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Determinants of Financial Managers' Willingness to Engage in Unethical Pro-Organizational Behavior

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ABSTRACT: We examine how financial managers' willingness to engage in unethical pro-organizational behavior depends on various individual and organizational characteristics. Using survey data from 253 respondents we find that unethical pro-organizational behavior is lower when financial managers are close to retirement and when they work in high-growth or in publicly listed companies. We also find that it is positively associated with financial managers' organizational identification and with their bonuses contingent on financial performance targets but not with bonuses contingent on nonfinancial targets or subjective evaluations. We rely on a follow-up survey to reestimate the latter effects after controlling for unobserved individual heterogeneity in a changes model and find consistent results. Finally, we use another follow-up survey to compare our measure of the willingness to engage in unethical pro-organizational behavior to proxies for earnings management used in prior literature.

Keywords: incentives; choice of performance measures; chief financial officers; unethical behavior.

INTRODUCTION

Prior literature documents an association between earnings management and incentive compensation (Burns and Kedia 2006; J. J. Gaver, K. M. Gaver, and Austin 1995; Healy 1985). This has commonly been interpreted as evidence that self-interested managers maximize their individual rewards often by engaging in unethical behavior such as financial misreporting (Kim, Li, and Zhang 2011). However, recent accounting studies provide support for an alternative interpretation suggesting that misreporting arises because financial managers yield to the pressure of their superiors (Bishop, DeZoort, and Hermanson 2017; Feng, Ge, Luo, and Shevlin 2011; Friedman 2016). Even more generally, the organizational psychology literature suggests that willingness to engage in unethical behavior is not always driven by self-interest, opportunism, or yielding to the pressure of superiors. On the contrary, unethical behavior is often motivated by *the desire to help* other organizational members (Pinto, Leana, and Pil 2008; Umphress and Bingham 2011; Vardi and Wiener 1996).

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Drawing on this literature, our study examines the determinants of financial managers' willingness to engage in unethical pro-organizational behavior (*WUPB*).[1] In particular, we combine the insights from the organizational psychology literature emphasizing the importance of understanding pro-organizational behavior (Umphress, Bingham, and Mitchell 2010) and the accounting literature highlighting the critical role of financial managers in safeguarding the integrity of financial reporting (Jiang, Petroni, and Wang 2010). Although we know that financial managers' fiduciary responsibilities often conflict with their role in supporting other managers and improving organizational performance (Jablonsky and Keating 1998; Siegel and Sorensen 1999), we still need to better understand how the conflicting expectations of other managers, the organization, and the profession as a whole affect financial managers' *WUPB* (Maas and Matějka 2009).

Similar to prior work on earnings manipulation (Holthausen, Larcker, and Sloan 1995), we predict that the design of bonus plans for financial managers is an important determinant of *WUPB*. In contrast to most prior work, we examine not only overall incentive strength but also the extent to which bonuses are based on financial targets as opposed to nonfinancial targets or subjective evaluation. This is motivated by management accounting studies arguing that nonfinancial targets and subjective evaluations motivate managerial focus on the long-term and reduce the risk of myopic actions (Bol 2008; Indjejikian and Matějka 2009). Correspondingly, we predict that *WUPB* is positively associated with incentives contingent on financial targets but not with incentives contingent on nonfinancial targets or subjective evaluations.

Prior literature in accounting typically relies on financial reporting outcomes such as low quality of accruals, restatements, Securities and Exchange Commission (SEC) fraud allegations, or the propensity to meet or beat earnings benchmarks to infer unethical behavior (Armstrong, Jagolinzer, and Larcker 2010).[2] As an alternative approach, some studies measure unethical behavior either in experimental settings (Church, Hannan, and Kuang 2012; Maas and van Rinsum 2013) or by means of surveys (Merchant 1990). Although the use of alternative research design approaches is important for corroborating and refining of existing findings, survey evidence in this area is relatively scarce in part because there are very few validated survey instruments to measure willingness to engage in unethical behavior.

Our study contributes to survey research in this area by importing a novel instrument from the organizational psychology literature and validating it in the context of financial managers' unethical behavior. Our measure of *WUPB* has the following advantages. First, we do not directly ask financial managers to report accounting manipulation or earnings management practices in their company because such questions aggravate the social desirability bias.[3] Second, we provide extensive evidence that corroborates validity of our measure and shows that it has a greater statistical power to detect a relation with incentives choices than a measure of financial misreporting similar to those used in prior survey studies.

In our main analysis, we use survey data from a sample of 253 controllers and CFOs to estimate a model of *WUPB* as a function of incentive strength as measured by 2011 target bonus as a percentage of salary and various individual and company characteristics. We find a highly significant positive association between financial managers' bonus incentives and their *WUPB*. We also find that *WUPB* is lower when financial managers are close to retirement or when their organizational identification is low. Finally, we find a lower *WUPB* in companies that are publicly traded and in growing companies.

Next, we exploit cross-sectional variation in the extent to which bonus incentives are based on financial performance targets as opposed to nonfinancial targets and subjective evaluations. Consistent with our predictions, we find that *WUPB* is positively associated with bonus incentives only when they are largely based on financial targets. Bonuses contingent on meeting of nonfinancial targets or discretionary bonuses without objective targets do not seem to be associated with financial managers' *WUPB*. Moreover, we show that these results are robust to controlling for unobserved sample heterogeneity. Using data from a follow-up survey, we estimate a model of changes in *WUPB* and find that an increase in financial managers' bonus

[1] Umphress, Bingham, and Mitchell (2010, 770) define *unethical pro-organizational behavior* (*UPB*) as "acts of commission (e.g., 'cooking' numbers to boost analyst projections and stock values) and omission (e.g., withholding information about the hazards of a pharmaceutical product) that are considered unethical by larger society. [It is] neither specified in formal job descriptions nor ordered by superiors, yet is carried out to benefit or help the organization." However, *UPB* need not necessarily be beneficial for the organization. "Although employees may try to help organizations by engaging in *UPB*, the final result of their actions may deviate from their intentions and may ultimately cause harm (e.g., destroying incriminating documents to protect the organization may heighten external auditors' suspicions and prompt fines or more negative consequences)" (Umphress, Bingham, and Mitchell 2010). Also, *UPB* "is not divorced from self-interested views of unethical behavior [because] individuals may perceive that benefiting the organization also benefits themselves" (Umphress, Bingham, and Mitchell 2010).

[2] It is well understood that financial reporting outcomes are noisy proxies for unethical behavior of financial managers. For example, the absence of SEC investigations does not guarantee the absence of misreporting; abnormally high discretionary accruals do not necessarily imply unethical behavior, etc.

[3] The social desirability bias is the tendency of respondents to provide answers that are socially acceptable and desirable. It is a major concern affecting measures of accounting manipulation used in prior studies in that the distribution of responses is skewed towards the desirable choice and exhibits little variance (Maas and Matějka 2009; Merchant 1990). Our survey instrument asks respondents about their willingness to engage in behavior which on its own may be viewed as unethical but which helps their organization and thus may also be viewed as socially desirable. This duality cannot completely eliminate the social desirability bias but has the potential to alleviate it because our questions do not have clear "right" or "wrong" answers. For example, a representative item asks respondents about the extent to which they agree that "If it would help my organization, I would misrepresent the truth to make my organization look good." Appendix B shows that the pro-organizational framing of the item reduces social desirability bias in that omitting the first part—"If it would help my organization"—significantly reduces the extent to which respondents agree with the statement.

incentives is positively associated with an increase in *WUPB*. Consistent with our cross-section result, this only holds for changes in incentives tied to financial targets but not changes in incentives tied to nonfinancial targets or subjective evaluations.

Our findings contribute to prior work as follows. First, we extend the literature on incentive compensation and financial misreporting (see Dechow, Ge, and Schrand [2010] for a review) by corroborating some of the prior findings using a novel measure of financial managers' willingness to engage in unethical behavior. This alleviates concerns about noise and bias in firm-level measures of unethical behavior based on financial reporting outcomes. More importantly, this calls for a broader interpretation of the prior findings—financial misreporting may be driven by financial managers' self-interest or the pressure of their superiors but it may as well be motivated by a desire to help others.

Second, we collect detailed survey data on incentive compensation of financial managers in a highly diverse sample including both listed and private companies, and managers at both the corporate and divisional levels. Moreover, incentive compensation of most financial managers in our sample is simple and transparent in that it consists solely of annual bonuses. This allows us to measure not only overall incentive strength but also the extent to which incentives are contingent on different types of performance targets. We show that an important determinant of *WUPB* is not incentive compensation per se but rather the way bonuses are structured and in particular the importance of short-term financial targets for managerial compensation. Thus, our results have practical implications for how to measure and evaluate performance of CFOs and other financial managers who play a critical role in the reporting of financial results.

Third, our research design allows us to examine potential determinants of unethical behavior that have rarely been considered in prior accounting literature such as organizational identification, membership in a professional organization, career concerns, and proximity to retirement. For example, our findings that financial managers' *WUPB* is strongly positively associated with organizational identification but not with individual career concerns suggest that our understanding of why financial managers are willing to engage in unethical behavior is at best incomplete.

Taken together, our empirical analyses suggest that *WUPB* has desirable psychometric properties and provides novel insights regarding potential drivers of financial managers' inclination to conduct unethical behavior. Thus, our findings contradict the view that survey research design is ill-suited to study accounting manipulation issues because of social desirability biases inherent in self-reported data. We provide evidence of discriminant validity, convergent validity, and temporal stability of our measure of *WUPB*. For example, it is noteworthy that *WUPB* is associated with the extent to which financial managers perceive a conflict between their dual responsibilities as predicted in prior work (Maas and Matějka 2009). Thus, our findings extend the list of validated instruments available for future survey work in this area.

PRIOR LITERATURE AND HYPOTHESES

Prior Literature

CFOs, controllers, and other financial managers have dual and sometimes conflicting responsibilities (Indjejikian and Matějka 2012). On the one hand, their organizational responsibilities entail working alongside other managers and helping meet organizational performance targets for example by providing decision-facilitating information or by getting directly involved in managing parts of the organization. On the other hand, financial managers also have fiduciary responsibilities which entail safeguarding their independence from other managers and generating reports that provide true and fair view of the financial performance of their organization. It is well recognized that the dual roles may conflict and consequently present financial managers with the dilemma of which of their responsibilities comes first (Jablonsky and Keating 1998; Siegel and Sorensen 1999).

Although the ethical standards of the profession require that fiduciary responsibilities always come first, in practice, financial managers may find it difficult to live up to such stringent standards. For example, by overemphasizing independence and strictly enforcing reporting rules and guidelines, financial managers may weaken their credibility with other managers, their access to important information, and ultimately their ability to report on financial performance of their organization (Maas and Matějka 2009). Thus, financial managers may find it necessary to occasionally compromise their fiduciary responsibilities and ethical standards and help their organization meet its goals even if it involves, to some degree, earnings management or other financial misreporting.

