: The Effectiveness of Employee Ownership Plans (EOPs)

Research on the impact of EOPs, including SPPs, has focused on either their *perceived* or their *objective* impact on employee attitudes and behavior, as well as on their impact on various measures of firm performance (see reviews by Ben-Ner and Jones 1995; Jones, Kato, and Pliskin 1997; Kruse

and Blasi 1997; Pendleton, Wilson, and Wright 1995). Empirical findings suggest that EOPs have a positive impact on employees' attitudes and behaviors, especially in terms of involvement and identification with the organization's goal. As for the impact of EOPs on firm performance, empirical results, while mixed, indicate that the adoption of an EOP is likely to lead to positive organizational outcomes, especially in smaller firms (e.g., see Kruse's 1993 review), this impact traditionally being attributed to more positive employee attitudes, behaviors, and job performance. However, after reviewing 29 studies, Kruse and Blasi (1997:144) concluded that "There is no automatic connection between employee ownership and firm productivity or profitability. . . . While several studies indicate better or unchanged performance under employee ownership, almost no studies find worse performance." Heneman, Ledford, and Gresham (2000) observed that the more disappointing results are not surprising given that the actual intent of most employees stock ownership plans is to raise capital, not to raise labor productivity. These views echo arguments that were raised earlier by researchers pointing out that it is difficult to differentiate between the job performance of workers who are and are not shareholders (Dunn, Richardson, and Dewe 1991; Keef 1998; Long 1982). In addition, it is still unclear whether workers benefit economically from their potential improved individual performance following their participation in an EOP.

To the best of our knowledge, only Blasi, Conte, and Kruse (1996) have examined whether organizations with an EOP have higher wage expenses than organizations without it. Comparing a sample of 562 publicly held firms that have some degree of employee ownership with 4716 publicly held firms with no employee ownership, they reported that firms with EOPs have higher value-added and compensation per employee than firms without EOPs. However, in the period under consideration (i.e., 1980–1990), there was no difference between firms' growth rates for these two measures in either sample. In addition, these researchers found that firms with EOPs attained higher profitability growth rates than firms without EOPs. In light of these findings, Blasi, Conte, and Kruse (1996) tentatively concluded that firms with high value-added and compensation per employee are more likely to adopt an EOP.

While the evidence provided by Blasi, Conte, and Kruse (1996) suggests that workers in firms with EOPs are rewarded for their contribution to organizational performance, it is tentative at best. First, these researchers relied on organization-level measures of firm performance and employees' compensation. Thus there is no direct evidence that following EOP participation an employee's enhanced individual job performance leads to a positive compensation individual outcome. Microdata at the individual

employee level would be required for such an explicit assessment. Second, Blasi, Conte, and Kruse essentially relied on a cross-sectional design; i.e., they compared sample firms on the basis of whether EOPs were present or not. It is thus difficult to assess workers' outcomes as a result of the EOP (the causality link): Do firms with an EOP achieve higher levels of performance while providing their workers with higher wages, or do firms with high levels of performance and employee compensation tend to adopt EOPs? Third, their sample consisted of firms that had different types of EOPs and were active in different industries. However, one would expect different EOP specifications to affect workers' behavior in different ways. Furthermore, pay structures as well as the relationship between workers' contribution and ultimate organizational performance vary across firms and across industries, thus making it difficult to draw a strong conclusion about the within-firm impact of EOP participation (Raviv 1985). For instance, in a unionized setting, it is unlikely that an employee's enhanced individual contribution to firm performance would translate directly into higher compensation for that employee. In fact, the mixed findings evidenced by Blasi, Conte, and Kruse regarding workers' outcomes from EOP participation may be driven by their multifirm and multi-industry approach.

In summary, based on previous research results, we can only conclude that the issue of workers' compensation individual outcomes as a result of EOP participation is still unresolved.

Theoretical Framework and Hypotheses

Workers' Stock Purchase Plan (SPP) Participation and Individual Compensation: An Individual Performance Perspective. Both agency theory and high-performance-cycle theories imply that any link between SPP participation and workers' individual compensation is derived from enhanced individual performance.

Agency theory. In an agency setting, a person, the principal, contracts with another person, the agent, to act on his or her behalf in return for some reward (Calvo 1987; Fama and Jensen 1983; Stiglitz 1987). While the theory is currently based on an owner-manager context, some have suggested that agency theory prescriptions be extended to manager-worker (supervisor-subordinate) relations (Ashton 1991; Ogden 1993). The premise behind agency theory is that compensation contracts predetermine the effort workers make and ultimately the performance of organizations. More specifically, this theory argues that the implementation of an incentive

compensation plan based on a firm's value, such as an SPP, ensures that workers' interests converge toward value creation and ultimately determine their work behavior, e.g., as a result of less shirking.

However, an incentive compensation contract will change workers' behavior only to the extent that the performance measure on which it is based adequately reflects their on-the-job effort and contribution (Holmstrom 1979). If the relation between an employee's work effort and the performance measure used for contractual purposes is random or unsystematic, then the compensation contract is likely to have less effect on work behavior. More specifically, if the outcome workers receive as a result of SPP participation is tied to the firm's future and highly uncertain share value appreciation, the increase in their on-the-job effort and contributions will be limited. The problem of free riders, prevalent in large organizations, also may prevent some workers from substantially increasing their individual contribution if they perceive that workers who either shirk or exert less effort also will benefit from share value appreciation (Gerhart, Minkoff, and Olsen 1995; Weitzman and Kruse 1990). Under an SPP, workers are not directly rewarded for their enhanced individual contribution because the gains they derive from their participation in such a plan come from their financial investment in the firm. Other owners receive similar returns on their investment, even if they do not provide any individual contribution to an organization's success. Furthermore, in a broad-based EOP within a large organization, any relation between an employee's individual contribution and ultimate returns from an EOP is tenuous at best and almost unobservable for all workers. In summary, all previous issues may prevent workers from receiving rewards that they deem consistent with their individual contribution.

