

FINANCIAL REPORTING QUALITY AND PEER GROUP COMPOSITION

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Abstract

Firms often compose peer groups to benchmark the compensation package of the CEO and/or to benchmark the performance of the firm as part of a relative performance evaluation. When justifying the composition of the peer group, firms often claim that the peer firms are similar with respect to accounting-based and market-based measures. An implicit assumption in this argument is that the accounting numbers of the potential peer firms are accurate. In this study, we examine the relationship between financial reporting quality of a potential peer firm and the probability of being included in the peer group of another firm. We hypothesize that firms with weaker financial reporting quality are less likely to be included in the peer group of another firm because of the increased information asymmetry between the potential peer firm and the selecting firm and the potential contagious effects of selecting a firm with weak financial reporting quality. Based on data about the composition of compensation and performance peer groups of the S&P 900 firms from 2006 until 2011, we document that firms with weaker financial reporting quality are, after controlling for the known determinants of peer group composition, less likely to be included in the peer groups that are used to benchmark the compensation package of the CEO and/or the performance of the firm. Additional tests suggest that this effect is driven by the increased information asymmetry and the potential contagious effects as developed in our theory.

Keywords: peer groups, financial reporting quality, CEO compensation

I. INTRODUCTION

Peer groups are currently ubiquitous when designing CEO compensation contracts. Prior research shows that 80-90% of the US-listed firms uses peer groups to benchmark the compensation level of the CEO and that 25-30% of the US-listed firms uses peer groups to evaluate the performance of the CEO as part of a relative performance evaluation (Bizjak et al. 2008, Bizjak et al. 2011, Faulkender and Yang 2013, Gong et al. 2011). When discussing the selection criteria for composing the peer group in the proxy statements, firms usually argue that similarity with respect to size, industry, accounting performance, and market-to-book ratios are important criteria (Bizjak et al. 2011, Murphy 1999). Overall, it can be argued that the quality of the accounting numbers of a potential peer firm plays a pivotal role when deciding about the inclusion of a firm in the peer group. That is, when the accounting numbers of a potential peer firm are distorted, it is much more difficult to reliably justify the similarity with respect to size, accounting and market-based performance. Although financial reporting quality seems to be at the core of the peer group composition process, we know remarkably little about the role of financial reporting quality for peer group composition. Therefore, the main objective of this paper is to examine whether the financial reporting quality of potential peer firms plays a role when composing the peer group.

We hypothesize that firms with lower financial reporting quality are less likely to be included in the peer group of another firm. This hypothesis is grounded in two different research streams in empirical accounting research. First, a common theme that runs through the empirical accounting literature is that better financial reporting quality can mitigate the information asymmetry between the reporting firm and external suppliers of capital (Leuz and Verrecchia 2000, Bushman and Smith 2001, Verrecchia 2001). Bhattacharya et al. (2011), for instance, document a link between accrual quality and cost of equity and find that this relationship is at least partially mediated by information asymmetry. Bhattacharya et al. (2013) further unravel the

link between accrual quality and information asymmetry and document that the negative effects of weak accrual quality are more pronounced for small firms with low institutional ownership and low analyst following. Selecting a peer firm to determine CEO compensation and/or to evaluate CEO performance requires an accurate insight in the underlying economic fundamentals of the peer firm. That is, selecting a peer that exhibits similarity with respect to size requires that the accounting numbers used to proxy for size are undistorted. Also, evaluating the performance of the CEO in the context of relative performance evaluation necessitates undistorted accounting-based performance measures. Given the emphasis on similarity with respect to the underlying economic fundamentals and accounting-based measures, information asymmetry between the selecting firm and the potential peer firm is expected to be a core issue during the selection process. Building on the large stream of research about the importance of financial reporting quality in mitigating information asymmetry between the reporting firm and external suppliers of capital, we conjecture that financial reporting quality will also influence the information asymmetry between a potential peer firm and the selecting firm in a way that potential peer firms with lower financial reporting quality are less likely to be included in the peer group of another firm.

A second research stream documents that weak financial reporting quality of a particular firm can generate a contagion or spillover effect on industry peers. Gleason et al. (2008), for instance, document that accounting restatements adversely affect shareholder wealth at the restating firm but also induces share price declines among non-restating firms in the same industry. Two recent studies also show that distorted financial statements of industry peers distort the decisions of peer firms related to capital investments, R&D, advertising and pricing (Beatty et al. 2013, Li 2015). Compared to previous work about the contagion effect of weak financial

reporting quality, which assumes that the peer group of a particular firm is equal to all the firms in the industry in which one operates, we study peer groups that are the outcome of a conscious decision-making process between the board of directors and the management team. Given the conscious way in which the peer groups we study are composed, the board of directors can try to mitigate the potential negative consequences of having industry peers with weak financial reporting quality by explicitly choosing to not include industry peers with weak financial reporting quality. Furthermore, irrespective whether the peer firm is an industry peer or not, we expect that selecting a peer firm with weak financial reporting quality can cause reputational damage for the board members of the selecting firm. Previous research has shown that board members face reputational damage when their firms experience financial reporting failures (Srinivasan 2005, Fich and Shivdasani 2007). Given the high monitoring intensity of the compensation determination and performance evaluation of the CEO, it can be argued that this reputational damage will spill over to board members of firms that include firms with weak financial reporting quality in their peer group. The risk on such reputational damage can be minimized by not selecting peer firms with weak financial reporting quality. Overall, relying on the increased information asymmetry when selecting peers with weak financial reporting quality and on the potential contagious effects of selecting firms with weak financial reporting quality, we expect that firms with weaker financial reporting quality are less likely to be included in the peer group of another firm.

To test our hypothesis, we collect data about the peer group composition of the S&P 900 firms from 2006 until 2011 and relate peer group selection to accrual quality, which is a common proxy for financial reporting quality. We run our analyses with two potential peer groups: the S&P 900 firms and all firms in the same two-digit SIC industry as the selecting firm. In our

analyses, we control for the known determinants of peer group selection as well as for the quality of the external information environment of a potential peer firm. To proxy for the latter construct, we include the number of analysts that follow the potential peer firm and analyst forecast accuracy. Our main result is that firms with weaker financial reporting quality are less likely to be included in the compensation and performance peer groups of other firms. Next, we test whether this result is driven by the informational and spillover effects that are developed in our theory. To examine the informational effect, we use the distance between the selecting firm and the potential peer. Previous research in accounting and finance has established that increasing distances lead to higher information asymmetry and make the quality of hard information, such as financial numbers, more important (Ayers et al. 2011, Hollander and Verriest 2015). Thus, we expect the effect of weak financial reporting quality for peer group composition to be stronger for potential peers that are located at a larger distance from the selecting firm. Our analyses indicate that financial reporting quality matters more for peer firms that are situated at a distance of more than 100 miles from the selecting firm. To examine the contagion effect, we examine whether the financial reporting quality of the selecting firm plays a role. We posit that the negative consequences of selecting firms with weak financial reporting quality are higher for firms with higher financial reporting quality, which should show up as a stronger effect of financial reporting quality on peer group selection in firms with higher financial reporting quality. Our results are in line with this reasoning.

The contribution of this study is twofold. First, this study contributes to a better understanding of the peer selection process. One line of inquiry in this research area focuses on the mechanisms that explain the tendency of firms to select highly paid peers and document that this tendency can be explained by the self-serving behavior of the CEO and the board of directors

or as an equilibrium result in well-functioning labor markets (Faulkender and Yang 2010, Faulkender and Yang 2013, Albuquerque et al. 2013). Our paper shifts the focus to the role of accounting information in the selection of peers by examining the role of financial reporting quality. The importance of accurate accounting numbers in the selection of peers suggests that financial reporting quality should play an important role but direct empirical evidence for this assertion is lacking. Our results reveal that financial reporting quality of potential peer firms is taken into account when selecting peers and suggest that this result is driven by the informational disadvantages and potential negative spillover effects of selecting peers with weaker financial reporting quality. Second, this study also contributes to the emerging stream of research that investigates the spillover effect of financial reporting quality. Prior studies, for instance, have shown that bad financial reporting quality has negative stock market consequences for the peer firms (Gleason et al. 2008) as well as leads to sub-optimal decision by industry peers (Beatty et al. 2013; Li 2015). Our study adds to this literature by speaking to the question whether firms consider the financial reporting quality of their potential peers when making important decisions such as the design of compensation packages and evaluating the performance of CEOs.

II. PRIOR LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1 Peer Groups

The compensation package of a CEO usually consists of a base salary, an annual bonus, and a long-term incentive plan that can include stock options, restricted stock or multi-year accounting-based performance plans (Murphy 1999). The compensation design process is quite similar among publicly-traded firms: the firm's human resources department makes some initial recommendations that are subsequently reviewed and extended by the compensation committee of

the board of directors oftentimes working in conjunction with outside compensation consultants (Murphy and Sandino 2010). The compensation package as recommended by the compensation committee is then passed to the full board of directors for approval.

Peer groups are frequently used during the compensation design process. In general, peer groups are used in two different ways. First, peer groups are used to determine the pay level of the CEO. For instance, firms often report that the target pay level for their CEO is at the 50th percentile of the distribution of total pay of the peer firms. We label such peer groups as ‘compensation peer groups’. Second, peer groups are also used as part of a relative performance evaluation in which the performance of peer firms is used as a benchmark for the performance evaluation of the CEO. We label such peer groups as ‘performance peer groups’ (Gong et al. 2011). In most cases, the relative performance evaluation is linked to the long-term incentive plan and stipulates, for instance, that a CEO can transfer his/her restricted stock when the market-based or accounting-based performance of the firm is at least equal to the average market-based or accounting-based performance of the firms in the peer group. Previous research has documented that about 80-90% of the publicly-traded firms uses compensation peer groups and that about 25% of the S&P1500-firms uses peer groups as part of a relative performance evaluation (Bizjak et al. 2008; Faulkender and Yang 2010, Gong et al. 2011).

Although many publicly-traded firms indicated that they were using peer groups to benchmark pay levels and as part of a relative performance evaluation, firms were not required to disclose the exact composition of their peer groups until 2006. Studies about the use of peer groups that used data from before 2006 usually composed the peer groups based on industry and size (see Albuquerque 2009 and Bizjak et al. 2008). In an attempt to make the pay-setting process more transparent, the Securities and Exchange Commission (SEC) issued a new disclosure

requirement that came into effect for fiscal years ending on or after December 15, 2006 according to which firms must state “*whether the registrant engaged in any benchmarking of total compensation, or any material element of compensation, identifying the benchmark and, if applicable, its components.*” (SEC Final Rules 33-8732a, Item 402(b)(2)(xiv), August 29, 2006).

The requirement to disclose the composition of the peer groups has fueled research about the use of peer groups for CEO compensation design. Previous research about compensation peer groups has mainly focused on the type of firms that were selected for the compensation peer groups and the effect of the enhanced disclosure requirements on CEO compensation level. The analysis of the first disclosure in 2006 of Faulkender and Yang (2010) reveals that firms appear to select highly paid peers to justify their CEO compensation and that this effect is stronger in firms where the compensation peer group is smaller, where the CEO is the chairman of the board of directors, where the CEO has longer tenure and where directors are busier serving on multiple boards. Analyzing the composition of compensation peer groups from 2006 to 2010 reveals that the selection of highly paid peers to justify CEO compensation has not disappeared, calling into question whether the disclosure of peer groups has been effective in addressing opportunistic behavior in CEO compensation design (Faulkender and Yang 2013). Another recent study in this area, however, finds evidence for the alternative explanation that the choice of highly paid peers in compensation peer groups represents a reward for unobserved CEO talent (Albuquerque et al. 2013). Previous research about the use of peer groups for relative performance evaluation that exploited the additional disclosure requirements is quite limited until now. An analysis of the initial disclosure of the performance peer groups reveals that the use of performance peer groups increases with the firm’s exposure to common risk and decreases with the CEO’s self-hedging

ability. Furthermore, the selection of peers for the performance peer groups seems to be driven by both efficient contracting and rent extraction behavior (Gong et al. 2011).