Prior studies find an association between various measures of incentive strength and financial misreporting as reflected in low quality of discretionary accruals, restatements, and the likelihood of meeting or just beating analysts' forecasts (Bergstresser and Philippon 2006; Burns and Kedia 2006; Cheng and Warfield 2005). There is also evidence that managers manipulate earnings to maximize payouts from their annual bonus plans (Gaver et al. 1995; Guidry, Leone, and Rock 1999; Healy 1985; Holthausen et al. 1995). However, some studies suggest that misreporting is less prevalent when annual bonus plans include nonfinancial measures of performance in addition to financial measures (HassabElnaby, Mohammad, and Said 2010; Ibrahim and Lloyd 2011).

Although most of prior literature relies on archival proxies for accounting manipulations and incentives, alternative research approaches also yield relevant insights. For example, Johnson, Fleischman, Valentine, and Walker (2012) provide experimental evidence that managers discount the ethical impact of earnings management when it has positive organizational consequences. Similarly, several other experimental studies suggest that misreporting is greater when its benefits are shared with others or when managers have a high-quality relationship with their superiors (Church et al. 2012; Jollineau, Vance, and Webb 2012; Maas and van Rinsum 2013).

Survey studies rarely examine the link between incentives and accounting manipulations. Merchant (1990) uses survey data and finds an association between earnings management and pressure to meet targets but does not collect data on incentives associated with meeting of performance targets. Several recent studies adapt and use the survey measure of earnings management from Merchant (1990). Libby and Lindsay (2013) use an indicator variable for performance-contingent bonuses and find no direct effect of incentives on earnings management. Abernethy, Bouwens, and Kroos (2017) find that incentive strength is positively associated with earnings management except when organizational identification is high. Abernethy, Bouwens, and Van Lent (2012) show that both earnings management and the choice of performance measures reflect work climate but do not test for a direct link between incentives choices and financial misreporting.

Hypotheses

Incentive Compensation

As discussed above, many prior studies examine the association between incentives and observable outcomes typically associated with accounting manipulations (e.g., restatements, meeting or just beating earnings benchmarks, abnormally high accruals). Much of the evidence in this area indirectly suggests that incentives increase managers' willingness to compromise their fiduciary responsibilities in order to secure incentive payouts for themselves and/or for other managers. Our study focuses directly on financial managers' willingness to engage in unethical pro-organizational behavior, rather than on financial reporting outcomes, but our first prediction is otherwise the same as in prior work. In particular, we predict that incentive compensation increases the perceived benefits of reporting favorable financial results and therefore also financial managers' willingness to engage in unethical behavior to meet performance targets.

More generally, incentive compensation is an important element of social norm systems that provides managers with clues about expected behavior within their organization (Salancik and Pfeffer 1978). For example, Palmer (2012, 86) emphasizes that "an organization's incentive structure can convey cultural content, which in turn can facilitate wrongdoing. When this is the case, an organization's incentive structure facilitates wrongdoing indirectly." Moreover, large rewards for meeting performance targets can make it easier for financial managers to rationalize unethical behavior as "the right thing to do" (Tenbrunsel and Messick 2004) because organizational expectations gain priority over the expectations of more distal social groups.

H1a: The willingness to engage in unethical pro-organizational behavior is positively associated with incentive compensation of financial managers.

The choice of performance measures in an incentive plan is particularly important in conveying what behavior is expected (Ittner, Larcker, and Rajan 1997). The most commonly used measures reflect financial results, which can have far-reaching consequences for the whole organization. Increasing the size of bonuses contingent on financial results makes such consequences more salient and creates pressure on financial managers to avoid reporting unfavorable results. In other words, a strong link between financial performance and bonuses communicates to financial managers that their organization depends on them to make sure that financial performance targets are achieved. This may increase their willingness to engage in unethical pro-organizational behavior to avoid failure to achieve such targets (Vardi and Wiener 1996; Pinto et al. 2008). For example, a large survey by Brenner and Molander (1977, 62) found that "despite its long-run value, ethical conduct apparently is not necessarily rewarded. Within the business organization, 50 percent of our respondents feel that one's superiors often do not want to know how results are obtained, as long as one achieves the desired outcome."

However, incentive compensation can also be contingent on objective nonfinancial targets or subjective evaluations in which case we expect no effect on the willingness to engage in unethical pro-organizational behavior. First, performance evaluated subjectively or by means of nonfinancial measures is monitored primarily for internal decision making and control purposes and rarely reported externally (Eccles and Mavrinac 1995; Kaplan and Norton 1996). Thus, misreporting of nonfinancial performance or window-dressing activities to influence subjective evaluations cannot easily be rationalized as pro-organizational behavior. Moreover, biasing of information used primarily for internal decision making and control may adversely affect other managers within the same organization (i.e., members of the same social group) rather than some anonymous capital market participants.

Second, a greater reliance on nonfinancial performance measures often increases managers' focus on long-term value creation and alleviates the pressure to deliver favorable short-term financial results (Ittner et al. 1997; Matějka, Merchant, and

Van der Stede 2009).[4] Similarly, subjective performance evaluation emphasizes difficult-to-measure dimensions of performance and focuses managers not only on delivering results but also on how the results were achieved thereby reinforcing ethical norms within the firm (Anand, Ashforth, and Joshi 2005; Bol 2008). Consistent with these arguments, there is some limited evidence that a greater reliance on nonfinancial performance measures reduces the extent to which managers exploit their discretion when making accounting choices (HassabElnaby et al. 2010).

Third, whereas financial performance targets are commonly included in incentive plans of all managers within an organization, nonfinancial targets and subjective assessments are often used to evaluate individual performance. For example, some nonfinancial targets for financial managers, such as those related to quality and timeliness of reporting, integration of information systems, or cost or cash-flow management initiatives in their area of responsibility, may not be included in incentive plans of other managers. Thus, financial managers may not only find it more difficult to manipulate nonfinancial performance or subjective evaluations, they may also be less willing to do so because individual gains cannot be rationalized as pro-organizational behavior.

Combined, the above arguments motivate the following hypotheses:[5]

H1b: The willingness to engage in unethical pro-organizational behavior is positively associated with financial managers' incentives contingent on financial performance.

H1c: The willingness to engage in unethical pro-organizational behavior is not associated with financial managers' incentives contingent on nonfinancial performance.

H1d: The willingness to engage in unethical pro-organizational behavior is not associated with financial managers' incentives contingent on subjective evaluations.

Individual Characteristics

Prior literature suggests that financial managers' willingness to engage in unethical behavior reflects the relative importance of their fiduciary responsibilities (e.g., Indjejikian and Matějka 2012). Below, we draw on this literature and consider several individual characteristics that may be related to the perceived importance of fiduciary responsibilities.

We predict that managers engage in unethical behavior in part to improve their career prospects (Dechow and Sloan 1991; Pourciau 1993). Collins (2006) uses a measure of career self-interest and find that it is positively associated with a tendency to accept tax evasion, insider trading, inappropriate capitalization, and manipulating income by transferring "allowance for doubtful accounts" to "other income" without justification. We also consider proximity to retirement as an alternative measure of career concerns and predict that is negatively associated with willingness to engage in unethical behavior. Specifically, we expect that managers planning for their retirement undergo a mental decoupling process as a result of which their sense of belonging to their organization starts to decline (Van Dick, Wagner, Stellmacher, and Christ 2004). As managers start to anticipate withdrawal from their organization, the relative importance of personal moral standards is likely to increase and the importance of organizational norms and expectations likely to decrease. This should reduce managers' willingness to engage in behavior that conflicts with personal moral standards even if it is viewed as helping their company.

H2a: The willingness to engage in unethical pro-organizational behavior is positively associated with career self-interest.

H2b: The willingness to engage in unethical pro-organizational behavior is negatively associated with financial managers' proximity to retirement.

Next, we predict that organizational identification is positively associated with willingness to engage in unethical pro-organizational behavior. Umphress et al. (2010) motivate the same prediction but do not find empirical support for it. Related findings in the accounting literature provide partial support for the prediction. Abernethy et al. (2012) find no significant main effect of organizational identification on earnings manipulation, whereas Indjejikian and Matějka (2006) find that earnings targets contain more slack and are easier to achieve when divisional controllers identify more with local management rather

[4] We acknowledge that some nonfinancial performance measures may also focus managers on short-term outcomes.

[5] Note that H1c and H1d are null hypotheses. There is some discussion in prior work regarding the purpose of testing null hypotheses. Cortina and Folger (1998) review this discussion and conclude that null hypotheses are appropriate to test boundary conditions, i.e., to contrast settings where an effect occurs with settings where no effect occurs. H1c and H1d are in line with their suggestion in the sense that the nonfinancial and subjective evaluations represent boundary conditions where the association between incentives and unethical behavior does not necessarily occur. Cashen and Geiger (2004) review prior literature on testing of null hypotheses. Following their recommendations, we report the power of our statistical test when discussing the results pertaining to H1c and H1d. A similar approach has been used in prior accounting studies (Abernethy, Bouwens, and Van Lent 2010; Artz, Homburg, and Rajab 2012).

than with their functional superiors at the corporate level. Thus, we expect that financial managers who more strongly identify with their company are more willing to engage in unethical behavior to help meet its financial targets.

H3: The willingness to engage in unethical pro-organizational behavior is positively associated with financial managers' organizational identification.

Finally, we expect that institutional membership affects financial managers' willingness to engage in unethical behavior. For example, financial managers who are members of a professional association are more likely to interact with colleagues outside their organization, more likely to participate in events that emphasize the stringent professional and ethical standards, and thus also more likely to identify with the profession and less likely to compromise their fiduciary duties. Consistent with this prediction, Harrell, Taylor, and Chewning (1989) find that members of a professional association of internal auditors resist management's efforts to bias their evaluations more than internal auditors who are not members. Abernethy et al. (2012) find that a public accountant certification is negatively associated with the degree of accounting manipulation as reported by controllers in The Netherlands.

H4: The willingness to engage in unethical pro-organizational behavior is negatively associated with financial managers' membership in a professional association.

RESEARCH DESIGN

Data Collection

We use data collected by means of a survey panel whose members are CFOs or heads of finance/controlling departments in private sector companies or their business units in Germany, Austria, and Switzerland. Restricting our data collection to these three countries with very similar cultures reduces potential biases from cultural factors influencing the variables under study (Chow, Kato, and Merchant 1996; Harrison 1992). Given that the panel surveys are conducted in German, we employ well-established translation-retranslation procedures to ensure inter-language validity when using measures from prior literature (Daniel and Reitsperger 1991).

The panel surveys are administered online based on the recommendations of Dillman (2000) with regard to response-friendly design, cover letter, survey length, personalized correspondence, and providing incentives for respondents. All surveys are pretested with financial managers and academics in the field of management accounting.

At the time of our main survey in Spring 2011, the panel had 926 members. 452 of these members participated yielding a response rate of 49 percent. We use all available data to estimate measurement models and validate our empirical constructs. However, due to missing values on some of our measures, our main analysis is based on data collected from a sample of 253 respondents. 20 percent of those respondents are corporate or business unit CFOs, 52 percent are controllers directly reporting to the CFO, and 28 percent are other financial managers.