High-performance-cycle theories. Locke and Latham (1990:260–1) proposed that work motivation theories be integrated into a comprehensive framework—the high-performance cycle. Their core concept is a goal-setting theory (Locke 1968), which they complement with expectancy (Vroom 1964) and self-efficacy (Bandura 1982) theories. The high-performance cycle implies that a specific and challenging goal is most effective on employee behavior and actions when (1) the individual has a high degree of self-efficacy and ability, (2) there is a commitment to the goal, (3) there is feedback about progress toward the goal, (4) the task is simple, and (5) there are no blocks to performance. Therefore, rewards modify workers' behavior by influencing their commitment to particular work goals (Locke, Latham, and Erez 1988). If workers do not believe that they can attain their work goals, their commitment to them will be low. The key driver in workers'

assessment of goal attainment is the temporal proximity of the goals being evaluated. For instance, Barden and Ford (1991) asserted that by focusing attention on "controllable short-term goals," i.e., proximal subgoals that seem attainable with a manageable degree of effort, organizations may reduce the demotivating impact of uncertainty about personal capabilities and environmental responsiveness. These proximal subgoals are associated with positive capability and context beliefs and a high probability of generating encouraging feedback (Bandura 1986; Bandura and Schunk 1981).

However, one could argue that the goals and rewards to be derived from an EOP are too far removed from workers' actions. Such broad-based, long-term compensation plans can make it difficult for workers to see how their own performance can make a difference, undermining the perceived effort-performance link (Lawler and Jenkins 1992; Locke et al. 1980). In the short run, before workers receive any payout from the EOP, they may become less motivated to increase their effort or contribution as a result of this lack of proximity. A compensation plan that caters to workers' short-term goals and that rewards them according to their individual work contributions is argued to be more effective in this regard (Levine 1995; Huselid 1995; Pfeffer 1998; Helper, Levine, and Bendoly 2002). For most workers—with the exception of top executives—a clear, simple, and observable relationship between individual or collective efforts and the organization's stock market performance (line of sight) is lacking.

Consistent with both agency and high-performance theories, we expect an SPP to be effective in modifying workers' job efforts and contribution to the extent that workers perceive that there is a link between their individual performance and their firm's stock market performance. While such an improvement in workers' individual performance is beneficial to the organization in the short run, its impact on workers' monetary rewards is uncertain. However, some organizations do reward individual performance through compensation plans such as merit pay. Within such organizations, we expect SPP participation to have an indirect impact on a worker's individual cash compensation as SPP-driven individual performance improvements translate into compensation increases. Therefore, within an organizational setting where individual performance is rewarded, SPP participation increases workers' individual compensation through the mediating effect of employee individual performance. Accordingly, we propose to test the following indirect link between SPP participation and individual compensation:

Hypothesis 1: Within an organizational setting where workers' individual performance is rewarded, SPP participation leads to an increase in workers' individual cash compensation through enhanced individual job performance.

Workers' SPP Participation and Individual Compensation: An Informational Perspective. A more comprehensive theoretical framework incorporating other perspectives may be needed to assess how SPP participation affects workers' cash compensation. This section is aimed at presenting theories that may explain the existence of a *direct* link between SPP participation and workers' compensation, namely, organizational citizenship behavior, impression management, and signaling-screening theories.

Organizational citizenship behaviors theory. Organizational citizenship behaviors (OCBs) are like other work behaviors (e.g., altruism, courtesy, sportsmanship, civic virtue, and conscientiousness) that are discretionary or not part of workers' formal job requirements but are desirable because they promote the organization's effectiveness or its collective interests (Organ 1988; Podsakoff, MacKenzie, and Chun 1993; Schnake 1991). Within an organizational setting where workers' individual performance is taken into account in compensation management, one may argue that joining an SPP may be perceived as an OCB that has a positive bias or halo effect on a supervisor's assessment of workers' commitment to the organization and, therefore, on their determination of workers' individual compensation components such as salary and bonuses.

Impression management theory. Impression management refers to the process by which individuals attempt to change their image in a self-serving way (Rosenfeld, Giacalone, and Riordan 1995). Sociologists and social psychologists have studied impression management behaviors in many contexts, including performance appraisal (Wayne and Ferris 1990; Wayne and Liden 1995), and some have identified tactics or strategies that people use to improve their image at work (Jones and Pittman 1982; Tedeschi and Melburg 1984). Within an organizational setting where workers' individual performance is taken into account in compensation management, joining the SPP may be a way for workers to enhance their supervisor's impression of their realizations and potential prior to decisions about salary increases and bonuses.

Signaling/screening theory. According to signaling/screening theory (Arrow 1973; Spence 1974), workers use education to signal unobserved ability, whereas management uses education to screen workers. Therefore, this perspective presents a potentially significant challenge to human capital theory, which attributes the higher earnings of more educated workers to productivity-enhancing effects of education. While education is used often to illustrate the signaling perspective, joining a firm's SPP also could be a way for an employee to signal previously hidden abilities, qualities, or

intentions. For instance, workers who join an SPP can be perceived as more productive, loyal, or dedicated than those who do not. Therefore, it is expected that within an organizational setting where workers' individual performance is taken into account in compensation management, managers will pay workers for their decision to join its SPP.

Both organizational citizenship behavior and impression management can be used to predict a short-term, positive compensation outcome for workers joining an SPP. However, it appears unlikely that workers could extract long-term compensation outcomes from behavior that is not based on actual work performance or individual abilities. Using a screening/signaling perspective, an employee may join the SPP to signal previously unobservable qualities or abilities that are valuable to an organization (e.g., loyalty or dedication). Under these circumstances, employee and organization engage in a long-term relationship for which it is reasonable to expect long-term compensation outcomes, i.e., as long as the relationship makes business sense for both parties. While the signaling/screening and agency theory perspectives lead to similar predictions about compensation outcomes from SPP participation, the rationale for these outcomes differs. From a signaling perspective, additional compensation rewards previously unrecognized abilities or qualities, whereas under agency theory, additional compensation rewards actual improvements in an employee's job performance. Moreover, both perspectives imply a long-term compensation effect from SPP participation because workers' qualities/abilities do not disappear overnight and their work performance improves over time. However, a signaling/screening perspective would not predict that workers who participate in an SPP persistently get compensation raises that are higher than other workers. Accordingly, we propose to test the following direct link between SPP participation and individual compensation:

Hypothesis 2: Within an organizational setting where workers' individual performance is rewarded, SPP participation leads to an increase in individual cash compensation beyond the cash compensation increase obtained through enhanced individual job performance.