When discussing the composition of the compensation peer group and the performance peer group, firms usually mention the criteria that they used to select peer firms. The most cited criteria are similarity with respect to industry and size and similarity with respect to accounting-based and market-based performance. In general, it can be argued that quality of the accounting numbers are at the core of the selection process because the selection of peer firms is at least partially based on similarity with respect to accounting-based metrics such as total assets or net income and/or based on similarity with respect to other measures such as market capitalization or stock prices that are directly or indirectly influenced by accounting numbers (Easton et al. 1992, Kothari and Sloan 1992, Kothari 2001). The importance of accurate accounting numbers becomes even more salient when performance peer groups are used to analyze the performance of the CEO as the performance comparison usually consists of comparing accounting-based or market-based performance measures such as net income or stock return. Given the importance of accurate accounting numbers for peer group composition, a natural question to ask is whether (and to what extent) firms take into account financial reporting quality when selecting peers. In the remainder of this part of the paper, we describe two mechanisms that can potentially explain why firms with lower financial reporting quality are less likely to be included in the peer group of another firm.

2.2 Information Asymmetry and Peer Group Composition

The first mechanism is grounded in the idea that distorted accounting numbers increase the information asymmetry between the provider of the accounting numbers and the user of the accounting numbers. Previous research has mainly focused on the relationship between financial

reporting quality and information asymmetry in the context of capital allocation and with investors being the users of the accounting numbers (Healy and Palepu 2001). For investors, the reported accounting numbers are the main information source to get insight into the underlying economic situation of the firm. The available evidence is fairly consistent with the idea that better financial reporting quality can mitigate information asymmetries between managers, which are the providers of the accounting numbers, and investors. Bhattacharya et al. (2011), for instance, document a link between accrual quality, which is a frequently used proxy for financial reporting quality, and cost of equity and find that this relationship is at least partially mediated by information asymmetry. Bhattacharya et al. (2013) further unravel the link between accrual quality and information asymmetry and document that the negative effects of weak accrual quality are more pronounced for small firms with low institutional ownership and low analyst following.

In the context of the selection of peer firms, the provider of the accounting numbers is the potential peer firm and the user of the accounting numbers is the selecting firm. For the selecting firm, the accounting numbers are an important information source to get insight into the underlying economic situation of the potential peer firm (Pae 2002, Simmonds 1986). Thus, when the accounting numbers of a potential peer firm are distorted, the accounting-based metrics of the potential peer firm are less informative about the underlying economic situation of the potential peer firm. Stated differently, when the accounting numbers of the potential peer firm are distorted, the information asymmetry between the potential peer firm and the selecting firm is larger. In general, it can be argued that a larger information asymmetry between the potential peer firm and the selecting firm is less desirable because a larger information asymmetry makes it much more difficult to select peer firms that are similar with respect to accounting-based metrics such as total

assets, net income, and return on assets. As the composition of the CEO compensation package and the evaluation of the CEO are usually intensively monitored by shareholders, we expect that the information asymmetry between the selecting firm and the potential peer firm is at least considered during the selection of peer firms. The introduction of the mandatory but nonbinding ‘Say on Pay’ policy, which has been implemented in July 2010 as part of the Dodd-Frank Act and implies that shareholders have to approve the compensation package of the CEO, CFO and the top three most other highly compensated named executive officers, has further increased the monitoring intensity of the compensation design process in general and the selection of peer groups in particular (Murphy 2013).

Building on prior research about the role of financial reporting quality in mitigating information asymmetry between providers and users of accounting numbers and relying on the idea that larger information asymmetries with potential peer firms are less desirable when it comes to peer group composition, we expect that potential peer firms with weaker financial reporting quality are less likely to be included in the peer group of another firm. An important assumption in our reasoning is that the selecting firm is aware of the information asymmetry with the potential peer firm. Recent survey evidence suggests that earnings manipulation is difficult to detect by outsiders but that the lack of correspondence between earnings and cash flows and significant deviations from the accounting numbers of peer companies are important red flags (Dichev et al. 2013). Therefore, it is reasonable to assume that the selecting firm can make an approximation of the size of the information asymmetry with a potential peer firm or can at least differentiate between potential peer firms based on the information asymmetry with these potential peer firms.

2.3 Spillover Effects and Peer Group Composition

The second mechanism has its roots in the recent stream in empirical accounting research about the contagion or spillover effects of weak financial reporting quality. The primary objective of this research area is to better understand what impact (weak) financial reporting quality in a particular firm has on other firms. One of the earliest studies in this area investigates whether and how accounting restatements influence the share price of non-restating firms in the same industry. Consistent with the idea that investors use restatements of a particular firm to reassess past financial numbers of similar, non-restating firms, Gleason et al. (2008) find that restatements induce share price declines among non-restating firms in the same industry. Two other related studies focus on how weak financial reporting quality in a particular firm influences managerial decision-making in other firms in the same industry. Beatty et al. (2013) analyze the effect of high-profile accounting frauds and document that firms in the same industry react to the fraudulent reports by increasing their capital expenditures during the period of fraudulent reporting prior to detection compared to the three-preceding-year control period. Li (2015) further investigates the spillover effect of weak financial reporting quality and finds that the effect also occurs for enforcement actions for accounting misstatements of the Securities and Exchange Commission and the Department of Justice. Also, distorted financial numbers are found to influence a wider range of managerial decisions of peer firms such as decisions with respect to R&D, advertising, and pricing policies.

In general, prior work about the contagion effect of weak financial reporting quality documents negative consequences of having an industry peer with weak financial reporting quality. The question then arises what a firm can do to mitigate the negative consequences of having an industry peer with weak financial reporting quality. One way in which the board of

directors of a firm can try to mitigate the negative consequences of having an industry peer with weak financial reporting quality is by explicitly choosing to not include this industry peer in the peer group that is used for determining the CEO compensation contract and for evaluating the CEO. To the extent that the board of directors is following such a reasoning, one expects that industry peers with weaker financial reporting quality are less likely to be included in the peer group of another firm in the same industry.

Irrespective whether the potential peer firm with weak financial reporting quality belongs to the same industry, including a firm with weak financial reporting quality in the peer groups used for compensation determination and performance evaluation can have negative reputational consequences for the firm and for the members of the board of directors. Such negative reputational consequences are especially expected to be high when weak financial reporting quality of the peer firm materializes and results in the disclosure of internal control weaknesses, restatements, or SEC investigations. Previous research shows that outside directors experience negative reputational consequences when their companies experience financial reporting failures. Srinivasan (2005) reports a higher probability of turnover and a loss of positions in the board of directors of other firms in the three years after a restatement for outside directors that belong to the audit committee. For a sample of firms facing shareholder class action lawsuits, Fich and Shivdasani (2007) do not find evidence for abnormal turnover on the board of the sued firm but do find a significant decline in other board seats held by outside members of the board.

These results about the reputational effects for board members of the fraudulent firm notwithstanding, the question remains whether the firm and the members of the board of directors will experience negative reputational consequences for selecting a firm with weak financial reporting quality for the peer groups that are used for compensation determination and

performance evaluation. This question is especially valid for less salient proxies for financial reporting quality such as accrual manipulation. However, given the high monitoring intensity of the compensation design process and of the performance evaluation of CEOs and given the importance of a good reputation in the director labor market, it can be expected that board members will try to minimize the risk on events that potentially harm their reputation (Lorsch and MacIver 1989). And although the selection of peer firms is maybe not of first order importance in such a risk-minimizing strategy, board members that care about their reputation should be able to easily convince the other board members and the management team to not select a firm with doubtful accounting practices. Thus, to the extent that the board members expect that including firms with weak financial reporting quality will harm their own reputation and the reputation of the firm, we expect that firms with weaker financial reporting quality are less likely to be included in the peer group of another firm.

Overall, relying on the increased information asymmetry when selecting peers with weak financial reporting quality and on the potential contagious effects of selecting firms with weak financial reporting quality allows us to formulate the following hypothesis:

H1: Potential peer firms with weaker financial reporting quality have a lower probability of being included in the peer group of the selecting firm.

III. METHODOLOGY

3.1 Data and Sample

Our dataset focuses on the compensation and performance peer groups for the S&P500 and the S&P MidCap 400 firms. We refer to this dataset as the S&P900 firms. We find data available for 905 firms in Compustat. Our sample period runs from 2006 until 2011. We start collecting peer groups for the fiscal year 2006 that were filed with the SEC after December 15, 2006, the date

when the new disclosure requirement took effect. Compensation and performance peer groups are manually collected from the Compensation Discussion and Analysis section in the SEC DEF-14A filings. Our sample only contains firms that are using a self-selected compensation or performance peer group. Self-selected peer groups contain a list of specific peer companies that are chosen by the firm and contrast with peer groups based on a market-wide or industry-wide index. In the Appendix 2 we show an example of a disclosure of the compensation peer group for *Limited Brands Inc.* and for compensation and performance peer group for *Newmont Mining Corporation*. The disclosure of Newmont Mining Corporation also includes an explanation why the composition of the compensation peer group and performance peer group differs.

We find 817 S&P900 firms providing self-selected compensation peer groups for at least one year between 2006 and 2011. In 2011 (2006), compensation peer groups are found for 734 (536) firms. Performance peer groups are not used as frequently as compensation peer groups: we find self-selected performance peer groups for 261 firms from the S&P 900 for at least one fiscal year between 2006 and 2011. For 194 (134) firms we are able to identify self-selected performance peer groups in 2011 (2006). The proportion of firms disclosing self-selected compensation and performance peer groups is similar to the statistics presented in prior research (Faulkender and Yang 2010; Gong et al. 2010) In our main tests, we focus on 2011 as this is the most recent year and the one for which we have the highest amount of firms disclosing specific peers. In additional tests, we repeat all our analyses for the years 2006-2010. The results of these analyses lead to inferences identical to those of the analyses for the year 2011.

3.2 Financial Reporting Quality

Our hypothesis states that potential peers with higher financial reporting quality are more likely to be included in the compensation or performance peer group of another firm. To proxy for financial reporting quality, we first rely on two principal earnings attributes: accrual quality and earnings persistence. Then, in subsequent analyses we consider whether the potential peer has experienced internal control deficiencies, whether the peer has issued any fraud-related restatements and whether the SEC has issued any enforcement releases against the firm.

Accrual quality

Reported earnings are considered a primary indicator of information quality (e.g., Dechow 1994, Klein 2002; Frankel et al. 2002; Francis et al. 2005; Larcker et al. 2007; Chaney et al. 2011). Accrual accounting contains a degree of flexibility and leaves room for management to either shift income to the future or borrow from future income. Because of this flexibility the accrual component of earnings is a useful indicator of financial reporting quality (Dechow et al., 1995). Earnings differ from cash provided from operations by the amount of reported accruals. A standard practice is to focus on the magnitude and/or the variability of accruals to measure accrual quality. Since accruals include both discretionary and non-discretionary components, and since discretionary accruals are believed to better reflect managerial judgment, most accrual quality research focuses on discretionary accruals.

Our primary measure of accrual quality relies on the modified Jones model described in Dechow et al. (1995) and applied in the same fashion as Larcker et al. (2007) do. This model is a frequently used method to distinguish between discretionary and non-discretionary accruals. The modified Jones model assumes that the change in sales adjusted for the change in accounts receivables contains no earnings management and that capital intensity determines the remaining (depreciation) accruals. We include the book-to-market ratio (BM), measured as the ratio of book

value of common equity on the market value of equity as a measure of expected future growth. Next, we also include current cash flow from operations (CFO) in the model, as prior literature has shown that the modified Jones model is more likely to be misspecified in the extreme levels of performance (Dechow et al., 1995). The estimated model looks as follows:

$$TA_{i,t} = \alpha + \beta_1(\Delta Sales - \Delta Rec)_{i,t} + \beta_2 PPE_{i,t} + \beta_3 BM_{i,t} + \beta_4 CFO_{i,t} + \varepsilon_{i,t} \quad (1)$$

Total Accruals (TA) equals operating cash flows minus income before extraordinary items as disclosed in the cash flow statement. $\Delta Sales$ is the change in sales. ΔRec is the difference in accounts receivable. PPE is property, plant and equipment. With the exception of BM, all variables are scaled by lagged total assets and also winsorized so that they are no greater than 1. BM is winsorized at the 2nd and 98th percentile. We run this model for each two-digit SIC industry separately thereby requiring at least ten firms per group.¹ We label the residual from this model abnormal accruals (*abn. acc.*). Our primary measure of accrual quality, σ (*abn. acc.*), is the firm-specific standard deviation of abnormal accruals measured over 1991-2010.² A higher residual standard deviation reflects lower quality reported earnings. As an alternative measure, we also compute the absolute value of abnormal accruals, averaged over all years available since 1991. Higher values indicate lower accrual quality. We test two alternative accrual quality indicators. First, instead of calculating total accruals as net income minus cash flow from operations we measure accruals by subtracting depreciation from changes in working capital. Second, instead of using the modified Jones model we capture abnormal current accruals by testing the model from Dechow and Dichev (2002), as used on Francis et al. (2005) and Bharath et al. (2008), as an alternative. Our main results prove to be robust to both of these sensitivity checks.