We test for potential non-response bias in two ways. First, we compare the sample and panel population in terms of company size, gender, age, and the position of the respondent using an independent-samples t-test. Second, we divide our sample into three equal groups of early, intermediate, and late respondents and perform a similar comparison (Armstrong and Overton 1977; Oppenheim 1966). We find no statistically significant differences in any of our tests alleviating concerns about potential non-response biases.

In addition to our main data set from Spring 2011, we also use supplementary data from panel surveys conducted in Fall 2010, Spring 2012, and Spring 2013 with response rates of 33 percent, 50 percent, and 42 percent, respectively. The 2010 survey allows us to include additional explanatory variables in our main models. The 2012 survey yields a sample of 129 respondents participating in both the 2011 and 2012 surveys for which we can estimate a model of changes in the willingness to engage in unethical behavior as a function of changes in incentive compensation. Finally, the 2013 survey adds a measure of earnings management similar to the one used in prior literature (e.g., Merchant 1990) and allows us to report additional reliability and validity tests in Appendix B.

Measures

Willingness to Engage in Unethical Pro-Organizational Behavior

We measure the willingness to engage in unethical pro-organizational behavior (*WUPB*) using six Likert scale items from Umphress et al. (2010).[6] A representative item asks financial managers about the extent to which they agree that "If it would

[6] We present these six items as well as all other measures discussed in this section in Appendix A.

benefit my organization, I would withhold negative information about my company or its products from customers and clients." Respondents indicate their agreement on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). To assess validity and reliability of this measure, we follow the same procedure as in Umphress et al. (2010). Specifically, we collect data on two-related constructs and then assess the distinctiveness of *WUPB* by means of a confirmatory factor analysis. The results of the measurement model and reliability of *WUPB* ($\alpha = 0.81$) are very similar to those in Umphress et al. (2010). Appendix B provides more details on the measurement model as well as extensive additional reliability and validity tests.

Incentive Compensation

We use the survey instrument of Indjejikian and Matějka (2009) to collect data on incentive compensation of financial managers. In particular, we ask respondents about their 2010 compensation including salary, annual bonus, payouts from a long-term cash bonus plan, and equity awards. In addition, we ask about the target bonus in 2011, i.e., the bonus an executive is eligible for if 2011 performance exactly meets all targets. Finally, we collect data on the relative importance of different performance measures in the target bonus; i.e., the percentage of the 2011 target bonus based on: (1) financial performance targets, (2) non-financial performance targets, and (3) performance evaluated subjectively.

Our main measure, *BONUS*, is the 2011 target bonus as a percentage of salary. *BONUS* equals 0 for respondents who are not eligible for an annual bonus. A similar measure *BONUS10* is the actually earned 2010 annual bonus as a percentage of salary. Our supplementary tests distinguish between different types of performance measures comprising the target bonus. Specifically, we define *BONUS_FIN* as the percentage of salary that can be earned as 2011 target bonus if only financial measures meet expectations (and no bonus is paid based on nonfinancial measures or subjective evaluations). We define *BONUS_NFIN* and *BONUS_SUB* similarly as the parts of the 2011 target bonus contingent on nonfinancial measures and subjective evaluations, respectively.

Individual Characteristics

We construct two variables based on respondents' age. *RETIRE* is an indicator variable for respondents who are 60+ years old and thus relatively close to retirement. We also use untransformed *AGE* as a control variable. Further, we adapt a measure of career self-interest from Collins (2006), which is based on six five-point Likert scale items. A representative item asks respondents about the extent to which they agree that "I do whatever it takes to enhance my promotion potential." A factor analysis of the six items fails to support unidimensionality of the construct because two items concerning job security load on a distinct factor. This could result from the cultural and economic differences between the U.S. and the countries in our sample with respect to layoff policies and job security. To improve the measurement properties of the construct we drop these two items. The resulting four-item construct, *CAREER*, has satisfactory reliability (Cronbach's $\alpha = 0.89$). As evidence of external validity, we find a significant negative correlation between *CAREER* and *RETIRE* ($\rho = -0.18$, $p < 0.01$) which is consistent with our expectation that both constructs reflect career concerns.

We use five items from the measure of organizational identification in Mael and Ashforth's (1992) as adapted by Umphress et al. (2010). A representative five-point Likert item asks respondents about the extent to which they agree that "My organization's successes are my successes." Reliability of the five-item construct, *IDENTIFY*, is satisfactory (Cronbach's $\alpha = 0.78$). Further, we find a significant positive correlation between *IDENTIFY* and a measure of job satisfaction ($\rho = 0.33$, $p < 0.01$) which supports external validity of the construct.

Finally, we measure institutional membership, *MEMBER*, as an indicator variable equal to 1 if the respondent is a member of a professional organization of financial managers in one of the participating countries.

Control Variables

We include several control variables in our analysis which could be associated with *WUPB* or the expected costs and benefits of financial misreporting. In particular, we use indicator variable *LISTED* for respondents in publicly listed companies where both the benefits and costs of misreporting are different than in privately held companies. For example, public companies may be under greater pressure to meet financial performance targets, but at the same time financial misreporting in public companies is more likely to be exposed and the resulting costs (e.g., penalties, litigation, loss of investor confidence) may be greater than in private companies.

We also include indicator variable *BU* for respondents who are at the business unit (rather than corporate) level, because the desire to help others may be stronger within entities at lower organizational levels.[7] We measure *SIZE* as the log of the

[7] In an untabulated analysis we also estimate interaction effects of *BU* with our main variables of interest, but do not find any significant results.

TABLE 1

Descriptive Statistics

	n	Mean	Std. Dev.	25th Pct.	Median	75th Pct.
WUPB	253	0.04	0.70	−0.48	−0.07	0.53
WUPBraw	253	2.13	0.73	1.67	2.00	2.67
LISTED	253	0.19	0.39	0.00	0.00	0.00
BU	253	0.36	0.48	0.00	0.00	1.00
SIZE	253	3,855	12,324	200	560	1,900
SALES	239	1,376	6,325	50	125	500
GROWTH	253	0.26	0.44	0.00	0.00	1.00
AGE	253	42.97	8.45	37.00	43.00	48.00
RETIRE	253	0.04	0.19	0.00	0.00	0.00
CAREER	253	−0.04	0.73	−0.68	0.02	0.55
CAREERraw	253	2.89	1.00	2.00	3.00	3.75
IDENTIFY	253	−0.07	0.64	−0.51	0.03	0.39
IDENTIFYraw	253	3.76	0.69	3.25	3.80	4.20
MEMBER	253	0.60	0.49	0.00	1.00	1.00

Variable Definitions:
WUPB = willingness to engage in unethical behavior (factor scores);
WUPBraw = willingness to engage in unethical behavior (average of the six underlying items);
LISTED = indicator variable for listed companies;
BU = indicator variable for business units;
SIZE = number of employees (unlogged);
SALES = annual sales;
GROWTH = indicator variable for high-growth companies;
AGE = respondents' age;
RETIRE = indicator variable for proximity to retirement;
CAREER = career self-interest (factor scores);
CAREERraw = career self-interest (average of the six underlying items);
IDENTIFY = organizational identification (factor scores);
IDENTIFYraw = organizational identification (average of the five underlying items); and
MEMBER = indicator variable for members of an association of financial managers.

number of employees to reduce deviations from normality (an alternative measure based on annual sales yields similar results but has more missing values). To measure growth, we ask respondents to classify their company into one of the following categories: foundation/birth, growth, maturity, realignment/revival, and decline. *GROWTH* is an indicator variable for respondents who selected the "growth" category.

RESULTS

Descriptive Statistics

Table 1 presents a summary of our sample characteristics. Of the 253 companies, 19 percent are publicly listed and 81 percent are privately held. Although the majority of the sample are independent companies, 36 percent are business units of (listed or private) companies.[8] The median company has 555 employees and annual sales of €123 million. High-growth companies comprise 27 percent of the sample. The median respondent is 43 years old and about 4 percent of the respondents are 60+ years old and thus close to retirement. Most respondents (60 percent) are also members of a professional association of financial managers.[9] For variables based on factor scores, *WUPB*, *CAREER*, and *IDENTIFY*, we present both the factor scores used in the main analysis and raw scores calculated as averages of the underlying Likert scale items. The average and median raw score of *WUPB* suggests that respondents typically slightly disagree with items measuring the willingness to engage in unethical behavior. The median raw score of *CAREER* is the mid-point of the scale and the median raw score of *IDENTIFY*

[8] For ease of exposition, we further refer to our observations as companies even though the sample also includes business units.
[9] A large majority of our respondents who are members of a professional organization belong to the "International Association of Controllers."

TABLE 2

Incentive Compensation

	n	Mean	Std. Dev.	25th Pct.	Median	75th Pct.
salary	253	81,306	28,666	65,000	78,000	95,000
bonus	191	20,374	31,365	6,000	12,000	23,000
bonus10	191	16,011	21,148	5,000	10,000	20,000
fin	191	43.29	35.63	0.00	40.00	70.00
nonfin	191	26.18	28.36	0.00	20.00	50.00
subject	191	15.24	27.53	0.00	0.00	20.00
BONUS	253	0.17	0.25	0.01	0.11	0.21
BONUS10	253	0.13	0.20	0.00	0.09	0.18
BONUS_FIN	191	0.11	0.22	0.00	0.06	0.13
BONUS_NFIN	191	0.06	0.10	0.00	0.02	0.09
BONUS_SUB	191	0.03	0.07	0.00	0.00	0.03

Variables with lower-case names are presented for descriptive purposes and are not used in further analyses.

Variable Definitions:
salary = 2010 annual base salary (in €);
bonus = 2011 target bonus (in €);
bonus10 = 2010 annual bonus earned (in €);
fin = expected percentage of 2011 target bonus based on financial performance targets (if all targets are met);
nonfin = expected percentage of 2011 target bonus based on nonfinancial performance targets;
subject = expected percentage of 2011 target bonus based on subjective evaluations;
BONUS = 2011 target bonus as a percentage of salary;
BONUS10 = 2010 annual bonus as a percentage of salary;
BONUS_FIN = percentage of salary that can be earned as 2011 target bonus if only financial targets are met (missing value when no bonus plan in place);
BONUS_NFIN = percentage of salary that can be earned as 2011 target bonus if only nonfinancial targets are met; and
BONUS_SUB = percentage of salary that can be earned as 2011 target bonus based on subjective evaluations only.

reflects agreement with items measuring organizational identification. All variables based on factor scores exhibit considerable variation.