Methodology

Research Setting. Over the past decade, external factors such as the adoption of new capital adequacy regulations in 1988 and the 1990–1992 recession have changed the operating environment faced by Canadian financial institutions dramatically. To satisfy regulators' demands for better

risk management and to meet investors' profit expectations, financial institutions have had to modify their internal processes and methods, broaden their range of services, and introduce new management tools. Furthermore, increased competition has led financial institutions to emphasize improved service as a way to gain a strategic advantage. For instance, the human resources directors of two Canadian banks state that "sales is now the name of the game in this industry" (Bartel 1998) and that "we have to rethink the banking profession" (Messin and St-Onge 2000). In such a context, workers' involvement and motivation are crucial ingredients in a bank's strategy because employee costs constitute the most important component of operating costs and the most significant performance input. Therefore, the challenge for the managers of financial institutions is to get workers involved so that they actually contribute to organizational changes and technological improvements. Greater attention is now being paid to efficiency-, productivity-, and profitability-enhancing factors such as human resources management practices and specifically variable compensation plans. In fact, variable compensation plans are viewed as a key control lever in a bank's reorganization of its value-creation process (Banker, Lee, and Potter 1996). Therefore, the banking industry appears to be an appropriate setting to investigate the impact of such a compensation plan, an SPP, on their workers' most direct outcome, their cash compensation. Do workers get a further cash compensation increases after buying their employers' shares?

The research setting for this study is a large Canadian financial services institution with operations across Canada and in the United States that offers workers an SPP. The organization is widely perceived by financial analysts to be a solid performer, a fact that is reflected in its stock market performance over the investigation period.[1] The bank is not unionized, which implies that compensation decisions are essentially individual contracts between the employer and each employee. Such a setting is a more direct test of the impact of SPP participation on workers' outcomes because the employer has greater leeway. In addition, discussions with the bank's directors of compensation and benefits indicate that employee compensation decisions should be based, to a large extent, on individual performance.

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[1] The following share prices illustrate that the bank has been a reliable stock market performer during the investigation period (all data are standardized, with the close for 1996 serving as reference point):

	1998	1997	1996
High for the year	$ 244	$ 154	$ 106
Low for the year	$ 155	$ 100	$ 80
Close for the year	$ 178	$ 154	$ 100

During the same period, the bank's annual cash dividend increased from $3.84 per share in 1996 to $5.40 in 1998.

Workers' Sample Selection. The sample consists of individuals employed by a major Canadian financial institution at the end of 1998, irrespective of their participation in the institution's SPP. Using a random probability sampling process, individual workers were selected from the firm's computerized personnel files covering the 1996–1998 period. We used this sampling procedure, which implies drawing observations without replacement, to ensure that the sample was representative of demographic attributes. The final sample consists of 1923 workers as of year-end 1998. Among these workers, 1775 were working for the institution in 1997 and 1687 in 1996. Using a pooled time-series cross-sectional sample approach, the sample consists of 5385 employee-year observations. In addition, for all selected workers, we obtained information as to when they joined the SPP, including workers who joined during 1999.

Empirical Model. Since SPP participation is hypothesized to affect workers' cash compensation through their individual performance ratings, we adopt the empirical mediating-variable approach suggested by Baron and Kenny (1986). First, an ordinary-least-squares (OLS) regression is performed, with individual performance rating as the dependent variable. Explanatory variables include employee- and year-specific variables that capture fixed effects, control variables for individual characteristics that change over time (e.g., hierarchical ranks, tenure within firm), and SPP participation. This regression tests the existence of a relation between SPP participation and individual performance ratings. Second, an OLS regression is performed with the same explanatory variables but with individual cash compensation as the dependent variable. This regression tests the existence of a relation between SPP participation and an employee's cash compensation. Third, an OLS regression is performed with individual cash compensation as the dependent variable and with the same explanatory variables as the other two regressions *plus* an employee's individual performance. The coefficient for individual performance in the third regression tests its mediating role in the relationship between SPP participation and workers' cash compensation. The regression equations can be summarized as follows:

Regression 1.1:

$$\begin{aligned}\text{Individual Performance}_{it} = {} & \beta_0 + \beta_1\text{Senior Auxiliary}_{it} + \beta_2\text{Junior Manager}_{it} \\ & + \beta_3\text{Intermediate Manager}_{it} + \beta_4\text{Senior Manager}_{it} + \beta_5\text{TenureWithinFirm}_{it} \\ & + \beta_6\text{SPP Participation}_{it} + \beta_7\text{Employee } 1_{it} + \uparrow + \beta_{7+n-2}\text{Employee } n-1_{it} \\ & + \beta_{(7+n-2)+1}1997_{it} + \beta_{(7+n-2)+2}1998_{it} + \varepsilon_{it}\end{aligned}$$

Regression 1.2:

$$\ln \text{Cash Compensation}_{it} = \beta_0 + \beta_1 \text{Senior Auxiliary}_{it} + \beta_2 \text{Junior Manager}_{it} + \beta_3 \text{Intermediate Manager}_{it} + \beta_4 \text{Senior Manager}_{it} + \beta_5 \text{TenureWithinFirm}_{it} + \beta_6 \text{SPP Participation}_{it} + \beta_7 \text{Employee } 1_{it} + \uparrow + \beta_{7+n-2} \text{Employee } n-1_{it} + \beta_{(7+n-2)+1} 1997_{it} + \beta_{(7+n-2)+2} 1998_{it} + \varepsilon_{it}$$

Regression 1.3:

$$\ln \text{Cash Compensation}_{it} = \beta_0 + \beta_1 \text{Senior Auxiliary}_{it} + \beta_2 \text{Junior Manager}_{it} + \beta_3 \text{Intermediate Manager}_{it} + \beta_4 \text{Senior Manager}_{it} + \beta_5 \text{TenureWithinFirm}_{it} + \beta_6 \text{SPP Participation}_{it} + \beta_7 \text{Employee } 1_{it} + \uparrow + \beta_{7+n-2} \text{Employee } n-1_{it} + \beta_{(7+n-2)+1} 1997_{it} + \beta_{(7+n-2)+2} 1998_{it} + \beta_{(7+n-2)+3} \text{IndividualPerformance}_{it} + \varepsilon_{it}$$

where i = individual employee
n = number of individual workers in the data set (1923)
t = 1996, 1997, or 1998

If, consistent with Hypothesis 1, SPP participation affects workers' compensation only through their enhanced effort, then in Regression 1.3 the coefficient for Individual Performance is greater than 0 and the coefficient for SPP Participation equals 0. These specifications are labeled Model 1. In addition, since gender and education were fixed variables for all workers throughout the period under consideration, they are removed from the fixed-effects model regressions.