¹ We exclude SIC 6000-6999 as these earnings management measures are unsuitable for banks, insurance and real estate companies.

² When testing for the years 2006-2010, we calculate σ (*abn. acc.*) over the period 1991 up to and including the year prior to the year in which the peers are selected.

Earnings persistence

We predict that potential peer firms showing a more persistent pattern in their historic earnings have a higher probability of being selected, as benchmarking becomes easier. Our indicator of earnings persistence, *persistence*, captures earnings sustainability. We measure persistence as the slope coefficient of a regression of current earnings on lagged earnings. Specifically, we regress earnings per share at time t (measured as net income before extraordinary items divided by the number of common shares outstanding) on earnings per share from the previous year:

$$EPS_{i,t} = \alpha + \beta_i EPS_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

We test this model for each firm-year observation using a five-year rolling window. Regression results for 2011 are thus based on earnings persistence in the period 2006-2010.³ Values of β_i closer to one indicate higher earnings persistence, while values closer to zero are indicative of highly transitory earnings.

Internal control deficiencies

The Sarbanes-Oxley Act (SOX) of 2002 was a response to the increasing concern of investors about the quality of firms' financial reporting, due to scandals involving companies like Enron and WorldCom. One important aspect of SOX is the two sections specifically focusing on internal control problems related to financial reporting. Under Section 302, management is required to disclose all material weaknesses in internal control, when they certify the annual reports. Under Section 404, a firm is required to gauge the effectiveness of its internal control structure and procedures for financial reporting and disclose such information in its annual reports. Furthermore, the firm's auditor is required to provide an opinion on the assessment made by the management in the same report. Most of the internal control weakness disclosures under SOX 302

³ As an alternative persistence measure, we use a ten-year period instead of a five-year one. Results are very similar.

and SOX 404 are related to financial systems and procedures (Zhang et al. 2007). This group typically involves financial closing processes, account reconciliation, or inventory processes.

Since a disclosure of a material weakness in the internal controls of a company potentially indicates financial reporting weaknesses, we are interested in investigating whether firms disclosing internal control weaknesses are less likely to be included in compensation and performance peer groups. We introduce an indicator variable (*icd*) which equals 1 if the auditor of the firm has reported one or more material weaknesses in the SOX 404 report in the period 2004-2010, and zero otherwise. Data are retrieved from Audit Analytics.

Fraud

To test whether fraudulent firms are less likely to be selected as a peer, we gather data on fraud-related restatements from Audit Analytics. Specifically, we introduce an indicator variable (*fraud*) which equal 1 if the firm has done a restatement related to financial fraud or irregularities in one or more previous financial statements, and zero otherwise. The variable of interest is labelled “Res_fraud” in Audit Analytics. The period over which we measure *fraud* is 2004-2010. When testing for peer selection in 2006-2010, we restrict *fraud* to fraudulent restatements done between 2004 and the year prior to peer selection. In additional tests we expand the period in which we measure *fraud* to 2004-2012, as in many instances the suspicion of fraud (or even the confirmation) is already known by the public before an actual restatement occurs.

AAERs

Since 1982, the SEC issues Accounting and Auditing Enforcement Releases (AAERs) during or at the end of an investigation it has done against a firm, an auditor or a manager for alleged accounting or auditing misconduct. The original AAER data can be obtained from the SEC website. We rely on the dataset on AAERs provided by the Center for Financial Reporting and

Management at UC Berkeley. A detailed description of the data collection is available in Dechow et al. (2011). We introduce an indicator variable (*aaer*) which is equal to 1 if the potential peer firm has had one or more enforcement releases by the SEC in the period 2004-2010, and zero otherwise. When testing for peer selection in 2006-2010, we restrict *aaer* to SEC releases issued between 2004 and the year prior to peer selection. In additional tests we also expand this period to 2004-2012 for all years in our sample, as it is highly likely that the misconduct has already leaked to the public before the actual release is done by the SEC.

3.3 Descriptive Statistics

Table 1 provides summary statistics for firms disclosing specific compensation and performance peer groups in 2011. All variables are measured in 2010. We find 734 firms disclosing specific compensation peers and 194 firms disclosing performance peers. Firms reporting performance peers, almost always report compensation peers as well. We manage to calculate abnormal accrual variation for 730 firms and persistence for 904 firms. In the period 2004-2010, auditors reported one or more internal weaknesses for 11.7% of the firms, 1.8% of the firms made restatements related to fraud and for an equal percentage of firms the SEC issued one or more AAERs. The average CEO in the S&P900 receives a total remuneration of 7.9 mln USD. Further, we notice that the median firm is followed by 13 analysts, 98% of the sample is audited by a Big 4 firm and average sales are 11 billion dollars.

Table 2 shows descriptive statistics on the structure of the peer groups as well differences between compensation and performance peer group composition.⁴ The average compensation peer group contains 17.8 peers, while this figure is 16.6 for performance peers. For compensation

⁴ The percentages are not based on all peers that the firm disclosed, but only on those for which we managed to find a match in Compustat. Foreign peers are not included in this table.

peer groups, on average 39.6% of selected peers have the same two-digit SIC code and 26.7% the same three-digit SIC code as the selecting firm has. For performance peer groups, the corresponding figures are significantly higher (47.1% and 30.1%). This result is consistent with the notion that performance peers are often chosen based on the criterion that these are firms prone to the same market forces (which often means the same industry), while compensation peers are often firms with which the selecting firms competes for CEO talent (and, therefore, not necessarily in the same industry). We further notice that 55% of compensation peers are within the same asset range as the selecting firm. For sales and market value matches, we find percentages of 62% and 52%. These three figures are significantly higher than for performance peer groups. Furthermore, we find that if the disclosing firm is in the Dow 30, 40% of its peers are also in the Dow 30. However, if the selecting firm is not part of the Dow 30, this percentage is only 4.5%. Dow 30 firms are also much more likely to be chosen as a peer by S&P 500 firms (9.1% on average) than by S&P 400 MidCap firms (1%). Almost all peers selected by Dow 30 firms are part of the S&P 500 index (99.3%). On average 83.4% of the chosen peers by S&P500 firms belong to the same index, while only 54.9% of the chosen peers by S&P400 MidCap firms come from that same index. Collectively, these findings suggest that firms have a tendency to select peers that are either similar in size or larger than they are.

- INSERT TABLE 1 AND 2 ABOUT HERE -

3.4 Model Design

To test for the effect of financial reporting quality on peer group composition, we use a probit regression model in which the dependent variable measures whether a potential peer is selected as an actual peer of the firm or not.⁵ We test for the composition of compensation peer groups and performance peer groups separately. Many other characteristics than financial reporting quality

⁵ Results are very similar when testing a logit specification instead of a probit specification.

likely explain peer group selection. Therefore, we control for various similarities between firms and their potential peers on different dimensions such as industry and size. An observation is paired to the firm under investigation for which we have compensation (or performance) peer group members and a potential peer company.

An important aspect of our methodology is that we employ two groups of potential peers throughout the analyses in this paper. As a first group of potential peer firms, we include all firms belonging to the S&P900. Since our S&P900 sample contains 905 firms, we have 904 potential peers for each company. From these, 15 firms are dropped because of insufficient data on prior-year assets, sales or market value. We exclude observations for which we do not have peer information and for which we do not have a list of *specific* or *individual* peers (e.g. firms that have the S&P 500 or the DJIA as their peer group are excluded from the analysis). As an alternative peer group, we use all firms belonging to the same two-digit SIC industry as the potential peers for the selecting firm to choose from. The advantage of the use of the industry peer group is that we naturally control for similarities because of industry characteristics (as all potential peer firms are from the same industry). The downside of this alternative peer group is that it does not consider peers chosen outside of the industry, which are considered in the S&P900 potential peer group.

The probit regression model is similar to and consistent with prior research on the selection of peer firms for compensation and performance peer groups (Faulkender and Yang 2010, 2013; Gong et al. 2011). The model looks as follows:

$$actpeer_{ij} = \alpha + \beta_1 FRQ_{ij} + \beta_2 analysts_{ij} + \beta_3 accuracy_{ij} + \beta_4 \ln(peer\ total\ pay)_{ij} + \beta_5 no\ of\ peers_{ij} + \beta_6 matchsic2d_{ij} + \beta_7 matchsic3d_{ij} + \beta_8 assetmatch_{ij} + \beta_9 salesmatch_{ij} + \beta_{10} mcapmatch_{ij} + \beta_{11} dow30match_{ij} + \beta_{12} largecapmatch_{ij} + \beta_{13} midcapmatch_{ij} + \epsilon_{ij} \quad (3).$$

The dependent variable $actpeer_{ij}$ takes the value one if selecting firm i chooses potential peer j to be a member of the peer group (i.e. to be an actual peer), and zero otherwise. We examine the effect of financial reporting quality on the composition of the compensation and performance peer groups and are therefore primarily interested in the coefficient on FRQ . In our main specifications, FRQ is σ (*abn. acc.*), *persistence*, *icd*, *fraud* or *aaer*. A negative (positive) coefficient on σ (*abn. acc.*), *icd*, *fraud* and *aaer* (*persistence*) suggests that potential peers with lower financial reporting quality are less likely to be selected as a peer.

We include two sets of control variables. The first group contains controls that capture the quality of the external information environment of the firm. A firm's information environment is affected by the financial reporting quality as well as by the information transmission channels surrounding the firm, which we refer to as the external information environment. For a given level of financial reporting quality, a better external information environment can reduce information asymmetries between market participants. As our hypothesis focuses on financial reporting quality, it is thus important to control for the quality of the external information environment. Drawing from prior literature (Lang and Lundholm 1996; Byard et al. 2010; Lang and Maffett 2011), we consider two properties of analyst forecasts of earnings that are indicative of the quality and richness of a firm's external information environment. Specifically, we consider the extent to which a firm is followed by professional analysts (*Analysts*) and the accuracy by which these analysts are able to forecast future earnings for these firms (*Accuracy*). As done in prior studies (Lang and Lundholm 1996; Behn et al. 2008), we calculate forecast accuracy as the negative of the absolute value of the difference between forecasted earnings (EPS) and actual earnings (as reported by I/B/E/S) scaled by market price at time $t-1$. The median I/B/E/S consensus forecast is

considered. In additional tests we also include the variance or dispersion of earnings forecasts. Analyst data are retrieved from the I/B/E/S database.

The second set of controls captures similarities between the selecting firm and the potential peer which may help explain why a peer is selected or not. Indicator variables are included measuring whether the selecting firm and the potential peer are in the same two-digit and three-digit SIC industry; whether the potential peer is within a 50-200% range of the selecting firm in terms of total assets, revenues and market value; and whether the selecting firm and the potential peer are both part of the Dow 30, the S&P 500 index and the S&P 400 MidCap index, or not. The matching variable on two-digit SIC industry disappears when testing for the alternative industry peer group. We also add the number of peers (*no_of_peers*) chosen by the selecting peer. Finally, we add total pay of the peer's CEO (*ln_peer_total_pay*), as Faulkender and Yang (2010) document that peers with highly paid CEOs are more likely to be selected. We expect to find positive signs on each of the control variables.

We run the model for compensation peer groups and performance peer groups separately. Standard errors are clustered at the firm level. As the number of observations becomes very large, especially for compensation peers, we test the model for each year separately (and show detailed results for 2011 and summarized ones for 2006-2010).

IV. RESULTS

4.1 Compensation Peer Groups

Our prediction is that firms with a higher financial reporting quality are more likely to be included in the peer group of another firm. We use accrual quality and earnings persistence as proxies for financial reporting quality and expect a significantly negative coefficient for accrual quality and a

significantly positive coefficient for earnings persistence. Table 3, column (1) to (4), presents the findings for the composition of the compensation peer groups for 2011 when employing the S&P900 as the potential peer group and including control variables based on prior literature. In specification (1), we find a significantly negative coefficient on σ (*abn. acc.*) We include analyst following and analyst forecast accuracy to control for the quality of the external information environment in specification (2) and we still find a significantly negative coefficient on σ (*abn. acc.*) In specification (3) we include *earnings persistence* in the model and find a significantly positive coefficient for earnings persistence. Specification (4) includes both accrual quality and earnings persistence. We find a significantly negative coefficient for accrual quality and a significantly positive coefficient for earnings persistence. Overall, the results for the compensation peer groups with the S&P900 as the potential peer group provide support for the hypothesis that firms with better financial reporting quality are more likely to be included in the peer group of another firm.

