The effect of bonus deferral on managers' self-interest: An experimental examination of investment decisions and effort provision

ABSTRACT

We examine the impact of deferred bonus payments and clawbacks on managers' self-interest in two experiments. Deferred bonus and clawbacks are an important element of a "bonus bank" scheme designed to motivate managers to act in the best interest of the firm. Consistent with construal level theory from psychology, we find that bonus deferral mitigates managerial self-interest. It increases managers' willingness to make a bonus-decreasing investment by encouraging managers to place greater importance on advancing their company's long-term interests and on improving their reputation within the company. These mediation effects are significant only when participants have a short employment horizon. The second experiment examines the combined effect of bonus deferrals and clawbacks on managers' willingness to exert personally costly effort to advance their company's interests. We expect to find that bonus deferral and clawback provisions work as complements and encourage managers to place greater importance on advancing their company's interests. Our study contributes to the debate on effective managerial compensation by showing that a simple deferral of bonus payments can reduce the negative consequences of managerial self-interest and opportunism.

Keywords: *Managerial compensation, self-interest, managerial myopia, deferred bonus payments, clawbacks*

Data availability: *Data are available from the authors upon request.*

JEL Codes: M40, M41

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INTRODUCTION

This study examines the effectiveness of bonus deferrals and clawback provisions in mitigating incentive problems resulting from diverging interests between managers and their company (Jensen and Meckling, 1976; Ross, 1973). Managerial opportunism is a widely recognized problem in the literature (e.g., Ang et al., 2000; Dikolli et al., 2013; Holthausen, 1990). Companies commonly use performance contingent bonus schemes to motivate their managers to work both effectively and efficiently. A problem with bonus schemes, however, is that managers may become too concerned with maximizing their bonuses that they neglect the company's interests. For example, managers may decide to cut investments in research and development that could improve a company's long-term performance in an attempt to improve their bonus payouts for the current year (e.g., Dechow & Sloan, 1991; Cheng, 2004) or they may shirk (e.g., Ang et al., 2000; Fisher et al., 2005; Hofmann & Rothenberg, 2013). Therefore research aims at identifying incentive schemes that are able to mitigate these problems. In recent years, companies are increasingly turning their attention to how bonus schemes can be structured in a way that can be used to incentivize managers to place greater importance on maximizing the company's long-term interests. In the current study, two experiments examine one such proposed remedy, namely, a combination of bonus deferral and clawback provisions in so called "bonus banks".

Bonus deferral refers to the delayed payment of bonuses to managers over a pre-specified time period (e.g., three years). Clawback provisions allow to recoup excess compensation and, hence, facilitate management's participation in both profits and losses (Bischof et al., 2010;

Shlomo and Nguyen, 2011).[1] In response to the recent global financial crisis, the European Parliament has released directive 2010/76/EU requiring financial institutions in Europe to defer bonuses over time. The intention of this directive is to discourage managers from maximizing their current pay at the expense of shareholders' long-term interests. A common way of implementing bonus deferral, as recommended by consulting firms, is the "bonus bank" scheme (e.g., Byrnes, 2009; Bischof et al., 2010; O'Hanlon & Peasnell, 1998, 2002; Stewart, 1991). Bonus banks are internal accounts where granted bonuses are accumulated as "credits" and deferred to a later period, but "debits" (i.e., bonus reductions) may also be made if pre-determined performance targets are not met. Bonus banks thus contain both a deferral and a clawback element. Bonuses are deferred and payout is made subject to meeting pre-specified conditions. Many financial and nonfinancial firms (Morgan Stanley, UBS, Credit Suisse, Metro) have now implemented bonus bank schemes, but it is to date unclear whether such initiatives have the desired effects. In this study, we investigate the combined effect of deferrals and clawbacks on managerial self-interest and the willingness to contribute to long-term firm prospects.