Variables Measurement. ln Cash Compensation. The outcome of SPP participation for individual workers is expected to be through their cash compensation, either its *level* or its year-to-year *change*. *Cash compensation* is defined as the sum of an employee's annual salary and incentive bonus. Consistent with prior research, ln Cash Compensation is used as a dependent variable to reflect an employee's compensation *level* (e.g., Ke, Petroni, and Safieddine 1999). Such a measure attenuates potential econometric problems such as heteroscedasticity and nonnormality. Moreover, with ln Cash Compensation as a dependent variable, regression coefficients can be interpreted directly as capturing the percentage impact of a variable on cash compensation. Additional analyses also focus on compensation *changes*, measured as (ln Cash Compensation$_t$ − ln Cash Compensation$_{t-1}$). The difference in ln Cash Compensation equals the percentage increase in compensation an employee received during a given year. Table 1 shows that for the period under consideration (1996–1998), average annual cash compensation is C$28,283, or 10.25 as ln Cash Compensation. Over the same period, the change in the cash compensation average was 4.60 percent.

TABLE 1

DESCRIPTIVE INFORMATION: WORKERS' SAMPLE

Characteristics of Workers	1996 Mean	1997 Mean	1998 Mean	1996–1998 Mean
Control variables				
Employee is a senior auxiliary (1: yes)	0.17	0.17	0.20	0.18
Employee is a junior manager (1: yes)	0.18	0.19	0.21	0.19
Employee is an intermediate manager (1: yes)	0.11	0.13	0.14	0.13
Employee is a senior manager (1: yes)	0.10	0.10	0.11	0.10
Tenure within firm (in years)	15.08	14.44	13.41	14.27
Individual performance rating (from 1 to 5)	3.24	3.27	3.29	3.27
SPP participation (1: yes)	0.18	0.23	0.27	0.23
Cash compensation level				
$	27,446.67	28,001.13	29,143.87	28,282.54
ln	10.22	10.24	10.28	10.25
Change in cash compensation (in %)	—	—	—	4.60

NOTE: *1996*: $N = 1687$, except for individual performance ratings ($N = 1523$) and cash compensation ($N = 1649$); *1997*: $N = 1775$, except for individual performance ratings ($N = 1638$) and cash compensation ($N = 1770$); *1998*: $N = 1923$, except for individual performance ratings ($N = 1794$) and cash compensation ($N = 1918$); *1996–1998*: $N = 5385$, except for individual performance ratings ($N = 4955$) and cash compensation ($N = 5337$).

Individual Performance. Individual Performance is the rating obtained by an employee for a given year, as assessed by his or her supervisor. It is measured on a scale of 1 to 5, with 1 indicating that an employee has not achieved current-year objectives and 5 indicating that the employee has surpassed all current-year objectives (2 = employee has partially achieved annual objectives; 3 = employee has achieved annual objectives; 4 = employee has surpassed some annual objectives). The means reported on Table 1 suggest that, on average, workers tend to modestly surpass their annual job performance objectives.

SPP Participation. This variable reveals whether the Individual Performance or Cash Compensation of workers who join the SPP actually improves when it is compared with their own prior levels and with those of their coworkers who are not shareholders. The financial institution allows all its workers to purchase treasury shares at a 25 percent discount on market prices for up to 8 percent of their annual salary. Shares acquired under the SPP become vested after a 1-year holding period. SPP Participation is measured using a dichotomous variable, with 1 indicating that an employee was participating in the SPP at the beginning of a given year and 0 indicating the the employee was not. Analyses with SPP Participation as an explanatory variable are referred to as Model 1 regressions. According to Table 1, during the period under consideration, an average of 23 percent of the

organization's workers participated in the SPP, with the proportion increasing from 18 percent in 1996 to 27 percent in 1998. Taking into consideration only the status of being an employee-owner and not the extent of an employee's ownership stake is consistent with prior evidence. After reviewing 26 studies, Kruse and Blasi (1997:143) concluded that "where there were differences in attitudes or behavior linked to employee ownership, they were almost always linked to the status of being an employee-owner, and not to the size of one's ownership stake."

However, with respect to the coefficient for SPP Participation, we use a complementary approach to assess the magnitude of any year- by-year improvement. While still relying on a pooled, cross-sectional, time-series OLS regression, SPP participation is assessed through dichotomous (1/0) variables that capture workers' timing with respect to their participation in the firm's SPP; i.e., the year before they join the SPP (SPP Participation$_{t-1}$), the year they join the SPP (SPP Participation$_{t}$), the year after they joined the SPP (SPP Participation$_{t+1}$), and throughout the period for those who joined in 1996 or before (SPP Participation$_{t+2 \text{ or more}}$). The omitted group that is not captured by these variables' coefficients consists of workers who are 2 years or more prior to stock plan participation. This approach, called Model 2, provides an insight into improvements in individual performance ratings and compensation levels associated with SPP Participation.

Employee- and year-specific fixed effects. All analyses are performed using a pooled, cross-sectional, time-series design (panel data). Hence specific indicator variables control for employee- and year-specific fixed effects. Each employee (except one) is assigned an indicator variable that takes a value of 1 if the observation pertains to him or her and a value of 0 otherwise. Thus 1922 (n – 1) employee-specific indicator variables are created (Employee n – 1). Two (1998 and 1997) year-specific indicator variables are also used. Coefficients for these variables should capture most individual and environment aspects not otherwise taken into account that may influence individual cash compensation. This kind of econometric approach is used widely for panel data (Kmenta 1986:616).

Control variables. Two job characteristics, job category and within-firm tenure, may influence an employee's cash compensation and confound any evidence about the impact of SPP participation. They are thus explicitly controlled for in this study. Within the bank, there are five broad job categories: junior auxiliary, senior auxiliary, junior manager, intermediate manager, and senior manager. To illustrate, a junior auxiliary is a branch teller on probation, whereas a senior auxiliary is a branch teller or services clerk

with no supervisory responsibilities. We created four indicator variables to capture an employee's job level in a particular year. Tenure in the firm is measured in years. The decrease in average tenure within the firm shown in Table 1 (from 15.08 years in 1996 to 13.41 years in 1998) reflects the fact that the most recent observations include sizable proportions of new workers: Out of 1923 sample workers in 1998, 236 did not work for the bank in 1996.

Alternative Empirical Models. To assess the robustness of findings that rely on compensation amounts and job performance ratings, alternative analyses are performed with year-to-year changes in individual compensation (ln Cash Compensation) and in individual performance ratings (Individual Performance) as dependent variables. For these regressions, fixed-effects variables are removed. The same mediating-variable approach used previously is adopted. Two models are specified. Model 3, with Regressions 3.1 to 3.3, uses New SPP Participation and SPP $\text{Participation}_{\text{Already}}$ as explanatory variables. New SPP Participation is an indicator variable (1/0) for workers who join the SPP in the year for which we measure the changes in Individual Performance and Cash Compensation. SPP $\text{Participation}_{\text{Already}}$ is an indicator variable for workers who have joined the SPP in prior years. Model 4, with Regressions 4.1 to 4.4, relies on the timing of workers' SPP participation to capture its impact on individual performance and compensation ($t - 1$, t, $t + 1$, Already).