The findings for the control variables are broadly in line with prior research. Consistent with Faulkender and Yang (2010, 2013) we find that peers with highly paid CEOs are more likely to be included in the peer group. The number of peers in the group is positively correlated with the probability of being chosen as a peer. We also notice strong effects from the industry match variables: potential peers that are in the same two-digit and three-digit SIC industry are much more likely to be selected as actual peers than others. Potential compensation peers are also selected based on their sales, assets and market value as each of these three size match variables have positive coefficients. Finally, firms belonging to the Dow 30 index or to the S&P500 index are more likely to be picked as peers when the selecting firm is also part of the same index. The

latter conclusion does not hold so strongly when both the potential peer and the selecting company are part of the S&P400 MidCap.

In specifications (1)-(4), the S&P900 is used as the potential peer group. This implies that peers selected by the company outside the S&P900 are omitted from these analyses. In specifications (5)-(8), we employ an alternative potential peer group based on all firms in the same two-digit SIC industry, including firms outside the S&P900. The downside of using this potential peer group is that we neglect peers chosen from outside a firm's industry (which we do take into account in our previous analyses). The number of observations drops heavily because the potential peer group becomes much smaller for most firms (i.e. there are less than 900 firms in most two-digit SIC industries). We still find support for our hypothesis. In particular, we find a significantly negative coefficient on σ (*abn. acc.*) in specification (5), (6), and (8) and a significantly positive coefficient on earnings persistence in specification (7), and (8). The results for the control variables for the analyses with the same two-digit SIC industry as the potential peer group result in similar inferences relative to the analyses with the S&P900 as the potential peer group. Taken together, results for the analyses with the same two-digit SIC industry as the potential peer group provide additional support for the hypothesis that firms with better financial reporting quality are more likely to be included in the compensation peer group of another firm.

- INSERT TABLE 3 ABOUT HERE -

4.2 Performance Peer Groups

Table 4 presents the findings from the analyses on the composition of the performance peer groups. When using the S&P900 as the potential peer group, we find a significantly negative coefficient on σ (*abn. acc.*) in specification (1), (2), and (4) and a significantly positive coefficient for earnings persistence in specification (3) and (4). The analyses with the same two-digit SIC

industry as the potential peer group leads to similar inferences. That is, we find a significantly negative coefficient on σ (*abn. acc.*) in specification (6), (7), and (8) and a significantly positive coefficient for earnings persistence in specification (7) and (8). Results for the control variables are in line with prior research for both series of analyses. Taken together, the findings for the analyses on the composition of the performance peer groups result in similar inferences relative to the findings for the analyses on the composition of the compensation peer groups. Collectively, the results support our prediction that firms with better financial reporting quality are more likely to be included in the peer group of another firm.

- INSERT TABLE 4 ABOUT HERE -

*4.3 Alternative measures of financial reporting quality: *icd*, *fraud*, *aaer**

In this section, we consider additional tests with alternative proxies for financial reporting quality. Table 5, Panel A, presents the findings from the analyses for the composition of the peer groups in which we use the incidence of internal control weaknesses, fraudulent restatements and SEC investigations as a proxy for financial reporting quality. The coefficients for each of these alternative proxies indicate whether the incidence of internal control weaknesses, fraudulent restatements and SEC investigations during 2004-2010 affect the probability that the firms is selected as a compensation peer (Panel A) and performance peer (Panel B) in 2011. When we use the S&P900 as the potential peer group, we find for the compensation peer group composition a significantly negative coefficient on *icd* and *fraud* and an insignificant coefficient on *aaer*. When considering the same two-digit SIC industry, we find for the compensation peer group composition a significantly negative coefficient for all three alternative proxies of financial reporting quality. One potential explanation for the stronger results when using the same two-digit

SIC industry as the potential peer group is that the prevalence of fraud and SEC investigations is higher for firms outside of the S&P900. All control variables carry the expected signs.

Table 5, Panel B, reports the results for the analyses of the composition of the performance peer groups. When we use the S&P900 as the potential peer group, we find a significantly negative coefficient on *icd* and *fraud* and an insignificant coefficient on *aaer*. When considering the same two-digit SIC industry as the potential peer group, we find a significantly negative coefficient on *icd*, *fraud*, and *aaer*. Collectively, the results for the alternative proxies for financial reporting quality are broadly consistent with the results for accrual quality and earnings persistence and provide support for the hypothesis that firms are less likely to be selected as peers when they have reported internal control weaknesses, experienced fraud-related restatements and/or had an SEC enforcement release. One potential explanation for the weaker results for the SEC investigations is that there is some information leakage to the market about the fact that an SEC investigation is upcoming. Public disclosure of an SEC investigation is the end of a process that can take up to 2-3 years and it could thus be that firms anticipate on a possible SEC investigation (Heese, 2015).

- INSERT TABLE 5 ABOUT HERE -

4.4 Results for 2006-2010

Table 6 summarizes results for the years 2006-2010. For brevity, we only report the coefficients for the five proxies for financial reporting quality. Control variables are the same as those used in the previous analyses. Panel A (B) reports the results for the compensation (performance) peers. We report the results for both potential peer groups (i.e. S&P900 and the two-digit SIC industry). For the compensation peer groups, we find a significantly negative coefficient for σ (*abn. acc.*) and a significantly positive coefficient for earnings persistence for all years from 2006 to 2010 for

both potential peer groups. The coefficients for *icd*, *fraud*, and *aaer* are not significantly negative for all years from 2006 to 2010. We report similar results for the performance peer groups in Table 6, Panel B.

- INSERT TABLE 6 ABOUT HERE -

4.5 Geographical distance between selecting firm and potential peer

We argue that the effect of financial reporting quality on peer group selection is driven by the increased information asymmetry between the selecting firm and the potential peer firm. In case the information asymmetry effect is driving our results, we expect the effect of financial reporting quality to become stronger when financial statements become a more important information source. That is, the more important financial statements are, the higher the importance of financial reporting quality as a determinant of information asymmetry. Relying on prior research about the role of distance for contract design, we assume that financial statements are a more important information source when the potential peer is located further away from the selecting peer (Coval and Moskowitz, 1999; Ayers et al., 2011). That is, the selecting firm has more and easier access to “soft” information about local firms that can be used when selecting the peer firms. For peers located further away, the “soft” information may be lacking and financial statements, which contain “hard” information, may become a more important information source. Therefore, we expect financial reporting quality to become more important for remote potential peers than for local potential peers.

To test this prediction, we introduce *ln distance* which is the log of the distance in miles between the headquarters of the selecting firm and the headquarters of the potential peer firm. Table 7 reports the results for the compensation peer groups using the S&P900 as the potential peer group. In specification (0) of Panel A, we first document the effect of the distance between the

selecting firm and the potential peer firm on the likelihood of being selected. Consistent with the idea that local firms are prone to the same market forces and are more likely to compete for the same managerial talent, we find a significantly negative coefficient for *ln distance*, implying that a local potential peer is more likely to be selected than a remote potential peer. In specifications (1)-(8) of Panel A, we separately test the effect of financial reporting quality for peers located close by (within 100 miles of the selecting firm) and peers located further away (further than 100 miles). We find that accrual quality and earnings persistence increase the likelihood of being selected for peers located further away, but not for local peers. We document a similar result for *icd*. These findings suggest that financial reporting quality seems to matter most in those instances where you would expect firms to rely more heavily on financial statements. We consider these findings as supportive evidence for the information asymmetry effect. Interestingly, potential peers that have committed fraud appear to have a lower probability of being selected, irrespective of whether they are local peers or not.

In Panel B, we report the results of analyses that split the sample on whether the potential peer is located in the same state as the selecting firm or not. The conclusions are largely similar as those in Panel A. That is, accrual quality and earnings persistence increase the likelihood of being selected for peers located further away, but not for local peers. Internal control deficiencies and fraud decrease the likelihood of being selected as a peer, irrespective of whether the peer is located in the same state or not. A noteworthy result is the significantly negative coefficient on *ln distance* in each specification. Although the full sample is split based on distance between the selecting firm and the potential peer, there appears to be an important distance effect.⁶ Results for

⁶ This effect essentially means that potential peers located “around the corner” have a higher likelihood of being selected than peers located a couple of miles further away, all else equal.

the performance peer groups are inferentially similar and lead to the same conclusions (not reported).

- INSERT TABLE 7 ABOUT HERE -

4.6 Peer selection at different levels of financial reporting quality

We argue that the effect of financial reporting quality on peer group selection is also driven by the potential contagious effects for the selecting firm when a firm with weak financial reporting quality is selected. It can be argued that such contagious effect is more harmful for the reputation of the selecting firm when the selecting firm attaches more importance to financial reporting quality. That is, the potential reputational loss of selecting a firm with weak financial reporting quality is higher for firms that have built up a reputation for reporting reliable financial numbers. In case the potential contagious effect is driving our results, we thus expect that the effect of financial reporting quality on peer group selection will be stronger when the selecting firm has higher financial reporting quality. In a next set of analyses, we repeat our main analyses and split the sample based on the financial reporting quality of the selecting firms. Specifically, we create an aggregated measure of accrual quality and earnings persistence as the average of the percentile ranked values of σ (*abn. acc.*) and *persistence*.⁷ Based on this aggregated measure, we create four groups of observations: quartile 1 (4) contains the selecting firms with the lowest (highest) financial reporting quality. We predict that selecting firms in the highest quartile will be more likely to choose peers with higher financial reporting quality. In other words, we expect our main finding to be stronger in situations where the selecting firm has higher accrual quality and earnings persistence.

Results shown in Table 8 are largely consistent with this prediction. In Panel A, results for compensation peer groups are shown. Specification (1) shows results for selecting firms with low

⁷ Results are very similar when splitting on either σ (*abn. acc.*) or *persistence*.

accrual quality and low earnings persistence. We find that for selecting firms in the lowest quartile of the distribution of financial reporting quality, financial reporting quality of the potential peer firm does not play a role. For the other three quartiles, we find results consistent with the notion that selecting firms do take into account financial reporting quality of the potential peer firms. It is also interesting to note that the coefficients on σ (*abn. acc.*) and *persistence* increase in magnitude and significance when going from the second quartile (specification (2)) to the fourth quartile (specification (4)). Panel B shows that results for performance peers are very similar.

- INSERT TABLE 8 ABOUT HERE -

4.7 Additional analyses

Auditor matching

A key role of the auditor is to enforce the application of proper accounting policies in firms. However, to avoid client dismissal, auditors may to some degree go along with opportunistic managerial behavior and the subsequent reporting of lower quality earnings. Large and highly reputed auditors are expected to withstand this pressure more easily than small and local auditors. A large body of literature shows that Big 4 auditors are more likely to withstand the pressure to report lower quality earnings than non-Big 4 auditors (e.g. Teoh and Wong 1993; Francis and Krishnan 1999). Untabulated results show that potential peers with a Big 4 auditor are more likely to be selected than otherwise similar peers with a non-Big 4 auditor ($z=5.85$, $p<0.01$). Next, we investigate whether potential peers that have the same auditor as the selecting firm have a higher probability of being selected in the peer group. To some extent, auditors may be involved in the composition of the peer groups. It can also be argued that the information asymmetry between the selecting firm and the potential peer firm is smaller when both firms have the same auditor. To

test the role of the auditor in the peer group composition, we create a matching variable that takes the value of one (zero) if the selecting firm and potential peer firm (do not) have the same auditor. For the compensation peer groups of 2011 with the S&P 900 as the potential peer group, we find a marginally significant positive coefficient on the auditor match variable ($z=1.80$, $p<0.10$). Results for other specifications that we have previously used are similar. Overall, the results suggest that potential peer firms that share the same auditor with the selecting firm have a higher probability of being selected in the peer group.