Untabulated results suggest that the annual bonus is by far the most important component of incentive compensation. Of the 253 respondents, 191 (75 percent) are eligible for annual bonuses whereas only 15 (6 percent) are eligible for payouts from long-term cash (equity) plans. Table 2 provides more details on the design of annual bonus plans. The median salary is €78,000 and the median target bonus, i.e., the amount that can be earned if 2011 performance exactly meets all targets, is €12,000. The median earned bonus for 2010 performance is somewhat lower at €10,000. On average, 43 percent of the target bonus is contingent on meeting financial performance targets, 26 percent is based on nonfinancial performance targets, 15 percent is determined subjectively, and the remainder in some other way (e.g., business unit bonuses may be tied to performance of the whole company).

Table 2 also shows that the target bonus is 17 percent of salary on average and the interquartile range is 1–21 percent. Respondents who are eligible for a bonus earn on average 11 percent of their salary as bonus if financial performance meets targets (*BONUS_FIN*), another 6 percent if nonfinancial performance is on target (*BONUS_NFIN*), and 3 percent based on subjective evaluations (*BONUS_SUB*). The sum of these components is greater than the average of *BONUS* because the components assign missing values to respondents who are not eligible for an annual bonus whereas *BONUS* equals 0 in such cases. Finally, we find several extreme cases where the target bonus can be greater than salary. To minimize the influence of such extreme observations, in what follows, we winsorize the right tail of the distributions of all bonus-related variables at the 5 percent level.[10]

Table 3 presents correlations among variables that we later use in our regression models. *WUPB* correlates positively with bonus size (*BONUS*) as well as with the amount of bonus contingent on financial performance targets. *WUPB* does not seem to be associated with the amount of bonus based on nonfinancial targets or subjective evaluations. *WUPB* is lower in publicly listed companies, in growing entities, and in entities where financial managers approach retirement age or identify less with

[10] The 95th percentile of *BONUS* is 0.64 and the 99th percentile is 1.29. Winsorizing bonus related variables at the 1 percent level leaves our results qualitatively unchanged.

TABLE 3

Correlations

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. *WUPB*	1.000												
2. *BONUS*	0.122*	1.000											
3. *BONUS_FIN*	0.138*	0.770***	1.000										
4. *BONUS_NFIN*	0.007	0.484***	0.107	1.000									
5. *BONUS_SUB*	−0.036	0.318***	0.031	0.079	1.000								
6. *LISTED*	−0.148**	0.023	−0.103	0.061	0.011	1.000							
7. *BU*	0.028	−0.040	−0.167**	−0.100	−0.039	0.298***	1.000						
8. *SIZE*	0.090	0.032	0.071	−0.046	−0.015	0.196***	−0.090	1.000					
9. *GROWTH*	−0.143**	0.045	0.057	0.023	0.067	−0.010	−0.039	−0.048	1.000				
10. *AGE*	−0.092	0.048	0.125*	−0.058	−0.171**	−0.094	−0.113*	0.018	0.146**	1.000			
11. *RETIRE*	−0.127**	0.022	0.077	−0.034	−0.012	−0.092	−0.055	−0.031	0.030	0.410***	1.000		
12. *CAREER*	0.098	−0.085	−0.173**	−0.019	0.003	0.073	0.039	−0.037	−0.034	−0.322***	−0.159**	1.000	
13. *IDENTIFY*	0.166***	0.154**	0.143**	−0.065	0.031	−0.061	−0.086	−0.066	0.131**	0.172***	0.101	0.072	1.000
14. *MEMBER*	−0.060	0.010	−0.108	0.062	0.015	0.012	0.033	−0.036	−0.211***	−0.032	0.024	0.107*	−0.125**

***, **, * Indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using two-tailed p-values.
See Tables 1 and 2 for variable definitions.

TABLE 4

OLS Models of the Willingness to Engage in Unethical Pro-Organizational Behavior

Variables	Predicted Sign	Willingness to Engage in Unethical Pro-Organizational Behavior (*WUPB*) (1)	(2)
Constant		0.288	0.333
		(0.279)	(0.214)
BONUS	H1a: +	0.559**	
		(0.045)	
BONUS10	H1a: +		0.640*
			(0.063)
CAREER	H2a: +	0.076	0.066
		(0.270)	(0.334)
RETIRE	H2b: −	−0.471***	−0.478***
		(0.009)	(0.008)
AGE		−0.003	−0.004
		(0.623)	(0.526)
IDENTIFY	H3: +	0.181**	0.185***
		(0.010)	(0.009)
MEMBER	H4: −	−0.121	−0.118
		(0.178)	(0.192)
LISTED		−0.335***	−0.344***
		(0.002)	(0.001)
BU		0.123	0.117
		(0.209)	(0.234)
SIZE		−0.002	−0.002
		(0.947)	(0.923)
GROWTH		−0.277***	−0.264***
		(0.005)	(0.008)
Adjusted R^2		0.094	0.091
n		253	253

***, **, * Indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using two-tailed p-values.
See Tables 1 and 2 for variable definitions.

their organization. Other notable associations suggest that managers concerned about their career have lower bonuses for financial performance, are younger, and more likely to be members of a professional association.

Tests of Hypotheses

In our tests, we model *WUPB* as a function of incentives design choices, individual characteristics (age, proximity to retirement, career concerns, organizational identification, and institutional membership), and several control variables (size, growth, organizational level, and listing status).[11] Column (1) of Table 4 presents OLS estimates of our main model.

As predicted by H1a, we find that *WUPB* is positively associated ($p = 0.05$) with the target bonus as a percentage of salary (*BONUS*). Column (2) of Table 4 shows the results are similar when we measure incentive compensation as actual bonuses earned in 2010 (*BONUS10*) rather than the bonus opportunity in 2011. We find again a positive association between *WUPB* and earned bonuses ($p = 0.06$). Thus, controlling for other individual and organizational characteristics, a higher bonus as a percentage of salary is associated with greater willingness to engage in unethical behavior.

We find no support for H2a in that *WUPB* is not associated with our measure of career self-interest *CAREER*. Nevertheless, we find support for H2b in that *WUPB* is lower ($p < 0.01$) when financial managers are close to retirement, i.e., at least 60

[11] In an alternative specification we also include industry fixed effects. We do not present these results because they provide little additional insights and sacrifice parsimony of our main model. Similarly, in our model specification tests, we consider interactions between organizational identification and all other explanatory variables but do not find any robust interaction effects.

years old. In a robustness test, we include only age or only the *RETIRE* variable. The inference remains similar. While each individual effect gets stronger, including only age as another regressor does not yield a significant association which suggests that the relation between *WUPB* and age is nonlinear.

We also find support for H3 in that financial managers who strongly identify with their organization report higher willingness to engage in unethical behavior, i.e., there is a positive association between *WUPB* and *IDENTIFY* ($p = 0.01$). However, there is little or no support for H4—*WUPB* is lower when respondents are members of a professional association yet the coefficient estimate is not significant ($p = 0.18$).

With respect to the control variables, we find that financial managers in listed companies report a lower willingness to engage in unethical pro-organizational behavior than financial managers in private companies ($p < 0.01$). This may reflect that listed companies invest more in the development and enforcement of corporate reporting policies and other mechanisms emphasizing the fiduciary responsibilities of financial managers. We also find that *WUPB* is negatively associated ($p < 0.01$) with growth, which may reflect that growing companies find it easier to meet their financial targets.[12]

The implicit assumption behind H1a is that financial managers are more willing to exercise their control over reported financial results or more willing to tolerate financial misreporting if their bonuses are contingent on financial targets. Although objective sales- or earnings-based targets account for the majority of bonuses in most companies, there is also considerable cross-sectional variation in the extent to which bonuses are contingent on financial targets as opposed to nonfinancial targets or subjective evaluations.

We take this variation in the choice of performance targets into account in Table 5. We use additional data on the three main components of *BONUS*, i.e., the percentage of salary based on (1) financial targets (*BONUS_FIN*), (2) nonfinancial targets (*BONUS_NFIN*), and (3) subjective evaluations (*BONUS_SUB*). Using this additional data reduces our sample size because it only includes respondents who are eligible for annual bonuses and willing to provide detailed information on the relative importance of various performance measures. However, it allows us to reestimate our model from Table 4 separately for the different types of bonuses. Consistent with H1b–H1d, we find that *BONUS_FIN* is the only bonus component that is significantly associated with *WUPB* ($p = 0.08$). Given that H1c and H1d are null hypotheses, we additionally perform a power analysis. We find that our study has a power greater than 0.95 to detect medium sized effects as defined by Cohen (1988, 413). In other words, the probability that we fail to reject H1c and H1d when they are false is less than 5 percent assuming that the effect is not too small.

In summary, we find that financial managers' willingness to engage in unethical pro-organizational behavior is associated with several individual and organizational characteristics as predicted. Specifically, *WUPB* is lower when growth is high, when companies are publicly listed, and when financial managers identify less with their organizations. Controlling for all these characteristics, we find that the design of annual bonus plans for financial managers is an important determinant of *WUPB*. Offering a greater bonus opportunity or paying a higher bonus contingent on financial performance is associated with greater willingness to engage in unethical pro-organizational behavior. On the other hand, there is no evidence that increasing the amount of discretionary bonuses or bonuses dependent on nonfinancial targets is associated with greater *WUPB*.

Additional Evidence

In this section, we address the concern that the association between incentive design choices and *WUPB* could arise spuriously because the main analysis can only control for a limited set of individual and organizational characteristics. The unique feature of our survey is that we can collect data from respondents at different points in time. This allows us to reestimate the models in Tables 4 and 5 using a changes specification that controls for all time-invariant individual and organizational characteristics. Inevitably, this approach also reduces the sample size because of the 253 respondents participating in 2011 survey (see Table 4) only 191 also participated a year later.

Table 6 presents the results of estimating the changes model. Panel A examines the effect of changes in the percentage of salary that can be earned as bonus on changes in the willingness to engage in unethical behavior. We do not include other control variables from Table 4 because they are (largely) time-invariant and thus drop out from a changes model. We find strong evidence that a 2011–2012 increase in the bonus opportunity of financial managers coincides with an increase in their willingness to engage in unethical pro-organizational behavior ($p < 0.01$).

Panels B–D of Table 6 report changes specifications that correspond to the analysis in Table 5 and separately examine the effects of bonuses contingent on different performance measures. The results suggest that increases in the willingness to engage in unethical pro-organizational behavior are associated with increases in bonuses contingent on financial targets ($p = 0.04$) but

[12] As an additional (untabulated) robustness check, we also include alternative measures of profitability: (1) earnings as percentage of sales, (2) an indicator variable for negative earnings, and (3) various indicators for earnings just above and/or just below 0. Our results remain qualitatively unchanged but we do not include these additional control variables in our main analysis to alleviate concerns about endogeneity.