Results

Preliminary Analyses. Table 2 provides a cross-correlation matrix of all the study's variables. All variables are correlated with each other, albeit at relatively low levels. Consistent with Hypothesis 1, workers' SPP Participation is positively correlated with Individual Performance ratings (0.16; $p < 0.01$), whereas Individual Performance ratings are positively correlated with ln Cash Compensation (0.26; $p < 0.01$). Workers' SPP Participation is positively correlated with ln Cash Compensation (0.28; $p < 0.01$). Levels of cross-correlations do not suggest the potential for multicollinearity problems.

Workers' SPP Participation and Individual Cash Compensation. Model 1. Table 3 shows regression results on the relation between workers' participation in the SPP and their compensation (measured as ln Cash Compensation) using a mediating-variable approach. Standard diagnostic procedures

TABLE 2

Cross-Correlations Between Variables

Variable	1	2	3	4	5	6	7
1. Employee is a senior auxiliary							
2. Employee is a junior manager	−0.23***						
3. Employee is an intermediate manager	−0.18***	−0.18***					
4. Employee is a senior manager	−0.16***	−0.16***	−0.13***				
5. Tenure within firm	0.04***	0.02	0.12***	0.10***			
6. Individual performance rating	0.06***	−0.02	0.10***	0.13***	0.07***		
7. SPP participation	0.00	0.01	0.13***	0.17***	0.22***	0.16***	
8. Cash Compensation Level	−0.09***	0.21***	0.33***	0.58***	0.26***	0.26***	0.28***

*$p < 0.1$.
**$p < 0.05$.
***$p < 0.01$; all two-tailed t-tests.

(variance inflation factors, Durbin-Watson test, normality checks) were performed for all regressions, and they do not suggest the presence of multicollinearity, autocorrelation, or nonnormality problems.

Consistent with Hypothesis 1, Regression 1.1 indicates there is a positive relation between SPP Participation and Individual Performance rating (0.075; $p < 0.01$). In other words, after controlling for employee- and year-specific fixed effects, as well as for job characteristics, workers who participate in the bank's SPP obtain higher performance ratings than workers who do not participate.

Regression 1.2 includes the same explanatory variables as in Regression 1.1, but the dependent variable is now an employee's ln Cash Compensation. Consistent with Hypothesis 2, there is a positive relation between workers' SPP Participation and their Cash Compensation (0.056; $p < 0.01$). In other words, after controlling for employee- and year-specific fixed effects, as well as for job characteristics, workers who participate in the bank's SPP receive higher cash compensation than workers who do not participate.

Regression 1.3 includes the same explanatory and dependent variables as in Regression 1.2, except that Individual Performance is now added as an explanatory variable. Consistent with Hypothesis 1, there is a positive relation between Individual Performance ratings and ln Cash Compensation (0.038, $p < 0.01$). Moreover, consistent with Hypothesis 2, there is also a direct positive relation between SPP Participation and an employee's ln Cash Compensation (0.048; $p < 0.01$). This finding suggests that while workers joining an SPP get a compensation increase from their enhanced job performance, they also benefit from a higher level of cash compensation than their nonparticipating coworkers, irrespective of their individual performances.

TABLE 3

POOLED OLS REGRESSIONS OF THE RELATION BETWEEN SPP PARTICIPATION AND CASH COMPENSATION (WITH CONTROLS FOR OTHER INDIVIDUAL CHARACTERISTICS AND FOR INDIVIDUAL- AND TIME-SPECIFIC FIXED EFFECTS): UNSTANDARDIZED COEFFICIENT (STANDARD ERROR)

	Model 1			Model 2			
Individual Characteristics	Regression 1.1 Individual Performance	Regression 1.2 ln Cash Compensation	Regression 1.3 ln Cash Compensation	Regression 2.1 Individual Performance	Regression 2.2 ln Cash Compensation	Regression 2.3 ln Cash Compensation	Regression 2.4 ln Cash Compensation
Control variables							
Employee is a senior auxiliary	0.046*	0.190***	0.181***	0.043*	0.187***	0.179***	0.137***
	(0.025)	(0.009)	(0.009)	(0.025)	(0.009)	(0.009)	(0.019)
Employee is a junior manager	0.049*	0.453***	0.436***	0.045*	0.450***	0.433***	0.374***
	(0.026)	(0.009)	(0.009)	(0.026)	(0.009)	(0.009)	(0.018)
Employee is an intermediate manager	0.123***	0.634***	0.616***	0.117***	0.630***	0.612***	0.570***
	(0.029)	(0.011)	(0.011)	(0.029)	(0.011)	(0.011)	(0.021)
Employee is a senior manager	0.102***	1.066***	1.050***	0.098***	1.063***	1.048***	1.005***
	(0.033)	(0.012)	(0.012)	(0.033)	(0.012)	(0.012)	(0.023)
Tenure within firm	0.002	0.007***	0.008***	0.002	0.007***	0.007***	0.007**
	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.003)
Individual performance			0.038***			0.037***	0.043***
			(0.007)			(0.006)	(0.013)
SPP participation	0.075***	0.056***	0.048***				
	(0.031)	(0.011)	(0.011)				
SPP participation ($t-1$)				0.056	0.036***	0.044***	0.014
				(0.039)	(0.013)	(0.014)	(0.022)
SPP participation (t)				0.077**	0.057***	0.059***	0.032
				(0.040)	(0.014)	(0.014)	(0.034)
SPP participation ($t+1$)				0.104**	0.080***	0.079***	0.058
				(0.045)	(0.016)	(0.016)	(0.047)
SPP participation ($t+2$ or more)				0.133***	0.095***	0.084***	0.043
				(0.042)	(0.015)	(0.015)	(0.063)
$\beta_{SPP\ participation\ (t)} > \beta_{SPP\ participation\ (t-1)}$?				0.021***	0.021***	0.015***	0.018***
$\beta_{SPP\ participation\ (t+1)} > \beta_{SPP\ participation\ (t-1)}$				0.048***	0.044***	0.035***	0.044***
Incremental F test: Model 2 versus Model 1				1.57	7.00***	6.59***	0.91
Adjusted R^2	0.377	0.901	0.905	0.377	0.902	0.905	0.908
N	4955	5337	4940	4955	5337	4940	1311

*$p < 0.1$.
**$p < 0.05$.
***$p < 0.01$; all two-tailed t-tests.