Compensation Consultant Matching

Many firms hire a compensation consultant to assist them in designing the managerial compensation contracts. As there are only a few big players in the market for compensation consultants, we expect that firms having the same compensation consultant are also more likely to have similar (or more similar) peer groups. To test this, we create a matching variable that takes the value of one (zero) if the selecting firm and potential peer firm (do not) have the same compensation consultant. For the compensation peer groups of 2011 with the S&P 900 as the potential peer group, we find a significantly positive coefficient ($z=5.35$, $p<0.01$). However, the consultant matching variable is insignificant when testing for the selection of performance peer groups of 2011 with the S&P 900 as the potential peer group ($z=0.61$, $p>0.30$). These findings suggest that having the same compensation consultant is more likely to influence the composition of the compensation peer group than the composition of the performance peer group. This conclusion holds when we consider the other specifications that we have previously used in this paper.

Fama and French Industry Classification

As an alternative industry classification to the SIC codes, we employ the 48 industry categories of Fama and French. When replacing `matchsic2d` and `matchsic3d` with a match indicator for Fama-French industries, we find similar results (not reported) on all financial reporting quality variables. For instance, for the year 2011 and with the S&P 900 as the potential peer group, the new industry match variable is highly significant for the compensation peer groups ($z=50.31$, $p<0.01$) and for the performance peer groups ($z=34.51$, $p<0.01$).

Single versus Multiple Business and Geographical Segments

In a final additional test, we include four measures in our model based on whether both the selecting firm and the potential firm have one single business segment, multiple business segments, a single geographic segment and multiple geographic segments. These indicator variables may capture similarities in complexity and risk. Each of these variables is positively related to the probability of being selected in the compensation and performance peer group across the different specifications we have previously used. Matching variables on geographical segments are more significant than business matching variables. We do not include these matching controls in our main analyses because we lose a significant number of observations by doing so. Importantly, when included, results on abnormal accruals and persistence remain significant at similar levels as before (results not reported).

V. CONCLUSION

Firms frequently use peer groups to benchmark the compensation contracts and performance of their senior executives. When discussing the composition of the peer groups, it is argued that the firms are selected based on accounting-based and market-based measures such as total assets, market capitalization, net income and shareholder return. Financial reporting quality is expected

to be important in the selection of peer firms as it is difficult to justify similarity based on accounting-based and market-based measures when the financial numbers are distorted. Relying on the increased information asymmetry between the selecting firm and the potential peer firm when financial reporting quality of the peer firm is lower and on the potential contagious effects of selecting a firm with low financial reporting quality, we hypothesize that potential peer firms with lower financial reporting quality are less likely to be selected in the peer group of another firm. Based on data about the composition of the compensation and performance peer groups of S&P 900 firms between 2006 and 2011, we find evidence that is consistent with our hypothesis. That is, we find strong evidence that firms with lower accrual quality and less persistent earnings are less likely to be included in the peer group of another firm. For other proxies of financial reporting quality such as internal control deficiencies, fraud, and SEC-investigations, our results point in the same direction but are somewhat weaker. Overall, we can conclude that financial reporting quality does matter when peer groups are composed and that firms are less likely to include peer firms with weaker financial reporting quality in their peer groups.

This study contributes to two different streams in the literature. First, this study contributes to the stream of research that analyzes the determinants of the peer group composition. The current line of inquiry has mainly looked at the selection of highly paid peers, how this phenomenon can be explained, and whether disclosure mitigates the selection of highly paid peers (Albuquerque et al. 2013, Bizjak et al. 2008, 2011, Faulkender and Yang 2010, 2013). Our paper shifts the focus to the fundamental claim of the selecting firms that the peer firms are selected based on similarity with respect to accounting-based and market-based measures. By documenting that financial reporting quality does matter for the composition of peer groups, we are, to the best of our knowledge, the first to validate the claim about similarity that nearly every

firm that uses peer groups includes. At a more general level, our findings about the role of financial reporting quality for peer group composition also suggest that accounting numbers have real effects on important firm decisions. Second, this study adds to the emerging literature about the spillover effects of financial reporting quality. Previous research in this area documents that firms experience negative consequences of having industry peers with distorted financial numbers through share price declines and distorted managerial decisions (Beatty et al. 2013, Gleason et al. 2008, Li 2015). In this study, we document that firms actively consider the financial reporting quality of their potential peers and are less likely to include peer firms with weak financial reporting quality in their peer group.

This study has some limitations that merit further investigation in future studies. First, in this study, we limit ourselves to unraveling the relationship between financial reporting quality and the probability that a firm is chosen as a peer firm. It would be interesting to investigate the consequences of keeping a firm with weak financial reporting quality in the peer group as well as to examine whether there is predictable variation in these consequences. Second, firms can react in different ways when they detect weak financial reporting quality in one of their peer firms: they can throw out the peer firm of the peer group but they can also decide to adapt the compensation plan of the CEO. Future research can investigate how firms react to the detection of weak financial reporting quality in one of the peer firms and whether there is predictable variation in the type and the strength of the reaction.

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Appendix 1: Variable Definitions

Actpeer: Indicator variable equal to 1 if a potential peer (either part of the S&P900 or the same two-digit SIC industry group) is chosen as a compensation peer or performance peer by a disclosing firm, and zero otherwise.

FRQ: Financial reporting quality which is equal to one (or a combination) of the following variables defined below: σ (abn. acc.), persistence, icd, fraud, aaer.

σ (abn. acc.): Measure of accrual quality defined as in Larcker et al., 2007 and Chaney et al., 2011. Standard deviation of discretionary accruals (DA); DA calculated using the cross-sectional modified Jones model (industry regressions with at least 10 firms per two-digit SIC industry) as the residual of a regression of total accruals on changes in sales minus changes in accounts receivable, capital intensity, cash flow from operations and book-to-market value. Total accruals are calculated as a firm's net income before extraordinary items minus cash flow from operations, as reported on the statement of cash flows.

Abs (abn. acc.): Absolute value of discretionary or abnormal accruals, calculated using the cross-sectional modified Jones model (industry regressions with at least 10 firms per two-digit SIC industry).

Persistence: The slope coefficient estimate from a regression model of current annual earnings per share explained by one-year lagged earnings per share, which we estimate using a five-year rolling window. Earnings per share are calculated as earnings before extraordinary items divided by the number of shares outstanding.

Icd: Indicator variable that equals one if the auditor of the firm has reported one or more material weaknesses in the SOX 404 report in the period 2004-2010, and zero otherwise. Data source is Audit Analytics.

Fraud: Indicator variable that equals one if the firm has reported one or more fraud-related restatements in the period 2004-2010, and zero otherwise. Data source is Audit Analytics (variable RES_FRAUD).

Aaer: Indicator variable that equals one if the SEC had issued one or more Accounting and Auditing Enforcement Releases (AAERs) during or at the conclusion of an investigation against the peer, its auditor or a manager for alleged accounting and/or auditing misconduct, and zero otherwise. Dataset is obtained from the Center for Financial Reporting and Management at UC Berkeley. A detailed description of the data collection is available in Dechow et al. (2011).

BM: Book value of equity divided by market value of equity, measured as the number of shares outstanding multiplied by the price per share.

CFO: Cash flow from operations scaled by lagged total assets.

Analysts: Number of analysts following a firm (number of estimates from I/B/E/S).

Accuracy: Forecast accuracy, defined as absolute difference between the (first) consensus forecast and actual annual earnings per share, divided by lagged price, multiplied by -1.

Assets: a firm's total assets in mln USD measured at the end of the year prior to investigation.

Sales: a firm's total revenues in mln USD measured at the end of the year prior to investigation.

Market cap: a firm's total market capitalization measured as the number of outstanding shares multiplied by the share price measured at the end of the fiscal period prior to investigation.

Ln(peer total pay): log of total compensation (salary, bonus and long-term incentive plans) of the CEO in mln USD. Data from Execucomp.

No of peers: the number of chosen compensation peers or performance peers.

Matchsic2d: Indicator variable equal to one if a chosen peer is in the same two-digit SIC industry of the firm and zero otherwise.

Matchsic3d: Indicator variable equal to one if a chosen peer is in the same three-digit SIC industry of the firm and zero otherwise.

Assetmatch: Indicator variable equal to one if a chosen peer's total assets and the firm's total assets are within 50-200% of each other, zero otherwise.

Salesmatch: Indicator variable equal to one if a chosen peer's revenues and the firm's revenues are within 50-200% of each other, zero otherwise.

Mcapmatch: Indicator variable equal to one if a chosen peer's market capitalization and the firm's market capitalization are within 50-200% of each other, zero otherwise.

Dow30match: Indicator variable equal to one if both the firm and a chosen peer are Dow 30 members, zero otherwise.

Largecapmatch: Indicator variable equal to one if both the firm and a chosen peer are part of the S&P 500, zero otherwise.

Midcapmatch: Indicator variable equal to one if both the firm and a chosen peer are part of the S&P 400 MidCap, zero otherwise.

Ln_distance: Natural log of the driving distance in miles between the selecting firm's zip code and the potential peer's zip code. Distances are calculated using Microsoft Mappoint.

Appendix 2: Examples of peer group disclosures

1. Compensation peers for *Limited Brands Inc.* (2011):

- Our peer group companies are chosen because of their general similarity to Limited Brands in total revenue, market capitalization, business and merchandise focus, geographic location and/or their competition with the Company for executive talent. We believe that it is important that we benchmark our compensation practices primarily against companies with innovative and aspirational brands that have strong emotional content, because our success depends on the unique skills and talent required to create an emotional experience for our customers. With the assistance of Towers Watson, we review our peer group annually to ensure that it remains appropriate.

- Our review of market practice consists of a comparison of the target and actual compensation for each of our named executive officers to publicly available data on base salary, bonus and long-term incentive compensation for executives from a peer group consisting of 20 specialty and department store retail organizations. These data and comparisons are used to benchmark the appropriateness and competitiveness of our executive compensation programs.

- Our peer group below is unchanged from the prior fiscal year:

Abercrombie & Fitch, Liz Claiborne, JCPenney, Ralph Lauren, Aeropostale, Coach, Kohl's, Starbucks, American Eagle Outfitters, DSW, Macy's, Target, Ann Inc., Estee Lauder, Nike, TJX Companies, Avon, Gap, Nordstrom, Williams-Sonoma.

- We believe that this peer group best reflects our market for executive talent – the companies that our executives are potentially attracted from and lost to. However, we recognize that certain external advisory firms may use alternative peer groups in making determinations about our compensation programs. These firms tend to focus solely on a broad industry category with similarity of size in terms of revenue and/or market capitalization. This selection methodology does not take into account similarity in business and merchandising focus and, in particular, dilutes the distinguishing characteristic of businesses whose success depends on brands with strong emotional content. Accordingly, we do not believe that these dissimilar companies provide an appropriate basis for comparison.

2. Compensation peers for *Newmont Mining Corporation* (2011):

- We strive to compensate our Officers competitively relative to industry peers. As part of the Compensation Committee's charter and to ensure the reasonableness and competitiveness of Newmont's position in the industry, the Compensation Committee regularly evaluates Newmont's peer group with the aid of its independent consultant, Cook & Co., and with input from management. As noted above, peer groups are used in the compensation benchmarking process as one input in helping to determine appropriate pay levels. When reviewing the appropriateness of a peer group, the Compensation Committee's analysis includes a review of information regarding each potential peer company's industry, complexity of their business and organizational size, including revenue, net income, total assets, market capitalization and number of employees. This approach ensures a reasonable basis of comparison.

- The 2011 peer group was used to evaluate target executive compensation for 2011 and consists of the following mining and extractive industry companies:

Agnico Eagle Mines Limited, Goldcorp Inc., CONSOL Energy Inc., AngloGold Ashanti Limited, Kinross Gold Corporation, EOG Resources, Inc., Barrick Gold Corporation, Teck Resources Limited, Peabody Energy, Freeport-McMoran Copper and Gold Inc., Apache Corporation, Chesapeake Energy Corporation, Talisman Energy Inc., Gold Fields Limited, Vulcan Materials Company.

3. Performance peers for Newmont Mining Corporation (2011):

The companies in the *performance* peer group are listed below, and may be altered from time to time due to mergers, acquisitions or at the discretion of the Compensation Committee:

Agnico Eagle Mines Limited, Gold Fields Limited, AngloGold Ashanti Limited, Harmony Gold Mining Company Limited, Barrick Gold Corporation, Kinross Gold Corporation, Compañía de Minas Buenaventura S.A.A., Newcrest Mining Limited, Freeport-McMoran Copper & Gold Inc., Yamana Gold Inc., Goldcorp Inc.