TABLE 5

Alternative OLS Models of the Willingness to Engage in Unethical Pro-Organizational Behavior

Variables	Predicted Sign	Willingness to Engage in Unethical Pro-Organizational Behavior (*WUPB*) (1)	(2)	(3)
Constant		0.501*	0.536*	0.611**
		(0.091)	(0.087)	(0.048)
BONUS_FIN	H1b: +	0.908*		
		(0.083)		
BONUS_NFIN	H1c: 0		0.386	
			(0.572)	
BONUS_SUB	H1d: 0			−0.840
				(0.518)
CAREER	H2a: +	0.079	0.060	0.055
		(0.348)	(0.471)	(0.501)
RETIRE	H2b: −	−0.384*	−0.353*	−0.340*
		(0.071)	(0.077)	(0.079)
AGE		−0.009	−0.009	−0.010
		(0.148)	(0.179)	(0.128)
IDENTIFY	H3: +	0.255***	0.280***	0.282***
		(0.002)	(0.001)	(0.000)
MEMBER	H4: −	−0.056	−0.074	−0.067
		(0.588)	(0.483)	(0.516)
LISTED		−0.217*	−0.237**	−0.232*
		(0.070)	(0.048)	(0.054)
BU		0.120	0.102	0.094
		(0.264)	(0.352)	(0.382)
SIZE		−0.001	0.004	0.006
		(0.960)	(0.888)	(0.816)
GROWTH		−0.207*	−0.205*	−0.194*
		(0.060)	(0.071)	(0.092)
Adjusted R^2		0.089	0.070	0.071
n		191	191	191

***, **, * Indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using two-tailed p-values.
See Tables 1 and 2 for variable definitions.

not with increases in bonuses based on nonfinancial targets or subjective evaluations. Combined, the evidence suggests that our results from Tables 4 and 5 are unlikely to be driven by correlated omitted variables.

Self-Interest versus Pro-Organizational Motives

It is not our intent to argue that unethical pro-organizational behavior is solely driven by concern for others. For example, the evidence in support of H1a and H1b could mean that unethical behavior is motivated by the desire to help other organizational members but it could also be driven by managers' willingness to self-interestedly maximize their own utility (Force 2003). Nevertheless, some of our results allow us at least to partly differentiate between the two potential explanations of unethical behavior.

We find that proximity to retirement is associated with lower *WUPB,* which is consistent with our prediction that managers who are about to leave their organization are less likely or less willing to engage in pro-organizational behavior. The alternative explanation of unethical behavior based on self-interest implies the opposite prediction. Self-interested managers close to retirement are likely to disregard the potential long-term costs of their unethical behavior because it would be borne by the organization and not by them (Kang 2016; Kalyta 2009; Cassell, Huang, and Sanchez 2013). Consequently, proximity to retirement would be associated with higher *WUPB* if self-interest was a major motivation of managerial actions.

In addition, we find no association between career self-interest and *WUPB*. If the willingness to engage in unethical behavior is primarily driven by the desire to help others, then this result is not surprising. In contrast, if unethical behavior was

TABLE 6

OLS Models of Changes in the Willingness to Engage in Unethical Pro-Organizational Behavior
Change in the Willingness to Engage in Unethical Pro-Organizational Behavior (Δ*WUPB*)

Panel A: Effect of a Bonus Change

Variable	Predicted Sign	Estimate	p-value
Δ*BONUS*	H1a: +	1.131***	0.009
Adjusted R^2		0.049	
n		129	

Panel B: Effect of a Change in Bonus Based on Financial Targets

Variable	Predicted Sign	Estimate	p-value
Δ*BONUS_FIN*	H1b: +	1.450**	0.041
Adjusted R^2		0.056	
n		92	

Panel C: Effect of a Change in Bonus Based on Non-Financial Targets

Variable	Predicted Sign	Estimate	p-value
Δ*BONUS_NFIN*	H1c: 0	−0.327	0.767
Adjusted R^2		0.000	
n		92	

Panel D: Effect of a Change in Bonus Based on Subjective Evaluations

Variable	Predicted Sign	Estimate	p-value
Δ*BONUS_SUB*	H1d: 0	−0.895	0.566
Adjusted R^2		0.000	
n		92	

***, ** Indicate significance at the 1 percent and 5 percent respectively, using two-tailed p-values.
Constants were included in the regressions but are not reported. The estimation sample includes only respondents participating in 2011 and 2012 surveys and providing non-missing responses in both years to all items measuring *WUPB* and either *BONUS*, *BONUS_FIN*, *BONUS_NFIN*, or *BONUS_SUB*. Δ*WUPB* is the difference between 2012 and 2011 *WUPB* scores; Δ*BONUS_FIN*, Δ*BONUS_NFIN*, Δ*BONUS_SUB* are defined in a similar way.
See Tables 1 and 2 for variable definitions.

motivated primarily by self-interest, then we would have expected a positive association because managers overly focused on fast career progress are more likely to disregard ethical norms and more willing to "do whatever it takes."

In summary, our findings discussed above do not rule out that *WUPB* is driven by managerial self-interest but they do suggest that pro-organizational motives and the desire to help others are also important determinants of financial managers' willingness to engage in unethical behavior.

DISCUSSION AND CONCLUSIONS

Financial managers have a fiduciary duty to enforce the integrity of financial reporting. At the same time, financial managers work alongside other top managers and strive to meet common financial goals. Given this tension, it is important to better understand how financial managers' willingness to engage in unethical pro-organizational behavior depends on various individual and organizational characteristics. Using survey data from 253 respondents we find that unethical pro-organizational behavior is lower when financial managers are close to retirement and when they work in high-growth or in publicly listed companies. We also find that it is positively associated with financial managers' organizational identification. Finally, we examine whether explicit incentives to meet financial goals potentially compromise their fiduciary duties. Consistent with the notion that the dual responsibilities of financial managers may be conflicting, we find evidence that the willingness to engage in unethical pro-organizational behavior is greater whenever financial managers have stronger incentives to meet financial targets. Importantly, we find no such association for bonuses contingent on nonfinancial targets or subjective evaluations.

Several prior studies investigate unethical behavior using publicly available data and various proxies for earnings management or accounting irregularities. In contrast, our study relies on survey data and uses a measure of willingness to engage in pro-organizational unethical behavior which allows us to extend prior studies as follows.

First, we can triangulate prior findings regarding an association between incentive design and unethical behavior using a different research method. We extensively validate a new measure imported from organizational psychology literature and demonstrate that it has sufficient power to detect associations with incentive design choices. Our research design also allows us to examine the relative importance of several new potential determinants of the willingness to engage in unethical behavior such as career self-interest, proximity to retirement, organizational identification, and membership in a professional association.

Second, prior studies examine settings where managers commonly participate in annual bonus plans, multi-year incentive plans, equity compensation plans, etc. Multi-component compensation packages make it harder to assess the extent to which compensation depends on short-term financial performance as opposed to stock returns or some other indicators of long-term financial performance. In contrast, the main source of incentives for financial managers in our sample is annual bonuses. We can construct a simple measure of *ex ante* incentive strength based on the amount of bonuses earned if performance is on target. Relying on survey data also allows us to exploit cross-sectional variance in the extent to which bonuses depend on objective financial targets as opposed to nonfinancial targets or subjective evaluations over which financial managers have less control. As expected, we find an association between willingness to engage in unethical pro-organizational behavior and bonuses contingent on meeting financial targets but no associations when bonuses are based on nonfinancial performance or subjective evaluations.

Finally, our measure puts emphasis on the pro-organizational motives of unethical behavior which have received much less consideration in the literature than self-interest. While the measure is not designed to clearly distinguish between pro-organizational and self-interested motives, it does allow us to highlight some findings consistent with the desire to help others as a determinant of financial managers' willingness to engage in unethical behavior. Improving our understanding of the different motives behind unethical behavior is important to design effective internal controls. For example, if financial managers' are motivated by the desire to help their organization, then policies credibly communicating that their unethical behavior is detrimental to organizational objectives can be effective in reducing such behavior. In contrast, if financial managers are motivated purely by self-interest, then such policies are unlikely to be effective.

At the same time, we acknowledge that our survey-based data also has limitations. Compared to prior studies relying on publicly available data from large companies, our sample entities are relatively small. We find it worthwhile to add to the literature evidence on different types of companies, but we emphasize that our results need not generalize to top financial executives of large companies considered in prior studies. Also, ideally, we would have combined our survey data with financial reporting data from public sources. However, for most entities in our sample, archival proxies for earnings management are not available and thus we cannot directly assess whether our measure of unethical behavior is associated with archival proxies for earnings management used in prior studies. In addition, we acknowledge that despite our extensive efforts to mitigate social desirability and common method biases, no survey study can completely rule them out. In summary, we believe that our research design has both unique advantages and limitations and thus complements existing findings based on the analysis of publicly available data.

REFERENCES

Abernethy, M. A., J. Bouwens, and L. Van Lent. 2010. Leadership and control system design. *Management Accounting Research* 21 (1): 2–16. https://doi.org/10.1016/j.mar.2009.10.002

Abernethy, M. A., J. Bouwens, and L. Van Lent. 2012. *Ethics, Performance Measure Choice, and Accounting Manipulation*. Working paper.

Abernethy, M. A., J. Bouwens, and P. Kroos. 2017. Organization identity and earnings manipulation. *Accounting, Organizations and Society* 58: 1–14. https://doi.org/10.1016/j.aos.2017.04.002

Anand, V., B. E. Ashforth, and M. Joshi. 2005. Business as usual: The acceptance and perpetuation of corruption in organizations. *The Academy of Management Executive* 19 (4): 9–23. https://doi.org/10.5465/AME.2005.19417904

Aranya, N., and K. R. Ferris. 1984. A reexamination of accountants' organizational-professional conflict. *The Accounting Review* 59 (1): 1–15.

Armstrong, J. S., and T. S. Overton. 1977. Estimating nonresponse bias in mail surveys. *JMR, Journal of Marketing Research* 14 (3): 396–402. https://doi.org/10.2307/3150783

Armstrong, C. S., A. D. Jagolinzer, and D. F. Larcker. 2010. Chief executive officer equity incentives and accounting irregularities. *Journal of Accounting Research* 48 (2): 225–271. https://doi.org/10.1111/j.1475-679X.2009.00361.x

Artz, M., C. Homburg, and T. Rajab. 2012. Performance-measurement system design and functional strategic decision influence: The role of performance-measure properties. *Accounting, Organizations and Society* 37 (7): 445–460. https://doi.org/10.1016/j.aos.2012.07.001

Babin, B. J., J. S. Boles, and D. P. Robin. 2000. Representing the perceived ethical work climate among marketing employees. *Journal of the Academy of Marketing Science* 28 (3): 345–358. https://doi.org/10.1177/0092070300283004

Bergstresser, D., and T. Philippon. 2006. CEO Incentives and earnings management. *Journal of Financial Economics* 80 (3): 511–529. https://doi.org/10.1016/j.jfineco.2004.10.011

Bishop, C., F. T. DeZoort, and D. R. Hermanson. 2017. The effect of CEO social influence pressure and CFO accounting experience on CFO financial reporting decisions. *Auditing: A Journal of Practice & Theory* 36 (1): 21–41. https://doi.org/10.2308/ajpt-51507

Bol, J. C. 2008. Subjectivity in compensation contracting. *Journal of Accounting Literature* 27: 1–24.