Model 2. Results from the Model 1 regressions show that workers who participate in the firm's SPP obtain higher levels of cash compensation than nonparticipating workers. However, this result may be driven by high-performing or well-paid workers joining the SPP. While this issue may be addressed by including more specific individual variables in the pooled-regression analysis, finer partitioning of the data may produce a more definite conclusion as to the association between workers' SPP participation and their cash compensation. To this effect, a pooled (1996–1998) OLS regression is performed with the following variables: SPP Participation$_{t-1}$, SPP Participation$_t$, SPP Participation$_{t+1}$, and SPP Participation$_{t+2}$ or more. Results from this regression are presented as Model 2.

In Regression 2.1, while the coefficient for SPP Participation$_{t-1}$ is positive, it is not statistically significant at any conventional level (0.056; $p > 0.10$). Therefore, in the year before joining the SPP, participants do not appear to perform better than other workers. However, consistent with Hypothesis 1, in the year they join the SPP, SPP participants' individual performances are better than those of other workers (coefficient for SPP Participation$_t$: 0.077; $p < 0.05$). Moreover, also consistent with Hypothesis 1, SPP participants' individual performance ratings increase in the year they join the SPP (t) compared with the year before ($t - 1$) (+0.021; $p < 0.01$). The performance rating differential in favor of SPP participants is 0.104 ($p < 0.05$) in the year after they join the SPP and reaches 0.133 ($p < 0.01$) for workers who participated in the SPP throughout the period. The positive trend in individual performance ratings observed from ($t - 1$) to (t) also persists because the individual performance ratings of SPP participants increase in the year after they join the SPP ($t + 1$) compared with the year in which they join (t) (+0.027; $p < 0.01$). An incremental F-test comparing the explanatory power of variables used in Regression 2.1 with those used in Regression 1.1 provides some weak evidence that the coefficient for SPP Participation does differ across time periods (1.57; $p < 0.15$). Overall, these results indicate that workers joining the SPP do not necessarily perform better than other workers prior to their participation in the SPP. However, consistent with Hypothesis 1, workers who join the SPP perform better compared with other workers and their own previous performance rating.

Regression 2.2 includes the same explanatory variables as in Regression 2.1, but the dependent variable is now a worker's ln Cash Compensation. The positive coefficient for SPP Participation$_{t-1}$ suggests that workers joining the SPP are typically better paid than other workers; i.e., they have funds to invest in a SPP (0.036; $p < 0.01$). There is a positive relationship between workers' SPP Participation and their Cash Compensation in the year they join (0.057; $p < 0.01$) and the following year (0.080; $p < 0.01$).

Moreover, workers who participated in the SPP throughout the period also received higher Cash Compensation than nonparticipating workers (0.095; $p < 0.01$). This finding suggests that workers persistently receive more cash compensation. Further analyses indicate that the cash compensation of workers joining the SPP increases more than that of other workers and more than it did before they joined the SPP; the coefficient for SPP Participation$_{t+1}$ is greater than the coefficient for SPP Participation$_t$ (+0.023; $p < 0.01$), which is itself greater than the coefficient for SPP Participation$_{t-1}$ (+0.021; $p < 0.01$). An incremental *F*-test comparing the explanatory power of variables used in Regression 2.2 with those used in Regression 1.2 confirms these findings and provides evidence that the coefficient for SPP Participation does differ across time periods (7.00; $p < 0.01$). Overall, consistent with our hypotheses, the compensation of workers who join the SPP is higher, and this persists over time.

Regression 2.3 includes the same explanatory and dependent variables as in Regression 2.2, except that Individual Performance Rating is now added as a new explanatory variable. Consistent with Hypothesis 1, there is a positive relation between workers' Individual Performance Rating and ln Cash Compensation (0.037, $p < 0.01$). Consistent with Hypothesis 2, there is also a direct, positive, and increasing relation between workers' SPP Participation and ln Cash Compensation. Coefficients for SPP Participation are positive from ($t - 1$) to ($t + 2$ or more) and increase throughout the period—from 0.044 ($p < 0.01$) for SPP Participation$_{t-1}$ to 0.079 ($p < 0.01$) for SPP Participation$_{t+1}$. The difference is significant (+0.035, $p < 0.01$). An incremental *F*-test comparing the explanatory power of variables used in Regression 2.3 with those used in Regression 1.3 confirms these findings and provides evidence that the coefficient for SPP Participation does differ across time periods (6.59; $p < 0.01$). Hence, while workers who join the SPP receive higher compensation from their enhanced job performance, they also benefit from a higher level of cash compensation than their nonparticipating coworkers, irrespective of their individual performance ratings.

As a sensitivity analysis, we perform Regression 2.4 with the same explanatory and dependent variables as Regression 2.3. However, the sample is now restricted to workers who joined the SPP between 1995 and 1999, i.e., who contribute to the variation in our SPP Participation variables. This reduces sample size from 4940 to 1311. With such a sample, SPP Participation coefficients capture the difference in individual workers' compensation levels relative to 2 years prior to joining the SPP. This latter group is actually relatively small and hence provides a less reliable benchmark measure. Consistent with Hypothesis 1, there is a positive relation between workers' Individual Performance Rating and ln Cash Compensation (0.043, $p < 0.01$).

With respect to Hypothesis 2, the evidence is mixed because coefficients for SPP Participation are positive from (t − 1) to (t + 2 or more) and increase throughout the period but are not statistically significant at conventional levels. However, the difference between the coefficient for SPP Participation$_{t-1}$) (0.014) and SPP Participation$_{t+1}$ (0.058) appears to be significant and consistent with Hypothesis 2 (+0.044, $p < 0.01$). However, an incremental F-test comparing the explanatory power of variables used in Regression 2.4 with those used in Regression 1.3 (including the censored sample) is not statistically significant at conventional levels.

Overall, results from the Model 2 regressions are consistent with the SPP attracting better-paid workers. For instance, according to results from Regression 2.3, future participants already received a higher level of cash compensation than nonparticipants 1 year before joining the SPP, the differential being 4.4 percent (coefficient: 0.044; $p < 0.01$). However, workers do continue to improve their performance and compensation after they join the SPP. Consistent with Hypothesis 1, workers receive higher cash compensation as a result of improved individual performance if they join the SPP. Moreover, consistent with Hypothesis 2, increases in SPP participants' cash compensation go beyond improvements in their individual performance ratings.