The *performance* peer group varies from the total compensation peer group because the *performance* peer group is comprised of only companies with large gold mining operations, irrespective of comparable company size. The Compensation Committee determined that a relative *performance* peer group should focus on companies with gold operations, as those are the Company's direct competitors for investors and are subject to similar market forces related to gold price changes. The total compensation peer group includes companies without gold operations, but those entities are more similar in revenue, net income, total assets, market capitalization and number of employees. The Compensation Committee determined that the total compensation peer group is superior to the *performance* peer group for evaluating total compensation, because the entities in the total compensation peer group are the Company's competitors for employees and their business operations are of a relatively comparable size to Newmont.

Table 1: Descriptive statistics on peer group disclosing firms

1. Firms disclosing compensation peers (year = 2011)	Obs	Mean	Median	Std. Dev.	Min	Max
lagged assets	734	33,729	6,392	155,621	310	2,300,000
lagged sales	734	12,168	3,796	28,574	143	406,103
lagged market cap	734	15,277	5,225	31,819	461	364,064
book-to-market	734	0.514	0.441	0.337	-1.206	2.154
2. Firms disclosing performance peers (year = 2011)	Obs	Mean	Median	Std. Dev.	Min	Max
lagged assets	194	52,287	9,679	224,591	510	2,300,000
lagged sales	194	15,267	4,673	28,289	255	189,607
lagged market cap	194	19,128	7,332	32,138	461	183,183
book-to-market	194	0.533	0.496	0.315	-0.630	1.697
3. All S&P 900 firms (year = 2011)	Obs	Mean	Median	Std. Dev.	Min	Max
$\sigma(\text{abn. acc.})$	732	0.063	0.050	0.057	0.008	0.821
Persistence	904	0.800	0.752	0.439	-0.609	2.560
Icd	905	0.117	0.000	0.322	0.000	1.000
Fraud	905	0.018	0.000	0.132	0.000	1.000
Aaer	905	0.018	0.000	0.132	0.000	1.000
total pay in '000 USD	899	7,934.205	6,239.230	7,299.6	0.000	84,469.500
Analysts	810	14.083	13.000	7.323	1.000	43.000
Accuracy	804	-0.017	-0.006	0.075	0.000	-2.000
Big4	889	0.984	1.000	0.125	0.000	1.000
lagged assets	890	31,394	5,730	146,323	310	2,300,000
lagged sales	890	11,192	3,416	26,901	143	406,103
lagged market cap	890	14,205	4,735	30,630	397	364,064
book-to-market	890	0.517	0.443	0.350	-1.206	3.409

Table 2: Descriptive statistics on chosen peer firms

1. Compensation peers selected (year = 2011)	Obs	Mean	Median	Std. Dev.	Test on diff CPG-PPG
number of peers	734	17.841	16.000	12.174	<i>p=0.092 *</i>
sic2dmatch	734	0.396	0.350	0.289	<i>p=0.001 ***</i>
sic3dmatch	734	0.267	0.176	0.263	<i>p=0.059 *</i>
assetmatch	734	0.551	0.571	0.231	<i>p=0.003 ***</i>
salesmatch	734	0.618	0.636	0.246	<i>p=0.000 ***</i>
mcapmatch	734	0.517	0.529	0.226	<i>p=0.069 *</i>
peer is dow 30 if firm is dow 30	26	0.403	0.350	0.237	
peer is dow 30 if firm is not dow 30	708	0.045	0.000	0.109	
peer is dow 30 if firm is sp500	435	0.091	0.000	0.159	
peer is dow 30 if firm is sp400	299	0.010	0.000	0.055	
peer is sp500 if firm is dow 30	26	0.993	1.000	0.016	
peer is sp500 if firm is sp500	435	0.834	0.938	0.226	
peer is sp400 if firm is sp400	299	0.549	0.545	0.239	
2. Performance peers selected (year = 2011)	Obs	Mean	Median	Std. Dev.	
number of peers	194	16.598	15.000	8.850	
sic2dmatch	194	0.471	0.449	0.302	
sic3dmatch	194	0.301	0.257	0.268	
assetmatch	194	0.494	0.500	0.238	
salesmatch	194	0.513	0.500	0.251	
mcapmatch	194	0.484	0.500	0.228	
peer is dow 30 if firm is dow 30	10	0.375	0.333	0.203	
peer is dow 30 if firm is not dow 30	184	0.060	0.000	0.136	
peer is dow 30 if firm is sp500	122	0.119	0.000	0.183	
peer is dow 30 if firm is sp400	72	0.004	0.000	0.020	
peer is sp500 if firm is dow 30	10	0.989	1.000	0.023	
peer is sp500 if firm is sp500	122	0.852	1.000	0.211	
peer is sp400 if firm is sp400	72	0.535	0.544	0.250	

Table 3: Composition of Compensation Peer Groups (2011)

Potential Peers:	S&P 900 (1)-(4)				SIC 2-Digit (5)-(8)			
DV = actpeer	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
σ (abn. acc.)	-1.151*** (0.205)	-1.383*** (0.219)		-1.059*** (0.179)	-2.348*** (0.315)	-2.491*** (0.340)		-2.094*** (0.304)
persistence			0.174*** (0.018)	0.173*** (0.019)			0.250*** (0.037)	0.217*** (0.047)
analysts		0.011*** (0.002)	0.012*** (0.001)	0.011*** (0.002)		0.015*** (0.002)	0.014*** (0.002)	0.015*** (0.002)
accuracy		0.326 (0.337)	0.245** (0.109)	-0.491 (0.338)		-0.133 (0.119)	0.035 (0.097)	-0.253** (0.113)
ln (peer total pay)	0.095*** (0.014)	0.075*** (0.014)	0.083*** (0.013)	0.071*** (0.013)	0.220*** (0.028)	0.167*** (0.028)	0.190*** (0.024)	0.156*** (0.027)
no of peers	0.007*** (0.001)	0.007*** (0.001)	0.007*** (0.001)	0.007*** (0.001)	0.010*** (0.003)	0.010*** (0.003)	0.011*** (0.003)	0.010*** (0.003)
matchsic2d	1.156*** (0.040)	1.162*** (0.041)	1.240*** (0.039)	1.167*** (0.041)				
matchsic3d	0.748*** (0.045)	0.734*** (0.047)	0.736*** (0.042)	0.749*** (0.047)	0.689*** (0.042)	0.672*** (0.044)	0.672*** (0.038)	0.695*** (0.043)
salesmatch	0.524*** (0.025)	0.536*** (0.025)	0.521*** (0.024)	0.540*** (0.026)	0.441*** (0.034)	0.468*** (0.034)	0.434*** (0.031)	0.467*** (0.035)
assetsmatch	0.270*** (0.017)	0.276*** (0.017)	0.295*** (0.017)	0.276*** (0.017)	0.210*** (0.033)	0.207*** (0.034)	0.216*** (0.032)	0.213*** (0.034)
mcapmatch	0.100*** (0.017)	0.110*** (0.017)	0.127*** (0.016)	0.112*** (0.017)	0.271*** (0.031)	0.255*** (0.031)	0.300*** (0.030)	0.255*** (0.031)
dow30match	1.366*** (0.140)	1.308*** (0.141)	1.267*** (0.136)	1.282*** (0.141)	0.627*** (0.208)	0.583*** (0.212)	0.533** (0.211)	0.546** (0.217)
largecapmatch	0.428*** (0.027)	0.400*** (0.026)	0.415*** (0.026)	0.388*** (0.026)	0.679*** (0.043)	0.583*** (0.044)	0.614*** (0.041)	0.553*** (0.044)

midcapmatch	0.071** (0.030)	0.098*** (0.030)	0.100*** (0.028)	0.104*** (0.030)	0.469*** (0.042)	0.447*** (0.044)	0.451*** (0.038)	0.437*** (0.044)
constant	-3.237*** (0.040)	-3.349*** (0.044)	-3.655*** (0.041)	-3.523*** (0.043)	-2.494*** (0.081)	-2.557*** (0.083)	-2.934*** (0.074)	-2.721*** (0.088)
Observations	532,294	480,233	587,279	480,233	43,762	36,850	45,075	36,783
Log likelihood	-30400	-27746	-31815	-27670	-10813	-9542	-12204	-9504
Pseudo R-squared	0.271	0.272	0.299	0.274	0.220	0.217	0.218	0.220

Table 3 presents probit regression analyses of compensation peer group composition for the year 2011. Dependent variable, *actpeer*, is a dummy variable equal to one if a potential peer is chosen as a compensation peer by the disclosing firm and zero otherwise. The potential peer group under consideration in specifications (1) – (4) is the S&P 900 (which is the S&P 500 index plus the S&P 400 MidCap index). The potential peer group in specifications (5) – (8) is all firms in Compustat in the same two-digit SIC industry as the selecting firm. Accrual quality, σ (*abn. acc.*), is measured using the variation in discretionary accruals. Earnings *persistence* is measured as the slope coefficient estimate from a regression model of current annual earnings per share explained by one-year lagged earnings per share, which we estimate using a five-year rolling window. All explanatory variables and control variables are measured in the year 2010. All other variables are defined in the Appendix 1. Standard errors are presented below the coefficients in parentheses and are clustered by firm. *, **, *** denote significance at the 10%, 5% and 1% level (two-sided).

Table 4: Composition of Performance Peer groups (2011)

Potential Peers:	S&P 900 (1)-(4)				SIC 2-Digit (5)-(8)			
DV = actpeer	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
σ (abn. acc.)	-3.755*** (0.662)	-3.885*** (0.681)		-3.012*** (0.618)	-5.470*** (0.864)	-5.669*** (0.964)		-5.072*** (0.929)
persistence			0.289*** (0.038)	0.261*** (0.043)			0.293*** (0.075)	0.181** (0.085)
analysts		0.004 (0.003)	0.005* (0.003)	0.004 (0.003)		0.009** (0.004)	0.008** (0.004)	0.008* (0.004)
accuracy		0.100 (0.833)	0.370 (0.257)	-0.977 (0.877)		-0.626 (0.651)	0.147 (0.284)	-1.045* (0.601)
ln (peer total pay)	0.127*** (0.027)	0.127*** (0.031)	0.121*** (0.024)	0.111*** (0.028)	0.181*** (0.038)	0.147*** (0.043)	0.184*** (0.034)	0.138*** (0.042)
no of peers	0.020*** (0.002)	0.019*** (0.002)	0.019*** (0.002)	0.020*** (0.002)	0.024*** (0.004)	0.025*** (0.004)	0.029*** (0.004)	0.025*** (0.004)
matchsic2d	1.520*** (0.070)	1.507*** (0.069)	1.568*** (0.068)	1.520*** (0.070)				
matchsic3d	0.747*** (0.079)	0.749*** (0.083)	0.732*** (0.070)	0.755*** (0.082)	0.729*** (0.079)	0.732*** (0.081)	0.699*** (0.066)	0.740*** (0.079)
salesmatch	0.252*** (0.039)	0.261*** (0.039)	0.269*** (0.036)	0.264*** (0.039)	0.315*** (0.068)	0.321*** (0.071)	0.337*** (0.059)	0.321*** (0.071)
assetsmatch	0.234*** (0.028)	0.232*** (0.029)	0.257*** (0.028)	0.232*** (0.030)	0.225*** (0.066)	0.223*** (0.071)	0.286*** (0.060)	0.226*** (0.071)
mcapmatch	0.163*** (0.031)	0.173*** (0.034)	0.177*** (0.032)	0.176*** (0.034)	0.366*** (0.066)	0.345*** (0.071)	0.324*** (0.061)	0.346*** (0.071)
dow30match	1.072*** (0.344)	1.044*** (0.345)	1.099*** (0.352)	1.019*** (0.346)	0.295 (0.307)	0.299 (0.313)	0.302 (0.304)	0.293 (0.310)
largecapmatch	0.405*** (0.057)	0.390*** (0.057)	0.387*** (0.052)	0.379*** (0.057)	0.600*** (0.079)	0.536*** (0.087)	0.560*** (0.078)	0.516*** (0.086)

midcapmatch	0.174*** (0.057)	0.202*** (0.058)	0.196*** (0.053)	0.209*** (0.059)	0.284*** (0.096)	0.271*** (0.101)	0.300*** (0.077)	0.266*** (0.101)
constant	-3.458*** (0.086)	-3.504*** (0.095)	-4.018*** (0.082)	-3.772*** (0.098)	-2.307*** (0.133)	-2.346*** (0.145)	-3.049*** (0.129)	-2.503*** (0.159)
Observations	140,690	126,926	155,216	126,926	10,064	8,541	10,907	8,534
Log likelihood	-6378	-5866	-6828	-5830	-2975	-2623	-3434	-2617
Pseudo R-squared	0.367	0.362	0.387	0.366	0.253	0.248	0.239	0.250

Table 4 presents probit regression analyses of performance peer group composition for the year 2011. Dependent variable, *actpeer*, is a dummy variable equal to one if a potential peer is chosen as a compensation peer by the disclosing firm and zero otherwise. The potential peer group under consideration in specifications (1) – (4) is the S&P 900 (which is the S&P 500 index plus the S&P 400 MidCap index). The potential peer group in specifications (5) – (8) is all firms in Compustat in the same two-digit SIC industry as the selecting firm. Accrual quality, σ (*abn. acc.*), is measured using the variation in discretionary accruals. Earnings *persistence* is measured as the slope coefficient estimate from a regression model of current annual earnings per share explained by one-year lagged earnings per share, which we estimate using a five-year rolling window. All control variables are measured in the year 2010. All other variables are defined in the Appendix 1. Standard errors are presented below the coefficients in parentheses and are clustered by firm. *, **, *** denote significance at the 10%, 5% and 1% level (two-sided).