The first step of the analysis focuses on the influence of the deferral aspect. In the absence of payment risks (i.e., potential clawbacks), the deferral of bonus payments is essentially a "timing difference". In the analytical literature, it is generally assumed that managers are indifferent to the timing of their bonuses, provided that the economic value of the bonus is maintained (e.g., by using an appropriate interest rate). From a purely economic perspective, bonus deferral should have no effect on managerial decisions under such conditions (Schultze et al., 2016). However, drawing

[1]In the U.S., the concepts of clawback or holdback provisions are somewhat similar; a clawback provision allows firms to recoup excess compensation, and a holdback clause is a type of clawback provision where bonuses are deferred to the future (DeHaan et al., 2013; Hodge and Winn, 2012; Brink and Rankin, 2013) Although firms may recoup excess compensation due to a multitude of events, clawbacks in the U.S. are triggered by accounting misstatements (Sarbanes Oxley Act, Section 304, 2002; Dodd-Frank Wall Street Reform and Consumer Protection Act, Section 954, 2010).

on psychology (Construal Level Theory (CLT), Trope and Liberman, 2003, 2010), bonus deferral is expected to increase the psychological distance between the manager and the bonus payment. Psychological distance induces individuals to perceive objectives more abstractly (i.e. at a high construal level) and promotes a stronger focus on the greater, more abstract benefits of an action. When managers consider the trade-off decision between self-interest maximization and long-term firm performance on a more distant, abstract level, they will place less importance on negative personal economic implications and greater importance on achieving the company's long-term objectives. As a result, managers will become more willing to comply with firm goals when bonus payments are deferred.

In the second step we integrate clawbacks into the analysis of deferral. Under a clawback provision, the manager's bonus is exposed to the risk of future performance and the manager may incur a loss if performance is below the target level. Prospect theory (Kahneman and Tversky, 1979) posits that individuals are loss averse and that the expectation of future losses is aversive (Imas et al., 2016; Jevons, 1905; Loewenstein, 1987; Frederickson & Waller, 2005). As a result, penalty contracts have been found to induce managers to exert more effort than economically equivalent bonus contracts to avoid incurring a loss (Armantier & Boly, 2015; Church et al., 2008; Hong et al., 2015). In line with these results, we expect to find a positive effect of clawback contracts on managerial behavior to prevent losing previously earned bonuses. Clawback provisions thus enhance the positive single effect of deferred bonus payments. Based on CLT, we expect that managers more likely engage in personally costly behavior to achieve firm goals under deferred compared to immediate bonus payments. We therefore expect that deferral and clawback work as complements.

We conduct two experiments to test our hypotheses. Different design choices serve as a means to supporting the robustness of our results. Experiment 1 is a 2x2 between subjects vignette study. We manipulate the timing of bonus payments (now vs. deferred) and employment horizon (short vs. long). As expected, our results show that managers are more willing to make investments that lead to reductions in their remuneration but have long-term benefits for the company when they are under a deferred bonus scenario. We find a main effect for employment horizon, where managers are more willing to make the investment if the benefits are expected to eventuate before (rather than after) they are transferred out of their business units. Further analysis shows that the effect of bonus deferral on managers' investment decisions is mediated by their increased concern for their company's long-term interests and their managerial reputation, and this mediation effect is in turn moderated by employment horizon. Overall, our results suggest that bonus deferral has the potential to incentivize managers to act in the best interest of the firm by increasing managers' focus on the company's long-term objectives, and even more so when managers have a short employment horizon.

Experiment 2 is a 2x3 between subjects computerized laboratory experiment. We manipulate the timing of bonus payments (now vs. deferred) and clawback provision (no clawback vs. clawback framing vs. clawback with potential losses) and analyse managers' willingness to contribute to the firm's objectives. In the experiment, subjects provide consequential resources to the firm by solving a finite number of sub-problems, requiring real effort. An incentive-compatible piece-rate-compensation scheme creates incentives to exert effort where a front-end delay minimizes the perceived difference of transaction costs between immediate and deferred bonus payments (Denant-Boemont et al., 2017). We control for individual risk and time preferences according to Abdellaoui et al. (2013) and expect that deferred bonus payments reduce the relative

impact of financial rewards and increase the motivational impact of contributing to the greater benefit of the firm. Under deferred bonus payments, participants should therefore work longer to complete the overall task. Participants in the clawback setting are likely to exert more effort to avoid incurring a loss. We expect bonus deferral and clawback provisions to be complements, resulting in a marginal additive effect. We thus expect participants in the deferred clawback setting to display higher effort persistence than in the deferred no clawback setting. Experiment 2 is currently being conducted.

We contribute to prior literature in a number of ways. First, consulting companies like Stern Stewart & Co. have been successfully advocating bonus deferrals and the bonus bank scheme for some time (e.g., Stewart, 1991; Byrnes, 2009; Koch & Pertl, 2009) as a means to ensuring long-term value creation will not suffer from the managers' self-interested short-term focus (Young & O'Byrne, 2000).[2] While the concept of bonus banks has been implemented in companies for more than two decades, it is not clear whether their design can effectively incentivize managers to make decisions consistent with their company's interests. The current study provides empirical results to this open question from a behavioral perspective. Here, we make a unique contribution by drawing on construal level theory to predict and explain how bonus deferrals positively influence managerial behavior.