Brenner, S. N., and E. A. Molander. 1977. Is the ethics of business changing? *Harvard Business Review* 55 (1): 57–71.

Burns, N., and S. Kedia. 2006. The impact of performance-based compensation on misreporting. *Journal of Financial Economics* 79 (1): 35–67. https://doi.org/10.1016/j.jfineco.2004.12.003

Cashen, L. H., and S. W. Geiger. 2004. Statistical power and the testing of null hypotheses: A review of contemporary management research and recommendations for future studies. *Organizational Research Methods* 7 (2): 151–167. https://doi.org/10.1177/1094428104263676

Cassell, C. A., S. X. Huang, and J. M. Sanchez. 2013. Forecasting without consequence? Evidence on the properties of retiring CEOs' forecasts of future earnings. *The Accounting Review* 88 (6): 1909–1937. https://doi.org/10.2308/accr-50526

Cheng, Q., and T. A. Warfield. 2005. Equity incentives and earnings management. *The Accounting Review* 80 (2): 441–476. https://doi.org/10.2308/accr.2005.80.2.441

Chow, C. W., Y. Kato, and K. A. Merchant. 1996. The use of organizational controls and their effects on data manipulation and management myopia: A Japan vs U.S. comparison. *Accounting, Organizations and Society* 21 (2-3): 175–192. https://doi.org/10.1016/0361-3682(95)00030-5

Church, B. K., R. L. Hannan, and X. Kuang. 2012. Shared interest and honesty in budget reporting. *Accounting, Organizations and Society* 37 (3): 155–167. https://doi.org/10.1016/j.aos.2012.01.002

Cohen, J. 1988. *Statistical Power Analysis for the Behavioral Sciences*. 2nd edition. Hillsdale, NJ: Erlbaum.

Collins, F. 2006. Career self-interest and concern for others: The effects of co-worker attitudes on fraudulent behavior. *Accounting and the Public Interest* 6 (1): 95–115. https://doi.org/10.2308/api.2006.6.1.95

Cortina, J. M., and R. G. Folger. 1998. When is it acceptable to accept a null hypothesis: No way, Jose? *Organizational Research Methods* 1 (3): 334–350. https://doi.org/10.1177/109442819813004

Daniel, S. J., and W. D. Reitsperger. 1991. Linking quality strategy with management control systems: Empirical evidence from Japanese industry. *Accounting, Organizations and Society* 16 (7): 601–618. https://doi.org/10.1016/0361-3682(91)90015-7

Dechow, P. M., and R. G. Sloan. 1991. Executive incentives and the horizon problem: An empirical investigation. *Journal of Accounting & Economics* 14: 51–89.

Dechow, P., W. Ge, and C. Schrand. 2010. Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics* 50 (2-3): 344–401. https://doi.org/10.1016/j.jacceco.2010.09.001

Dillman, D. A. 2000. *Mail and Internet Surveys: The Tailored Design Method*. New York, NY: John Wiley & Sons, Inc.

Eccles, R. G., and S. C. Mavrinac. 1995. Improving the corporate disclosure process. *Sloan Management Review* 36 (4): 11–25.

Eisenberger, R., P. Lynch, J. Aselage, and S. Rohdieck. 2004. Who takes the most revenge? Individual differences in negative reciprocity norm endorsement. *Personality and Social Psychology Bulletin* 30 (6): 787–799. https://doi.org/10.1177/0146167204264047

Feng, M., W. Ge, S. Luo, and T. Shevlin. 2011. Why do CFOs become involved in material accounting manipulations? *Journal of Accounting and Economics* 51 (1-2): 21–36. https://doi.org/10.1016/j.jacceco.2010.09.005

Force, P. 2003. Self-Interest before Adam Smith: A Genealogy of Economic Science. Cambridge, U.K.: Cambridge University Press.

Friedman, H. L. 2016. Implications of a multi-purpose reporting system on CEO and CFO incentives and risk preferences. *Journal of Management Accounting Research* 28 (3): 101–132. https://doi.org/10.2308/jmar-51497

Gaver, J. J., K. M. Gaver, and J. R. Austin. 1995. Additional evidence on bonus plans and income management. *Journal of Accounting and Economics* 19 (1): 3–28. https://doi.org/10.1016/0165-4101(94)00358-C

Guidry, F., A. J. Leone, and S. Rock. 1999. Earnings-based bonus plans and earnings management by business unit managers. *Journal of Accounting and Economics* 26 (1–3): 113–142. https://doi.org/10.1016/S0165-4101(98)00037-8

Harrell, A., M. Taylor, and E. Chewning. 1989. An examination of management's ability to bias the professional objectivity of internal auditors. *Accounting, Organizations and Society* 14 (3): 259–269. https://doi.org/10.1016/0361-3682(89)90027-5

Harrison, G. L. 1992. The cross-cultural generalizability of the relation between participation, budget emphasis and job related attitudes. *Accounting, Organizations and Society* 17 (1): 1–15. https://doi.org/10.1016/0361-3682(92)90033-O

HassabElnaby, H. R., E. Mohammad, and A. A. Said. 2010. Nonfinancial performance measures and earnings management. In *Advances in Management Accounting*, Vol. 18 edited by M. J. Epstein and J. Y. Lee, 55–79. Bingley, U.K.: Emerald Group Publishing Limited.

Healy, P. M. 1985. The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics* 7 (1–3): 85–107. https://doi.org/10.1016/0165-4101(85)90029-1

Holthausen, R. W., D. F. Larcker, and R. G. Sloan. 1995. Annual bonus schemes and the manipulation of earnings. *Journal of Accounting and Economics* 19 (1): 29–74. https://doi.org/10.1016/0165-4101(94)00376-G

Ibrahim, S., and C. Lloyd. 2011. The association between non-financial performance measures in executive compensation contracts and earnings management. *Journal of Accounting and Public Policy* 30 (3): 256–274. https://doi.org/10.1016/j.jaccpubpol.2010.10.003

Indjejikian, R. J., and M. Matějka. 2006. Organizational slack in decentralized firms: The role of business unit controllers. *The Accounting Review* 81 (4): 849–872. http://aaapubs.org/doi/10.2308/accr.2006.81.4.849

Indjejikian, R., and M. Matějka. 2009. CFO fiduciary responsibilities and annual bonus incentives. *Journal of Accounting Research* 47 (4): 1061–1093. https://doi.org/10.1111/j.1475-679X.2009.00343.x

Indjejikian, R. J., and M. Matějka. 2012. Accounting decentralization and performance evaluation of business unit managers. *The Accounting Review* 87 (1): 261–290. https://doi.org/10.2308/accr-10168

Ittner, C. D., D. F. Larcker, and M. V. Rajan. 1997. The choice of performance measures in annual bonus contracts. *The Accounting Review* 72 (2): 231–255.

Jablonsky, S. F., and P. J. Keating. 1998. *Changing Roles of Financial Management: Integrating Strategy, Control, and Accountability*. Morristown, NJ: Financial Executives Research Foundation.

Jiang, J., K. R. Petroni, and I. Y. Wang. 2010. CFOs and CEOs: Who have the most influence on earnings management? *Journal of Financial Economics* 96 (3): 513–526. https://doi.org/10.1016/j.jfineco.2010.02.007

Johnson, E. N., G. Fleischman, S. Valentine, and K. B. Walker. 2012. Managers ethical evaluations of earnings management and its consequences. *Contemporary Accounting Research* 29 (3): 910–927. https://doi.org/10.1111/j.1911-3846.2011.01135.x

Jollineau, S. J., T. W. Vance, and A. Webb. 2012. Subordinates as the first line of defense against biased financial reporting. *Journal of Management Accounting Research* 24 (1): 1–24. https://doi.org/10.2308/jmar-50160

Kalyta, P. 2009. Accounting discretion, horizon problem, and CEO retirement benefits. *The Accounting Review* 84 (5): 1553–1573. https://doi.org/10.2308/accr.2009.84.5.1553

Kang, J. 2016. Labor market evaluation versus legacy conservation: What factors determine retiring CEOs' decisions about long-term investment? *Strategic Management Journal* 37 (2): 389–405. https://doi.org/10.1002/smj.2234

Kaplan, R. S., and D. P. Norton. 1996. *The Balanced Scorecard: Translating Strategy into Action*. Boston, MA: Harvard Business Press.

Kim, J. B., Y. H. Li, and L. D. Zhang. 2011. CFOs versus CEOs: Equity incentives and crashes. *Journal of Financial Economics* 101 (3): 713–730. https://doi.org/10.1016/j.jfineco.2011.03.013

Libby, T., and M. Lindsay. 2013. The Effects of Trust and Budget-Based Controls on Budget Gaming and Budget Value. Waterloo, Canada: University of Waterloo.

Maas, V. S., and M. Matějka. 2009. Balancing the dual responsibilities of business unit controllers: Field and survey evidence. *The Accounting Review* 84 (4): 1233–1253. https://doi.org/10.2308/accr.2009.84.4.1233

Maas, V. S., and M. van Rinsum. 2013. How control system design influences performance misreporting. *Journal of Accounting Research* 51 (5): 1–36. https://doi.org/10.1111/1475-679X.12025

Mael, F., and B. E. Ashforth. 1992. Alumni and their Alma Mater: A partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior* 13 (2): 103–123. https://doi.org/10.1002/job.4030130202

Matějka, M., K. A. Merchant, and W. A. Van der Stede. 2009. Employment horizon and the choice of performance measures: Empirical evidence from annual bonus plans of loss-making entities. *Management Science* 55 (6): 890–905. https://doi.org/10.1287/mnsc.1090.0999

Merchant, K. A. 1990. The effects of financial controls on data manipulation and management myopia. *Accounting, Organizations and Society* 15 (4): 297–313. https://doi.org/10.1016/0361-3682(90)90021-L

Oppenheim, A. N. 1966. *Questionnaire Design and Attitude Measurement*. New York, NY: Basic Books.

Palmer, D. 2012. Normal Organizational Wrongdoing: A Critical Analysis of Theories of Misconduct in and by Organizations. Oxford, U.K.: Oxford University Press on Demand.

Pinto, J., C. R. Leana, and F. K. Pil. 2008. Corrupt organizations or organizations of corrupt individuals? Two types of organization-level corruption. *Academy of Management Review* 33 (3): 685–709. https://doi.org/10.5465/AMR.2008.32465726

Pourciau, S. 1993. Earnings management and nonroutine executive changes. *Journal of Accounting & Economics* 16: 317–336.

Rindskopf, D., and T. Rose. 1988. Some theory and applications of confirmatory second-order factor analysis. *Multivariate Behavioral Research* 23 (1): 51–67. https://doi.org/10.1207/s15327906mbr2301_3

Salancik, G. R., and J. Pfeffer. 1978. A social information processing approach to job attitudes and task design. *Administrative Science Quarterly* 23 (2): 224–253. https://doi.org/10.2307/2392563

Shafer, W. E., L. J. Park, and W. M. Liao. 2002. Professionalism, organizational-professional conflict and work outcomes: A study of certified management accountants. *Accounting, Auditing & Accountability Journal* 15 (1): 46–68. https://doi.org/10.1108/09513570210418888

Siegel, G., and J. E. Sorensen. 1999. Counting More, Counting Less: Transformation in the Management Accounting Profession: The 1999 Practice Analysis of Management Accounting. Montvale, NJ: Institute of Management Accountants.