Table 5: Alternative measures of financial reporting quality (2011)

Panel A: Compensation Peer Group Composition

Potential Peers:	S&P 900 (1)-(3)			SIC 2-Digit (4)-(6)		
DV = actpeer	(1)	(2)	(3)	(4)	(5)	(6)
icd	-0.045** (0.018)			-0.071*** (0.027)		
fraud		-0.101** (0.044)			-0.221*** (0.070)	
aaer			-0.064 (0.040)			-0.216*** (0.067)
analysts	0.011*** (0.001)	0.011*** (0.001)	0.011*** (0.001)	0.014*** (0.002)	0.014*** (0.002)	0.014*** (0.002)
accuracy	0.564*** (0.175)	0.557*** (0.175)	0.557*** (0.173)	0.232 (0.166)	0.236 (0.169)	0.237 (0.168)
ln (peer total pay)	0.090*** (0.014)	0.090*** (0.014)	0.089*** (0.014)	0.203*** (0.025)	0.205*** (0.025)	0.203*** (0.025)
no of peers	0.006*** (0.001)	0.006*** (0.001)	0.006*** (0.001)	0.011*** (0.003)	0.011*** (0.003)	0.011*** (0.003)
matchsic2d	1.237*** (0.039)	1.238*** (0.039)	1.237*** (0.039)			
matchsic3d	0.717*** (0.042)	0.716*** (0.042)	0.717*** (0.042)	0.645*** (0.038)	0.643*** (0.039)	0.646*** (0.038)
salesmatch	0.518*** (0.024)	0.518*** (0.024)	0.518*** (0.024)	0.436*** (0.031)	0.436*** (0.031)	0.435*** (0.031)
assetsmatch	0.292*** (0.017)	0.292*** (0.017)	0.293*** (0.017)	0.207*** (0.032)	0.207*** (0.032)	0.208*** (0.031)
mcapmatch	0.125*** (0.016)	0.125*** (0.016)	0.125*** (0.016)	0.299*** (0.030)	0.300*** (0.030)	0.300*** (0.030)
dow30match	1.297*** (0.136)	1.296*** (0.136)	1.295*** (0.136)	0.577*** (0.206)	0.577*** (0.206)	0.577*** (0.207)
largecapmatch	0.427*** (0.026)	0.428*** (0.026)	0.429*** (0.026)	0.652*** (0.042)	0.657*** (0.042)	0.654*** (0.042)
midcapmatch	0.094*** (0.027)	0.094*** (0.027)	0.095*** (0.028)	0.466*** (0.038)	0.470*** (0.038)	0.471*** (0.038)
constant	-3.503*** (0.041)	-3.509*** (0.040)	-3.510*** (0.040)	-2.762*** (0.072)	-2.775*** (0.072)	-2.774*** (0.072)
Observations	588,012	588,012	586,544	45,203	45,203	45,116
Log likelihood	-31938	-31939	-31901	-12278	-12278	-12246
Pseudo R-squared	0.297	0.297	0.297	0.214	0.214	0.214

Panel B: Performance Peer Group Composition

Potential Peers:	S&P 900 (1)-(3)			SIC 2-Digit (4)-(6)		
DV = actpeer	(1)	(2)	(3)	(4)	(5)	(6)
icd	-0.103** (0.041)			-0.111** (0.050)		
fraud		-0.665*** (0.172)			-0.491** (0.191)	
aaer			-0.091 (0.089)			-0.212* (0.130)
analysts	0.005* (0.003)	0.005* (0.003)	0.005* (0.003)	0.009** (0.004)	0.009*** (0.004)	0.009** (0.004)
accuracy	0.874* (0.492)	0.816* (0.477)	0.913* (0.516)	0.426 (0.381)	0.434 (0.389)	0.449 (0.395)
ln (peer total pay)	0.139*** (0.026)	0.142*** (0.026)	0.141*** (0.027)	0.198*** (0.034)	0.203*** (0.034)	0.201*** (0.034)
no of peers	0.019*** (0.002)	0.019*** (0.002)	0.019*** (0.002)	0.029*** (0.004)	0.029*** (0.004)	0.029*** (0.004)
matchsic2d	1.560*** (0.067)	1.564*** (0.068)	1.559*** (0.067)			
matchsic3d	0.705*** (0.069)	0.704*** (0.069)	0.710*** (0.070)	0.670*** (0.067)	0.670*** (0.067)	0.674*** (0.067)
salesmatch	0.268*** (0.036)	0.269*** (0.035)	0.269*** (0.036)	0.337*** (0.059)	0.337*** (0.059)	0.338*** (0.059)
assetsmatch	0.253*** (0.028)	0.254*** (0.028)	0.255*** (0.028)	0.280*** (0.061)	0.284*** (0.060)	0.285*** (0.060)
mcapmatch	0.173*** (0.032)	0.173*** (0.032)	0.173*** (0.032)	0.326*** (0.061)	0.324*** (0.061)	0.324*** (0.062)
dow30match	1.137*** (0.349)	1.133*** (0.350)	1.137*** (0.349)	0.320 (0.308)	0.318 (0.309)	0.322 (0.309)
largecapmatch	0.403*** (0.052)	0.403*** (0.052)	0.403*** (0.052)	0.596*** (0.078)	0.600*** (0.077)	0.598*** (0.078)
midcapmatch	0.184*** (0.052)	0.185*** (0.052)	0.187*** (0.052)	0.313*** (0.076)	0.319*** (0.076)	0.324*** (0.076)
constant	-3.769*** (0.080)	-3.783*** (0.079)	-3.782*** (0.080)	-2.853*** (0.122)	-2.876*** (0.121)	-2.871*** (0.122)
Observations	155,410	155,410	155,022	10,937	10,937	10,909
Log likelihood	-6890	-6880	-6883	-3459	-3457	-3450
Pseudo R-squared	0.381	0.382	0.381	0.235	0.235	0.235

Table 5 presents probit regression analyses of compensation peer groups in Panel A and performance peer groups in Panel B for the year 2011. Dependent variable, *actpeer*, is a dummy variable equal to one if a potential peer is chosen as a compensation peer by the disclosing firm and zero otherwise. The potential peer group under consideration in specifications (1) – (4) is the S&P 900 (which is the S&P 500 index plus the S&P 400 MidCap index). The potential peer group in specifications (5) – (8) is all firms in Compustat in the same SIC 2 digit industry as the selecting firm. Explanatory variables of interest are *icd*, *fraud* and *aaer*. The variable *icd* is a dummy variable equal to one if a potential peer has reported one or more internal control deficiencies in the period 2004-2010 and zero otherwise. The variable *fraud* is a dummy variable equal to one if a potential peer has reported (or the auditor or SEC reported) one or more fraudulent restatements during the period 2004-2010. The variable *aaer* is a dummy variable equal to one if the SEC has issued one or more Accounting and Auditing Enforcement Releases (AAERs) during or at the conclusion of an investigation against a potential peer firm for alleged accounting misconduct during the period 2004-2010. The potential peer group under consideration in specifications (1) – (4) is the S&P 900 (which is the S&P 500 index plus the S&P 400 MidCap index). The potential peer group in specifications (5) – (8) is all firms in Compustat in the same SIC 2 digit industry as the selecting firm. All explanatory variables and control variables are measured in the year 2010. All other variables are defined in the Appendix 1. Standard errors are presented below the coefficients in parentheses and are clustered by firm. *, **, *** denote significance at the 10%, 5% and 1% level (two-sided).

Table 6: Peer Group Composition and Financial reporting Quality for 2006-2010

Panel A: Compensation Peer Group Composition

Potential Peers: S&P 900	<i>year =</i>	<i>year =</i>	<i>year =</i>	<i>year =</i>	<i>year =</i>
Financial Reporting Quality Indicator:	2006	2007	2008	2009	2010
σ (abn. acc.)	-1.921*** (0.395)	-1.773*** (0.261)	-1.472*** (0.232)	-1.537*** (0.211)	-1.383*** (0.202)
persistence	0.178*** (0.029)	0.193*** (0.025)	0.197*** (0.022)	0.196*** (0.020)	0.187*** (0.020)
icd (2004-year)	-0.070** (0.031)	0.002 (0.022)	-0.050** (0.020)	-0.054*** (0.020)	-0.049*** (0.018)
fraud (2004-year)	-0.138** (0.065)	-0.084 (0.053)	-0.091* (0.050)	-0.098* (0.052)	-0.087* (0.046)
aaer (2004-year)	-0.113* (0.065)	0.023 (0.044)	-0.076* (0.043)	-0.085** (0.042)	-0.018 (0.038)
Controls	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>
Potential Peers: SIC 2 D INDUSTRY	<i>year =</i>	<i>year =</i>	<i>year =</i>	<i>year =</i>	<i>year =</i>
Financial Reporting Quality Indicator	2006	2007	2008	2009	2010
σ (abn. acc.)	-2.096*** (0.359)	-3.036*** (0.389)	-3.036*** (0.343)	-2.637*** (0.287)	-2.406*** (0.288)
Persistence	0.380*** (0.046)	0.528*** (0.040)	0.508*** (0.038)	0.473*** (0.031)	0.363*** (0.032)
icd (2004-year)	-0.122** (0.050)	-0.119*** (0.034)	-0.155*** (0.029)	-0.110*** (0.029)	-0.086*** (0.029)
fraud (2004-year)	-0.182 (0.150)	-0.280*** (0.101)	-0.168* (0.098)	-0.105 (0.095)	-0.069 (0.077)
aaer (2004-year)	-0.181** (0.092)	-0.037 (0.078)	-0.283*** (0.066)	-0.234*** (0.064)	-0.203*** (0.066)
Controls	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>

Panel B: Performance Peer Group Composition

Potential Peers: S&P 900	<i>year =</i>	<i>year =</i>	<i>year =</i>	<i>year =</i>	<i>year =</i>
Financial Reporting Quality Indicator:	2006	2007	2008	2009	2010
σ (abn. acc.)	-4.021*** (0.957)	-1.387** (0.638)	-1.459** (0.594)	-1.534*** (0.503)	-1.867*** (0.504)
Persistence	0.258*** (0.050)	0.150*** (0.055)	0.191*** (0.050)	0.219*** (0.042)	0.248*** (0.043)
icd (2004-year)	-0.083 (0.061)	0.092** (0.039)	0.078** (0.036)	0.013 (0.037)	-0.003 (0.034)
fraud (2004-year)	-0.594** (0.296)	-0.274** (0.137)	-0.230* (0.123)	-0.175* (0.106)	-0.242** (0.118)
aaer (2004-year)	-0.263* (0.152)	-0.074 (0.088)	-0.177** (0.090)	-0.075 (0.084)	-0.071 (0.078)
Controls	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>

Potential Peers: SIC 2 D INDUSTRY	<i>year =</i>	<i>year =</i>	<i>year =</i>	<i>year =</i>	<i>year =</i>
Financial Reporting Quality Indicator	2006	2007	2008	2009	2010
σ (abn. acc.)	-4.143*** (0.915)	-6.999*** (0.947)	-5.375*** (1.360)	-5.278*** (1.199)	-5.250*** (0.937)
Persistence	0.398*** (0.083)	0.444*** (0.087)	0.507*** (0.084)	0.492*** (0.066)	0.398*** (0.069)
icd (2004-year)	-0.096 (0.066)	-0.133** (0.065)	-0.139*** (0.053)	-0.188*** (0.054)	-0.149*** (0.054)
fraud (2004-year)	-0.471* (0.279)	-0.494** (0.237)	-0.455** (0.229)	-0.617** (0.247)	-0.353* (0.208)
aaer (2004-year)	-0.398** (0.187)	-0.091 (0.142)	-0.086 (0.115)	-0.222* (0.116)	-0.229* (0.133)
Controls	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>	<i>Incl.</i>