To further assess the potential for reverse causation, i.e., workers' compensation levels actually determining their decision to join the SPP in a given year, stock plan participation was regressed on performance evaluations and compensation in prior years using logistic regression. Results suggest that workers' compensation levels do not influence their decision to join the SPP because the coefficients for both *compensation in the year prior to joining the SPP* (coefficient: 0.094; $p < 0.812$) and *change in compensation from 2 to 1 year prior to joining the SPP* (coefficient: 1.89; $p < 0.279$) are not statistically significant. However, prior year performance evaluation does influence a worker's decision to join the SPP (coefficient: 0.434; $p < 0.022$).

SPP Participation and Changes in Individual Cash Compensation. Model 3. Table 4 shows results from multivariate, pooled, OLS regressions on the relation between an employee's participation in the SPP, changes in individual performance ratings (Individual Performance) and changes in ln Cash Compensation (ln Cash Compensation). Changes in seniority, tenure in the firm, and the previous year's individual performance level are explicitly controlled using distinct variables. Since a year-to-year difference approach is taken, employee-specific fixed-effects variables are not included in the regressions. Diagnostic procedures performed (variance inflation factors, Durbin-Watson test, normality checks) did not suggest the presence of

TABLE 4

POOLED OLS REGRESSIONS OF THE RELATION BETWEEN SPP PARTICIPATION AND CHANGE IN CASH COMPENSATION (WITH CONTROLS FOR CHANGES IN OTHER INDIVIDUAL CHARACTERISTICS): UNSTANDARDIZED COEFFICIENT (STANDARD ERROR)

	Model 3			Model 4			
Individual Characteristics	Regression 3.1 Individual Performance	Regression 3.2 ln Cash Compensation	Regression 3.3 ln Cash Compensation	Regression 4.1 Individual Performance	Regression 4.2 ln Cash Compensation	Regression 4.3 ln Cash Compensation	Regression 4.4 ln Cash Compensation
Control variables							
Change in job level	–0.046**	0.063***	0.063***	–0.052**	0.062***	0.062***	0.069***
	(0.023)	(0.002)	(0.002)	(0.023)	(0.002)	(0.002)	(0.004)
Tenure within firm	–0.001	–0.001***	–0.001***	–0.001	–0.001***	–0.001***	–0.002***
	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Individual Performance	–0.518***	0.010***	0.022***	–0.522***	0.010***	0.021***	0.023***
(prior year)	(0.016)	(0.001)	(0.002)	(0.016)	(0.001)	(0.002)	(0.004)
Individual performance			0.022***			0.022***	0.026***
			(0.002)			(0.002)	(0.004)
New SPP participation	0.094***	0.010***	0.007**				
	(0.035)	(0.003)	(0.003)				
SPP participation ($t-1$)				0.087**	0.015***	0.011***	0.008
				(0.041)	(0.004)	(0.004)	(0.008)
SPP participation (t)[a]				0.098***	0.016***	0.013***	0.011
				(0.035)	(0.003)	(0.003)	(0.008)
SPP participation ($t+1$)				0.109***	0.012***	0.009***	0.007
				(0.035)	(0.003)	(0.003)	(0.008)
SPP participation (already)	0.120	0.011***	0.010***	0.135***	0.014***	0.012***	–0.004
	(0.021)	(0.002)	(0.002)	(0.022)	(0.002)	(0.002)	(0.009)
Adjusted R^2	0.258	0.278	0.321	0.260	0.285	0.326	0.349
N	3119	3161	3114	3119	3161	3114	702

*$p < 0.10$.
**$p < 0.05$.
***$p < 0.01$ all two-tailed t-tests.
[a]$\beta_{\text{SPP participation }(t)}$ is the regression coefficient for the variable SPP participation (t).

multicollinearity, autocorrelation, or nonnormality problems in any of the reported regressions. Model 3 regression results are consistent with our hypotheses.

In Regression 3.1, consistent with Hypothesis 1, workers' Individual Performance improves in the year they join the SPP (0.094; $p < 0.01$). The regression coefficient for SPP Participation$_{\text{Already}}$ indicates that once they have joined the SPP, workers keep improving their Individual Performance (0.12; $p < 0.01$) compared with other years and other workers, thus confirming the motivating impact of SPPs.

Regression 3.2 shows that workers' Cash Compensation increases in the year they join the SPP (0.010; $p < 0.01$). However, the regression coefficient for SPP Participation$_{\text{Already}}$ indicates that even after they join the SPP, workers' Cash Compensation continues to increase at a superior rate to that of nonparticipating workers (0.011; $p < 0.01$).

Consistent with Hypothesis 1, Regression 3.3 shows that workers' Cash Compensation increases are partially based on changes in their Individual Performance ratings (0.022; $p < 0.01$). However, in addition to Individual Performance–based Cash Compensation increases, workers enjoy superior Cash Compensation increases in the year they join the SPP, irrespective of their Individual Performance rating (0.007; $p < 0.01$). These above-average raises seem to continue in the following years because the regression coefficient for SPP Participation$_{\text{Already}}$ indicates that even after they join the SPP, workers' get higher increases than do other workers who are not SPP participants (0.010; $p < 0.01$).

Model 4. Model 4 regressions allow us to infer patterns in Individual Performance and in ln Cash Compensation on the basis of workers' year of SPP participation. In Regression 4.1, in the year workers join the SPP, their Individual Performance ratings increase more than those of nonparticipating workers (coefficient for SPP Participation: 0.098; $p < 0.01$). Such a finding is consistent with our hypotheses. Coefficients for SPP Participation$_{t-1}$ (0.087; $p < 0.05$), SPP Participation$_{t+1}$ (0.109; $p < 0.01$), and SPP Participation$_{\text{Already}}$ (0.135; $p < 0.01$) are also positive and statistically significant, which suggests that an SPP may attract workers with above-average job performance rating potential. The positive coefficient for SPP Participation$_{t-1}$ may be explained by workers improving their job performance in a given year with the expectation of joining the SPP in the following year.

In Regression 4.2, workers get higher Cash Compensation raises in the year they join the SPP than do nonparticipants (0.016; $p < 0.01$). Coefficients for SPP Participation$_{t-1}$ (0.015; $p < 0.01$), SPP Participation$_{t+1}$ (0.012; $p < 0.01$), and SPP Participation$_{\text{Already}}$ (0.014; $p < 0.01$) are also positive and

statistically significant, which suggests that SPP participants get higher above-average raises than nonparticipating workers on a continuous basis.