Somers, M. J. 2001. Ethical codes of conduct and organizational context: A study of the relationship between codes of conduct, employee behavior and organizational values. *Journal of Business Ethics* 30 (2): 185–195. https://doi.org/10.1023/A:1006457810654

Tenbrunsel, A. E., and D. M. Messick. 2004. Ethical fading: The role of self-deception in unethical behavior. *Social Justice Research* 17 (2): 223–236. https://doi.org/10.1023/B:SORE.0000027411.35832.53

Umphress, E. E., and J. B. Bingham. 2011. When employees do bad things for good reasons: Examining unethical pro-organizational behaviors. *Organization Science* 22 (3): 621–640. https://doi.org/10.1287/orsc.1100.0559

Umphress, E. E., J. B. Bingham, and M. S. Mitchell. 2010. Unethical behavior in the name of the company: The moderating effect of organizational identification and positive reciprocity beliefs on unethical pro-organizational behavior. *The Journal of Applied Psychology* 95 (4): 769–780. https://doi.org/10.1037/a0019214

Van Dick, R., U. Wagner, J. Stellmacher, and O. Christ. 2004. The utility of a broader conceptualization of organizational identification: Which aspects really matter? *Journal of Occupational and Organizational Psychology* 77 (2): 171–191. https://doi.org/10.1348/096317904774202135

Vandenberg, R. J., and C. E. Lance. 2000. A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods* 3 (1): 4–70. https://doi.org/10.1177/109442810031002

Vardi, Y., and Y. Wiener. 1996. Misbehavior in organizations: A motivational framework. *Organization Science* 7 (2): 151–165. https://doi.org/10.1287/orsc.7.2.151

APPENDIX A
Survey Questions

Measures Used in the Main Analysis

Willingness to Engage in Unethical Pro-Organizational Behavior

If it would help my organization, I would misrepresent the truth to make my organization look good.
If it would help my organization, I would exaggerate the truth about my company's products or services.
If it would benefit my organization, I would withhold negative information about my company or its products from customers and clients.
If my organization needed me to, I would give a good recommendation on the behalf of an incompetent employee in the hope that the person will become another organization's problem instead of my own.
If my organization needed me to, I would withhold issuing a refund to a customer or client accidentally overcharged.
If needed, I would conceal information from the public that could be damaging to my organization.

Incentive Compensation

What was your annual salary (without variable bonuses) in 2010? ___Euro
How much did you earn through the following incentive components in 2010?
Annual, variable performance-based payment (annual bonus):
—was offered; amount actually paid in 2010 ___Euro
—was not offered.
Payout from long-term (multi-year) cash bonus plan
—was offered; amount actually paid in 2010 ___Euro
—was not offered.
Value of equity-based awards
—was offered; amount actually earned in 2010 ___Euro
—was not offered.
Other compensation components
—were offered; amount actually earned in 2010 ___Euro
—were not offered.
If 2011 performance meets all targets, the 2011 annual bonus will be approximately ___Euro
If 2011 performance meets all targets, what percentage of this bonus will you earn based on:
(Please distribute 100 percent.)
—Financial performance targets of your [firm/business unit]: ___%
—Financial performance targets of higher levels (e.g., financial targets on corporate level): ___%
—Nonfinancial performance targets (e.g., market share, completion of strategic milestones, customer satisfaction): ___%
—Achievements evaluated subjectively (i.e., without pre-set targets): ___%
—Other, please specify below: ___%

Age

Please give your age: ___years

Professional Association

Are you a member of a professional organization?

Organizational Identification

When someone criticizes my organization, it feels like a personal insult.
I am very interested in what others think about my organization.
When I talk about this organization, I usually say "we" rather than "they."
This organization's successes are my successes.
When someone praises this organization, it feels like a personal compliment.

Career Self-Interest

I do whatever it takes to enhance my job security.
I do whatever it takes to enhance my reputation with my company's executives.
I do whatever it takes to enhance my promotion potential.
I do whatever it takes to enhance my pay rises.
I do whatever it takes to enhance my pay relative to my peers.
I do whatever it takes to avoid losing my job.

Listing Status

Is your company listed on a stock exchange?

Business Unit

Please choose the organizational level you are primarily working at:
—Corporate level (e.g., independent company without business units, company headquarters, or corporate parent)
—Business unit with own turnover and profit planning (e.g., division, business unit, subsidiary)
—Other

Size

Number of employees in your company

Growth

Please name the life cycle stage of your company: foundation/birth, growth, maturity, realignment/revival, or decline.

Measures Used in Supplementary Analyses

Code of Ethics

Has your company published a code of ethics for its employees?
Are you familiar with the ICV's controller statements?[13]
Employees acting unethically for company gain are punished.

Organizational-Professional Conflict

I often have to choose between following professional standards and doing what is best for my organization.
In my organization, there is a conflict between the work standards and procedures of the organization and my ability to act according to my professional judgment.

Positive Reciprocity

If someone does me a favor, I feel obligated to repay them in some way.
If someone does something for me, I feel required to do something for them.
If someone gives me a gift, I feel obligated to get them a gift.

[13] ICV stands for the International Controller Association, a large German professional organization. The controller statements contain norms and guidelines for professional conduct in the finance function.

I always repay someone who has done me a favor.
I feel uncomfortable when someone does me a favor that I know I won't be able to return.
If someone sends me a card on my birthday, I feel required to do the same.
When someone does something for me, I often find myself thinking about what I have done for them.
If someone says something pleasant to you, you should say something pleasant back.
I usually do not forget if I owe someone a favor, or if someone owes me a favor.
If someone treats you well, you should treat that person well in return.

Earnings Management

Please indicate how often you postpone necessary expenditures to shift future profits into the current period.
Please indicate how often you accelerate sales to shift future profits into the current period.
Please indicate how often you shift funds between accounts to avoid budget overruns.
Please indicate how often you strategically book an entry to make some line items look better, for example by booking expenses to discontinued operations.
Please indicate how often you build slack into budgets.

APPENDIX B
Additional Validation Analysis

Our measure of the willingness to engage in unethical pro-organizational behavior has been developed by Umphress et al. (2010). In this section, we first replicate their validation analysis and show that our measure has similar properties as in their study. In addition, we extend the analysis and examine convergent validity of our measure using several proxies for the relative importance of financial managers' fiduciary responsibilities. Second, we present additional reliability tests which take advantage of the panel structure of our data and asses temporal stability of our measure.[14] Third, we compare our measure of the willingness to engage in unethical pro-organizational behavior to a measure of earnings management similar to those used in prior studies.

Construct Validity

Umphress et al. (2010) assess discriminant validity of the *WUPB* measure using two measures of related but distinct constructs. We replicate their confirmatory factor analysis using our measure of organizational identification (*IDENTIFY*) and a ten-item measure of positive reciprocity (Mael and Ashforth 1992; Eisenberger, Lynch, Aselage, and Rohdieck 2004). The goal is to establish the distinctness of the six-item *WUPB* measure from the two measures of related constructs. The results in Table 7 are similar to those in Table 7 of Umphress et al. (2010). In particular, they suggest that the three-factor model fits the data better than alternative models and thus support discriminant validity of the *WUPB* measure.

To assess convergent validity of our construct, we test the implicit assumption that *WUPB* as reported by financial managers reflects the uneasy balancing of their dual responsibilities. To maximize the size of the validation sample we use *WUPB* data from 2011 and 2012 as well as 2013 even though the last year only includes data on two out of the six items. As discussed below, we also use additional questions included in our surveys at different points in time:

First, we use two items measuring organizational-professional conflict (Aranya and Ferris 1984; Shafer, Park, and Liao 2002) included in the 2011 and 2013 surveys. We ask respondents to indicate the extent to which they agree that:

(1) "I often have to choose between following professional standards and doing what is best for my organization." [*conflict1*]
(2) "In my organization, there is a conflict between the work standards and procedures of the organization and my ability to act according to my professional judgment." [*conflict2*]

We divide our sample into two groups based on whether respondents agree or disagree with each of the statements and compare the average *WUPB* in both groups using a two-sample t-test that allows for clustering (two year observations per respondent).[15] To the extent that the willingness to engage in unethical pro-organizational behavior arises because financial

[14] Additional analyses presented in this Appendix commonly use smaller samples than the main analysis because non-missing data are available only from respondents who participated in multiple surveys at different points in time.
[15] The agreement is measured on a five-item Likert scale. We select the cut-off point in (dis-)agreement so that the sample is divided into two groups of approximately the same size.

TABLE 7

Discriminant Validity

Model	χ^2	df	$\Delta\chi^2$	χ^2/df	CFI	RMSEA	RMSEA Confidence Interval
One-factor (all items combined)	901.85	189	556.08[a]	4.77	0.39	0.14	[0.13, 0.15]
Two-factor (positive reciprocity and organizational identification)	785.84	188	440.07[a]	4.18	0.49	0.13	[0.12, 0.14]
Two-factor (WUPB and organizational identification)	627.60	188	281.83[a]	3.34	0.63	0.11	[0.10, 0.12]
Two-factor (WUPB and positive reciprocity)	624.30	188	278.53[a]	3.32	0.63	0.11	[0.10, 0.12]
Three-factor	345.77	186		1.86	0.86	0.07	[0.06, 0.08]

n = 185. All Chi-square values are significant at $p < 0.05$. The three-factor model is the hypothesized model of all the three latent variables (willingness to engage in unethical behavior, organizational identification, and positive reciprocity). One of the two-factor models constrains *WUPB* and positive reciprocity, another two-factor model constrains *WUPB* and identification, and the final two-factor model constrains positive reciprocity and identification to the same latent variable. The one-factor model constrains *WUPB*, positive reciprocity, and organizational identification to a single latent variable. All alternative two-factor and one-factor models are a subset of (i.e., nested within) the three-factor target model. In all cases, the three-factor model produced a superior fit to the data than the alternative models. CFI = comparative fit index; RMSEA = root-mean-square error of approximation.
[a] Chi-square change significant at $p < 0.01$.

managers find it difficult to balance their dual responsibilities, we expect a higher *WUPB* in the group of respondents who score higher on the conflict measures. Consistent with our expectation, Table 8 shows that *WUPB* is significantly higher in the group agreeing with the first statement ($p = 0.03$) as well as in the group agreeing with the second statement ($p = 0.04$).