Second, prior findings on related concepts of holdback and clawback clauses in the U.S. suggest that such schemes may have limitations, such as causing CEOs to demand a higher level of compensation and executives to make riskier reporting choices (e.g., DeHaan et al., 2013;

[2] In practice, the bonus bank scheme comes in a variety of formats. O'Byrne and Young (2009) illustrate three cases of companies using such remuneration schemes (Briggs & Stratton, Herman Miller, and Manitowoc), where a manager's bonus equals a target bonus plus a variable component based on how much the excess EVA improved or deteriorated. The variable component is capped and is credited to the bonus bank. McLaren (2005) document a bonus bank system where a proportion of annual profit is credited to the bonus bank, and all eligible managers are paid a fixed percentage of the bonus bank balance each year. A common feature of these bonus banks is that a profit-based payment is deferred to a future date.

Hodge & Winn, 2012). Hartmann and Slapničar (2014) also find that bonus deferral increases the effect of prior investment outcomes in subsequent risk-taking behavior. Our results complement findings from the limited prior literature by focusing on the positive effect of bonus deferral and showing that a simple deferral of bonuses is sufficient to reduce managerial opportunism. Our study also speaks to the analytical literature, which generally assumes that managers are indifferent to the timing of bonuses as long as the economic value to the agent remains constant (Miller & Modigliani, 1961; Rogerson, 1997; Reichelstein, 1997). Our results suggest that the timing of bonuses can affect managers' willingness to trade-off their self-interests to promote the company's interests. Our moderated mediation model shows that bonus deferral only increases managers' focus on advancing company interests and their own reputation within the company when mangers' employment horizon is short.

Third, although an ever growing stream of literature applies CLT as a comprehensive framework for decision-making (Fiedler, 2007), this prominent contemporary theory has received but little attention in the accounting literature. We use CLT to derive predictions in a management accounting setting and answer Weisner's (2015) call for CLT-based accounting research to understand the underlying cognitive processes of observable behavior. The second experiment examines the interaction of temporal distance and hypotheticality (i.e. certain vs. uncertain outcomes), testing previous findings on the combined effect of several dimensions of psychological distance in an accounting context (Maglio et al., 2013). We examine whether the introduction of psychological distance on one dimension leads to lower marginal sensitivity to a certain degree of distance on a second dimension (Trope & Liberman, 2010).

Fourth, prior literature on the effect of incentive compensation on performance levels reports mixed results (e.g. Ashton, 1990; Awasthi & Pratt, 1990; Libby & Lipe, 1992; Sprinkle,

2000). Prior research explores settings when financial incentives negatively influence effort provision and task performance due to crowding out of intrinsic motivation (e.g., Deci, 1975; Frey & Jegen, 2001; Gneezy et al., 2011). Several factors are suggested to have an influence on the association between financial incentives and task performance, including the type of market setting (Heyman & Ariely, 2004) and perceived task attractiveness (Fessler, 2003). Heyman & Ariely (2004) find that, in contrast to monetary markets, there is no association between effort and effort-independent compensation levels in social markets. Fessler (2003) finds that for attractive tasks monetary incentives result in decreases of perceived task attractiveness and lower task performance. Our results complement these findings by indicating how a bonus payout structure may mitigate the crowding out-effect of monetary incentives on intrinsic motivation. We show that deferred bonus payments positively influence managerial behavior by increasing managers' focus on the long-term benefits of their behavior and thus enhancing task attractiveness.

In terms of practical contributions, our findings speak to the widely claimed need for improving alignment between managers' and firms' interests in the aftermath of the GFC, resulting in regulatory changes. Since 2010, the EU requires financial institutions to assess managerial performance over at least three to five years and defer a substantial portion of the variable remuneration over a longer period of time. The Committee of European Banking Supervisors (CEBS) has published according "CEBS Guidelines on Remuneration Policies and Practices", which have been extended to nonfinancial institutions. In the US, the Dodd-Frank Act of 2010 extends regulation on clawback policies as mandated under SOX. Dodd-Frank requires each listed company to implement clawback provisons for their executive officers applying to incentive compensation in the case of accounting restatement. These regulations ask for bonus schemes with a deferral and a clawback element similar to the bonus bank concept. Our finding that bonus