In Regression 4.3, it appears that workers get raises that are based on changes in their Individual Performance ratings (0.022; $p < 0.01$). This result is consistent with Hypothesis 1. However, in addition to Individual Performance–based raises, and consistent with Hypothesis 2, workers get higher raises in the year they join the SPP, irrespective of their performance rating (0.013; $p < 0.01$). Moreover, coefficients for SPP Participation$_{t-1}$ (0.011; $p < 0.01$), SPP Participation$_{t+1}$ (0.009; $p < 0.01$), and SPP Participation$_{\text{Already}}$ (0.012; $p < 0.01$) are also positive and statistically significant, which suggests that SPP participants get higher above-average raises than nonparticipating workers on a continuous basis and irrespective of their own job performance.

Overall, results from the Model 3 and Model 4 regressions clearly show that workers joining the SPP get higher raises than do nonparticipating workers. These higher raises are associated with improved individual performance (Hypothesis 1) but also with SPP participation itself (Hypothesis 2). The pattern of higher raises seems to persist for some years because workers who participated in the SPP throughout the investigation period (1996–1998) had higher raises than did nonparticipating workers in the sample.

However, the evidence is less clear if one focuses strictly on workers who have joined or are about to join the SPP. Regression 4.4 includes the same explanatory and dependent variables as in Regression 4.3. However, the sample is now restricted to workers who joined the SPP between 1996 and 1999, i.e., who contribute to the variation in our SPP Participation variables. This leads to a reduction in sample size from 3114 to 902. Within such a sample, SPP Participation coefficients capture the difference in compensation changes between workers who either are participating in the SPP or are 1 year away from joining and workers who are 2 years away from joining the SPP. This latter group is actually relatively small and hence provides a less reliable benchmark measure.

Discussion and Conclusion

Thousands of organizations offer their workers an SPP, and there is some evidence that the presence of an SPP improves organizational performance. However, to the best of our knowledge, no study has investigated if SPPs actually affect workers within an organization. We investigate the issue within the context of a large financial services organization that offers an SPP to its workers and that manages their compensation by taking into

account their individual performance. Relying on both agency theory and high-performance-cycle theories, we first predict that workers' SPP participation leads to individual cash compensation increases through improved job performance, as proxied by individual performance ratings. Overall results—from both univariate and multivariate analyses—are consistent with Hypothesis 1 to the effect that within an organizational setting where workers' individual performance is rewarded, *SPP participation leads to an increase in workers' individual cash compensation through enhanced individual job performance*. For SPP participants, these improvements in individual job performance, as well as the resulting individual cash compensation increases, are likely to persist over time.

Other theoretical frameworks—namely, organizational citizenship behavior, impression management, and signaling theories—posit that workers may use SPP participation as a mean to convey information about themselves to supervisors and coworkers. Relying on these later theories, we also predict that within an organizational setting where workers' individual performance is rewarded, *SPP participation leads to an increase in individual cash compensation beyond the increase in individual cash compensation that results from enhanced individual job performance.* Overall, results are consistent with this second hypothesis. Workers seem to be able to benefit from SPP participation beyond what would be expected from improvements in their individual performance ratings. In fact, irrespective of their job performance levels, SPP participants enjoy cash compensation levels and raises that are higher than those of nonparticipating workers. Considering that compensation-determination decisions within the organization are presumably based on individual job performance, the finding that SPP participation in itself may bring rewards to workers may be perceived as puzzling. While it can be argued that information conveyed by workers to their supervisors through SPP participation should be reflected in performance ratings, it must be kept in mind that performance ratings are limited to a five-item scale. In contrast, there is much more latitude in compensation decisions.

Limitations and Future Research. While analyzing data from one nonunionized firm may lead to criticism that findings cannot be generalized to other work settings, there are reasons for focusing on one organization in this study. Previous studies of productivity in the banking industry indicate the importance of getting "inside the black box" (Bartel 1998; Berger and Mester 1997). Since the Canadian financial services industry is highly concentrated, results from a one-firm study are more likely to be generalized and representative. Moreover, by focusing on a single firm, SPP attributes are kept constant. Finally, while the study defines workers' outcomes from

SPP participation only in terms of on-the-job performance and cash compensation, there may be other outcomes. For instance, it may be used to increase employee commitment or loyalty, promote involvement, avoid bankruptcy, and save jobs or attract and retain competent workers (Long 1998). It must be noted that workers' benefits from SPP participation as a result of purchase discounts and the potential for share value appreciation were not taken into account in this study.

While this study's findings suggest that workers' SPP participation leads to improved individual performance and compensation, well-paid productive workers with a good track record prior to joining the SPP may drive such a relation. While sensitivity analyses do not provide support for this later possibility, it may be the object of further investigation in future research. However, the continuous improvements in both performance and compensation following SPP participation are unlikely to result solely from a worker's compensation status prior to joining the SPP.

Future research could investigate how workers' SPP participation will translate into better workers' individual compensation. More specifically, they could focus on the mechanisms through which SPPs positively affect workers' annual salary raises and bonuses such as psychological ownership or "sense or feelings of ownership," opportunities for participation in decision making, influence on their performance rating, and so on (Buchko 1992; IOMA 1999; Keef 1998; Long 1982; Pendleton, Wilson, and Wright 1998; Pierce, Rubenfeld, and Morgan 1991).

> . . . ESOPs don't make sense as an incentive. First, the effects are generally long term. How I perform today doesn't have much of an impact on the stock price at the time I exercise my option. Nor does my working harder mean more for me. Indeed, we can't predict very well what makes stock prices rise—and this is the central ingredient in the reward component of ESOPs. So the performance measure is too complex to figure out how we can control our own destiny. Sounds like ESOPs do poorly on the three Cs [complexity, control, and communication] we mentioned earlier as causing incentive plans to fail. Why then do about 9500 companies have ESOPs covering more than 10 million employees with holdings of over $150 billion in the stock of their companies? The answer may well be that ESOPs foster employee willingness to participate in the decision-making process. And a company that takes advantage of that willingness can harness a considerable resource—the creative energy of its workforce [Milkovich and Newman 2002:336].

Field investigations involving both workers and supervisors could then provide additional information as to why and how SPP participation influences compensation decisions and job performance. For example, a recent

meta-analysis on public stock ownership plans (Ben-Ner and Jones 1995) revealed that although ownership does affect productivity, it is dependent on the extent of participation in decision making that accompanies ownership. Finally, future research also should pursue prior work on how SPP participation affects various workers' attitudes (Buchko 1993; Klein and Hall 1988; Long 1980; Pierce and Furo 1990).

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