Second, we use three items measuring familiarity with an organizational or professional code of ethics (Babin, Boles, and Robin 2000; Somers 2001) that were included in the 2010 survey, i.e., prior to collecting data on our *WUPB* measure, which alleviates concerns about spurious relations due to the common method bias.[16] One item asks respondents whether they are familiar with the standards of professional conduct of a German organization of financial managers (*prof_code*). Table 8 shows that *WUPB* is lowest for those "very familiar," intermediate for those "somewhat familiar," and highest for those "not familiar." The difference between the first and second groups is statistically significant ($p = 0.08$) and so is the difference between the first and third groups ($p < 0.01$). The remaining two items ask respondents to indicate the extent to which they agree that:

(1) "Employees acting unethically for company gain are punished." [*penalize*]
(2) "Has your company published a code of ethics for its employees?" [*org_code*]

Table 8 shows that *WUPB* is lower in the group agreeing with the first statement even though the magnitude is not significant ($p = 0.25$). It also shows that companies with an explicit ethics code have a lower *WUPB* than companies without it ($p = 0.09$).

In summary, we provide evidence of discriminant validity of our measure which replicates the validation results in Umphress et al. (2010). In addition, we find robust support for convergent validity of our measure in that *WUPB* is associated with proxies for the perceived conflict between organizational and fiduciary responsibilities of financial managers as well as proxies for efforts to mitigate unethical behavior.

Temporal Stability

As discussed in the Research Design section, our survey measures of *WUPB* display a high degree of internal consistency (Cronbach's $\alpha = 0.81$). Another important dimension of an instrument's reliability is temporal stability which is rarely reported given the lack of time-series data in prior survey studies. We exploit the unique panel structure of our data and assess temporal stability in several ways. First, we use the two years (2011 and 2012) for which we have data on all *WUPB* items and calculate simple retest correlations. We find that the latent variable scores correlate 0.68 ($p < 0.01$) which is satisfactory given that the retest took place one year after the original measurement and largely eliminated any potential memory effects. Second, we test whether the five-item variance-covariance matrix is stable over time. Consistent with temporal stability, the null hypothesis that all elements of the matrix are equal over time cannot be rejected ($p = 0.18$, untabulated). Third, we examine metric invariance by testing a model which (i) constrains item loadings to be equal over time and (ii) allows measurement errors of the same

[16] We assume that familiarity with the code of ethics is largely time-invariant and match 2010 responses with *WUPB* data from 2011–2013. We use t-tests adjusted for clustering.

TABLE 8

Convergent Validity

Treatment Variables		*WUPB* n	*WUPB* Mean	Difference Mean	Difference p-value
Conflict prof. and org. responsibilities (*conflict1*)	Yes	311	0.08	0.129**	0.03
	No	290	−0.05		
Conflict prof. and org. responsibilities (*conflict2*)	Yes	228	0.09	0.121**	0.04
	No	372	−0.03		
Familiar with professional code (*prof_code*)	Yes	109	−0.155		
	Somewhat	203	0.025	−0.179*	0.08
	No	91	0.213	−0.367***	0.01
Penalties for unethical behavior (*penalize*)	Yes	338	0.00	−0.147	0.25
	No	62	0.15		
Organizational ethics code (*org_code*)	Yes	217	−0.06	−0.162*	0.09
	No	177	0.10		

***,**,* Indicate significance at the 1 percent, 5 percent and 10 percent levels, respectively, using a t-test adjusted for clustering (multiple year observations per respondent) and two-tailed p-values.

Variable Definitions:
WUPB = the willingness to engage in unethical pro-organizational behavior;
conflict1 = organizational-professional conflict ("I often have to choose between following professional standards and doing what is best for my organization.");
conflict2 = organizational-professional conflict ("In my organization, there is a conflict between the work standards and procedures of the organization and my ability to act according to my professional judgment.");
prof_code = familiarity with the standards of professional conduct of an organization of financial managers;
penalize = agreement to the statement: "Employees acting unethically for company gain are punished."; and
org_code = availability of the company code of ethics for employees.

items to correlate over time (Vandenberg and Lance 2000). Table 9 shows that constraining item loadings to be invariant over time does not significantly reduce model fit. Fourth, we test a model in which *WUPB* is a second-order factor (Rindskopf and Rose 1988) comprised of six first-order factors, corresponding to the six underlying measurement items, which are in turn comprised of the two annual observable responses. The last row of Table 9 shows that the second-order factor model fits the data well.

Taken together, we find that our measure of *WUPB* is reliable not only in terms of internal consistency but also in terms of temporal stability in that there is strong evidence that responses on the same items by the same survey participants are highly consistent over time.

Comparison with Survey Measures of Earnings Management

Our measure of *WUPB* differs from those used in the few survey studies available in the accounting literature to date. One potential strength of the measure is that answers can be expected to be less downward biased than questions about earnings management or self-serving unethical behavior. Unethical behavior is socially undesirable. By balancing the question with the "helping the company" aspect, the question is less threatening and the underreporting will likely be smaller. In other words, the social desirability of helping will make the socially undesirable statements regarding manipulation less threatening. In this section, we examine the properties of our measure relative to a measure of earnings management asking respondents to indicate how often they engage in various specific instances of financial misreporting or real earnings management. Appendix A presents the five items which include, for example, shifting profits into the current period by postponing expenditures or accelerating sales or shifting funds between accounts to avoid budget overruns (Abernethy et al. 2012; Merchant 1990). We have included these five items into our 2013 survey and for comparison added two *WUPB* items as discussed below.[17]

[17] We did not include all six *WUPB* items together with the five earnings management questions because the 2013 questionnaire could not devote so much space to questions addressing sensitive issues.

TABLE 9

Temporal Stability

Model	χ^2	df	$\Delta\chi^2$	χ^2/df	CFI	RMSEA	RMSEA Confidence Interval
(1) WUPB unconstrained	120.25	47		2.56	0.93	0.09	[0.07, 0.11]
(2) WUPB constrained (factor loadings invariant over time)	126.18	51	5.93[a]	2.47	0.92	0.09	[0.07, 0.11]
(3) WUPB as a second-order factor	29.69	18		1.65	0.99	0.06	[0.01, 0.10]

n = 183. All Chi-square values are significant at $p < 0.05$. Model (1) assumes a single factor behind 12 measurement items, i.e., six different items measured in 2011 and 2012. Model (2) restricts factor loadings on the six items in 2011 to be the same as factor loadings in 2012. Model (3) assumes a second-order factor comprised of six first-order factors corresponding to the six items measured in 2011 and 2012. CFI = comparative fit index; RMSEA = root-mean-square error of approximation.

[a] Chi-square change is not significant ($p = 0.18$).

First, we provide evidence that emphasizing the pro-organizational aspect of unethical behavior alleviates the social desirability bias. Specifically, the 2013 survey included the item "I would misrepresent the truth to make my organization look good" as in the *WUPB* construct except that it opened with "If necessary, . . ." as opposed to "If it would help my organization, . . ." as in the *WUPB* construct. We find that including the pro-organizational framing in 2011 and 2012 yielded significantly higher ($p < 0.01$) responses, i.e., greater endorsement of unethical behavior, than excluding the pro-organizational framing in 2013 even though the survey item was otherwise the same.[18] In contrast, we find no significant difference ($p = 0.58$) between average responses in 2011–2012 and 2013 on another *WUPB* item for which the organizational framing was left unchanged. Combined, this evidence supports the premise of our study that the absence of pro-organizational framing is associated with responses that are skewed toward the socially desirable choice.

Second, we construct a measure of earnings management (*EM*) using the five items presented in Appendix A. We find a satisfactory fit of a one-factor model after allowing for a correlation between the error terms of the first two items which are similar. Reliability as measured by Cronbach's $\alpha = 0.69$ is lower than reliability of *WUPB* ($\alpha = 0.81$). More importantly, we assess construct validity of *EM* as in Table 8 and find mixed results. Table 10 shows that high levels of organizational-professional conflict are associated with higher *EM* as expected ($p < 0.01$ for both measures of conflict). On the other hand, we find that *EM* is lowest for respondents who are *not* familiar with the professional ethics code and in organizations that do *not* have an ethics code (the latter result being statistically significant, $p = 0.07$). These findings are contrary to our expectations and to the results we find for *WUPB*.

Finally, Table 11 presents the results of reestimating our main model from Table 4 with *EM* as an alternative dependent variable. Column (1) is based on a sample of 90 respondents who participated both in 2011 and 2013 and for whom we have a full set of regressors as in Table 4. The second column maximizes statistical power by eliminating regressors measured only in 2011 and increasing sample size to 201 respondents. In contrast to the results in Table 4, we find no association between incentive compensation and *EM*. Moreover, contrary to H4, we find that members of professional associations score higher on the measure of earnings management, which casts doubt on external validity of the measure.

In summary, we provide evidence that our novel measure of the willingness to engage in unethical pro-organizational behavior has greater power to detect an association with incentive design choices than a measure of earnings management using similar items as in prior studies. We also show that our measure yields better results on validity tests as compared to an existing measure of earnings management.

[18] The difference between average responses in 2011 and 2012, both of which included the pro-organizational framing, is not significantly different from zero ($p = 0.79$).

TABLE 10

Convergent Validity of a Measure of Earnings Management

Treatment Variables		*EM* n	*EM* Mean	Difference Mean	Difference p-value
Conflict prof. and org. responsibilities (*conflict1*)	Yes	130	0.138	0.292***	0.00
	No	113	−0.154		
Conflict prof. and org. responsibilities (*conflict2*)	Yes	96	0.166	0.273***	0.00
	No	148	−0.107		
Familiar with professional code (*prof_code*)	Yes	21	0.033	0.150	0.19
	Somewhat	41	−0.117	0.193	0.12
	No	21	−0.160		
Penalties for unethical behavior (*penalize*)	Yes	70	−0.134	−0.120	0.33
	No	12	−0.015		
Organizational ethics code (*org_code*)	Yes	46	−0.018	0.166*	0.07
	No	36	−0.184		

***, * Indicate significance at the 1 percent and 10 percent levels, respectively, using a t-test adjusted for clustering (multiple year observations per respondent) and two-tailed p-values.
EM = a measure of earnings management.

TABLE 11

OLS Model Using a Measure of Earnings Management

Variables	Predicted Sign	Earnings Management (1)	Earnings Management (2)
Constant		−0.126	−0.296*
		(0.769)	(0.064)
BONUS	H1a: +	−0.077	0.010
		(0.798)	(0.958)
CAREER	H2a: +	0.067	
		(0.451)	
RETIRE	H2b: −	0.019	
		(0.941)	
AGE		−0.009	
		(0.220)	
IDENTIFY	H3: +	0.104	
		(0.166)	
MEMBER	H4: −	0.146	0.172***
		(0.108)	(0.009)
LISTED		0.284*	0.177*
		(0.077)	(0.071)
BU		0.104	0.212***
		(0.360)	(0.005)
SIZE		0.055	0.009
		(0.103)	(0.710)
GROWTH		−0.036	
		(0.714)	
Adjusted R^2		0.138	0.091
n		90	201

***, * Indicate significance at the 1 percent and 10 percent levels, respectively, using two-tailed p-values.
For variable definitions see Tables 1 and 2.