Table 6 presents probit regression analyses of compensation peer groups in Panel A and performance peer groups in Panel B for the years 2006-2010. For brevity, only coefficients on our variables of interest are shown. Controls are the same as in previous analyses. Dependent variable, *actpeer*, is a dummy variable equal to one if a potential peer is chosen as a compensation peer by the disclosing firm and zero otherwise. The potential peer group in the upper part of both panels is the S&P 900 and in the lower part the two-digit industry peer group. Accrual quality, σ (*abn. acc.*), is measured using the variation in discretionary accruals. Earnings *persistence* is measured as the slope coefficient estimate from a regression model of current annual earnings per share explained by one-year lagged earnings per share, which we estimate using a five-year rolling window. The variable *icd (2004-year)* is a dummy variable equal to one if a potential peer has reported one or more internal control deficiencies during the period between 2004 and the year prior to peer selection, and zero otherwise. The variable *fraud (2004-year)* is a dummy variable equal to one if a potential peer has reported (or the auditor or SEC reported) one or more fraudulent restatements during the period between 2004 and the year prior to peer selection, and zero otherwise. The variable *aaer (2004-year)* is a dummy variable equal to one if the SEC has issued one or more Accounting and Auditing Enforcement Releases (AAERs) during or at the conclusion of an investigation against a potential peer firm for alleged accounting

misconduct during the period between 2004 and the year prior to peer selection, and zero otherwise. All control variables are measured in the year prior to peer selection. Control variables are defined in the Appendix 1. Standard errors are presented below the coefficients in parentheses and are clustered by firm. *, **, *** denote significance at the 10%, 5% and 1% level (two-sided).

Table 7: Compensation Peer Group Composition and Distance between Selecting Firm and Potential Peer

Panel A: Geographical Distance (more or less than 100 miles)

DV = actpeer	ACCRUAL QUALITY & PERSISTENCE				ICD		FRAUD		AAER	
	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Selecting firm and potential peer have:	<i>Full Sample</i>	distance < 100 miles	distance > 100 miles	distance < 100 miles	distance > 100 miles	distance < 100 miles	distance > 100 miles	distance < 100 miles	distance > 100 miles	
σ (abn. acc.)		-0.198 (0.228)	-1.294*** (0.205)							
persistence		-0.006 (0.055)	0.164*** (0.019)							
icd				-0.029 (0.058)	-0.043** (0.019)					
fraud						-0.309** (0.122)	-0.104** (0.050)			
aaer								-0.252 (0.209)	-0.036 (0.042)	
ln distance	-0.101*** (0.006)	-0.126*** (0.019)	-0.121*** (0.012)	-0.135*** (0.017)	-0.132*** (0.011)	-0.138*** (0.017)	-0.132*** (0.011)	-0.135*** (0.017)	-0.132*** (0.011)	
analysts	0.013*** (0.001)	0.026*** (0.003)	0.011*** (0.002)	0.027*** (0.003)	0.011*** (0.001)	0.027*** (0.003)	0.011*** (0.001)	0.028*** (0.003)	0.011*** (0.001)	
accuracy	0.340 (0.299)	-1.544 (1.141)	-0.532 (0.355)	-0.791 (0.785)	0.407 (0.309)	-1.196 (0.867)	0.397 (0.312)	-0.869 (0.754)	0.389 (0.306)	
ln (peer total pay)	0.076*** (0.013)	-0.003 (0.014)	0.081*** (0.015)	0.005 (0.016)	0.099*** (0.015)	0.006 (0.016)	0.099*** (0.015)	0.005 (0.016)	0.098*** (0.015)	
no of peers	0.007*** (0.001)	0.010*** (0.002)	0.007*** (0.001)	0.011*** (0.001)	0.006*** (0.001)	0.011*** (0.001)	0.006*** (0.001)	0.011*** (0.001)	0.006*** (0.001)	
matchsic2d	1.251*** (0.039)	0.759*** (0.078)	1.226*** (0.042)	0.872*** (0.077)	1.295*** (0.039)	0.879*** (0.076)	1.295*** (0.039)	0.871*** (0.077)	1.295*** (0.039)	
matchsic3d	0.707***	0.927***	0.709***	0.914***	0.693***	0.907***	0.692***	0.916***	0.691***	

	(0.041)	(0.087)	(0.047)	(0.082)	(0.042)	(0.082)	(0.042)	(0.082)	(0.042)
salesmatch	0.535***	0.561***	0.556***	0.531***	0.536***	0.532***	0.535***	0.531***	0.536***
	(0.025)	(0.050)	(0.028)	(0.047)	(0.027)	(0.047)	(0.027)	(0.047)	(0.027)
assetsmatch	0.310***	0.372***	0.280***	0.382***	0.302***	0.384***	0.302***	0.385***	0.303***
	(0.017)	(0.044)	(0.018)	(0.042)	(0.017)	(0.041)	(0.017)	(0.041)	(0.017)
mcapmatch	0.134***	0.175***	0.116***	0.206***	0.128***	0.204***	0.128***	0.205***	0.128***
	(0.017)	(0.046)	(0.018)	(0.043)	(0.017)	(0.043)	(0.017)	(0.043)	(0.017)
dow30match	1.298***	1.224***	1.299***	1.234***	1.309***	1.227***	1.309***	1.228***	1.308***
	(0.137)	(0.260)	(0.137)	(0.231)	(0.131)	(0.231)	(0.131)	(0.232)	(0.131)
largecapmatch	0.424***	0.296***	0.392***	0.313***	0.431***	0.315***	0.430***	0.312***	0.431***
	(0.027)	(0.059)	(0.029)	(0.055)	(0.028)	(0.055)	(0.028)	(0.055)	(0.028)
midcapmatch	0.090***	0.190**	0.092***	0.175**	0.086***	0.178**	0.087***	0.179**	0.086***
	(0.028)	(0.074)	(0.032)	(0.069)	(0.030)	(0.069)	(0.030)	(0.070)	(0.030)
constant	-2.865***	-2.866***	-2.741***	-2.964***	-2.663***	-2.961***	-2.667***	-2.974***	-2.670***
	(0.057)	(0.120)	(0.092)	(0.095)	(0.086)	(0.096)	(0.086)	(0.096)	(0.086)
Observations	552,355	21,321	429,491	27,233	525,122	27,233	525,122	27,205	524,429
Log likelihood	-29907	-2600	-23165	-3012	-26786	-3009	-26786	-3009	-26768
Pseudo R-squared	0.309	0.283	0.281	0.300	0.306	0.301	0.306	0.301	0.306

Panel B: Geographical Distance (Firm and peer in same state or not)

DV = actpeer	ACCRUAL QUALITY & PERSISTENCE		ICD		FRAUD		AAER	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Selecting firm and potential peer are:	in same state	in different state	in same state	in different state	in same state	in different state	in same state	in different state
σ (abn. acc.)	0.193 (0.215)	-1.412*** (0.221)						
persistence	0.042 (0.048)	0.169*** (0.019)						
icd			-0.101* (0.058)	-0.033* (0.019)				
fraud					-0.288** (0.136)	-0.111** (0.049)		
aaer							-0.132 (0.123)	-0.034 (0.044)
ln distance	-0.103*** (0.014)	-0.087*** (0.010)	-0.106*** (0.013)	-0.097*** (0.009)	-0.108*** (0.013)	-0.098*** (0.009)	-0.105*** (0.013)	-0.097*** (0.009)
analysts	0.024*** (0.003)	0.010*** (0.001)	0.026*** (0.003)	0.010*** (0.001)	0.026*** (0.003)	0.010*** (0.001)	0.026*** (0.003)	0.011*** (0.001)
accuracy	-1.272 (0.994)	-0.543 (0.358)	-0.905 (0.750)	0.435 (0.309)	-1.020 (0.814)	0.410 (0.312)	-0.874 (0.737)	0.415 (0.307)
ln (peer total pay)	0.005 (0.012)	0.086*** (0.015)	0.009 (0.013)	0.103*** (0.015)	0.010 (0.013)	0.103*** (0.015)	0.010 (0.013)	0.102*** (0.015)
no of peers	0.010*** (0.002)	0.007*** (0.001)	0.010*** (0.002)	0.006*** (0.001)	0.010*** (0.002)	0.006*** (0.001)	0.010*** (0.002)	0.006*** (0.001)
matchsic2d	0.686*** (0.083)	1.230*** (0.042)	0.810*** (0.079)	1.300*** (0.040)	0.814*** (0.079)	1.301*** (0.040)	0.808*** (0.079)	1.301*** (0.040)
matchsic3d	1.013*** (0.091)	0.703*** (0.048)	0.973*** (0.086)	0.682*** (0.042)	0.964*** (0.086)	0.682*** (0.043)	0.973*** (0.086)	0.681*** (0.043)

salesmatch	0.572*** (0.045)	0.557*** (0.028)	0.549*** (0.042)	0.536*** (0.027)	0.547*** (0.042)	0.536*** (0.027)	0.547*** (0.042)	0.536*** (0.027)
assetsmatch	0.361*** (0.043)	0.280*** (0.018)	0.381*** (0.040)	0.302*** (0.017)	0.382*** (0.040)	0.302*** (0.017)	0.384*** (0.040)	0.303*** (0.017)
mcapmatch	0.197*** (0.042)	0.113*** (0.019)	0.213*** (0.038)	0.128*** (0.017)	0.212*** (0.038)	0.128*** (0.017)	0.214*** (0.038)	0.128*** (0.017)
dow30match	0.933*** (0.247)	1.309*** (0.141)	1.051*** (0.218)	1.315*** (0.136)	1.048*** (0.218)	1.314*** (0.136)	1.048*** (0.218)	1.313*** (0.136)
largecapmatch	0.384*** (0.055)	0.380*** (0.029)	0.388*** (0.052)	0.420*** (0.028)	0.391*** (0.052)	0.420*** (0.028)	0.389*** (0.052)	0.421*** (0.028)
midcapmatch	0.169** (0.068)	0.090*** (0.032)	0.158** (0.063)	0.083*** (0.030)	0.162** (0.063)	0.083*** (0.030)	0.160** (0.063)	0.083*** (0.030)
constant	-2.975*** (0.118)	-2.971*** (0.083)	-3.003*** (0.101)	-2.902*** (0.077)	-3.008*** (0.102)	-2.903*** (0.077)	-3.025*** (0.102)	-2.909*** (0.077)
Observations	25,319	422,273	31,467	517,104	31,467	517,104	31,400	516,454
Log likelihood	-2946	-22686	-3309	-26320	-3307	-26319	-3306	-26302
Pseudo R-squared	0.290	0.281	0.308	0.305	0.308	0.305	0.308	0.305

Table 7 presents probit regression analyses of compensation peer group composition for the year 2011, similar to those reported in Table 3. The aim of the table is to show how results differ between potential peers which are located close by versus those further away. *Ln distance* is measured as the log of the driving distance in miles between the headquarters of the selecting firm and the potential peer firm. Panel A reports results separately for potential peers located within 100 miles of the headquarters of the selecting firm and those located further away. Panel B reports results separately for potential peers located within the same state versus those located in another state. In the base model (specification (0) in Panel A), *Ln distance* is tested for the full sample. In the remaining specifications (1) – (8), results are shown separately for potential peers located close by and those located further away. Dependent variable, *actpeer*, is a dummy variable equal to one if a potential peer is chosen as a compensation peer by the disclosing firm and zero otherwise. The potential peer group under consideration is the S&P 900 (which is the S&P 500 index plus the S&P 400 MidCap index) in all specifications. All explanatory variables are measured as in previous analyses. Test variables are defined in previous tables and control variables are defined in the Appendix 1. All explanatory variables and control variables are measured in the year 2010. Standard errors are presented below the coefficients in parentheses and are clustered by firm. *, **, *** denote significance at the 10%, 5% and 1% level (two-sided).

Table 8: Peer Group Composition and Financial Reporting Quality Matching**Panel A: Compensation Peer Group Composition**

Selecting firm has accrual quality and earnings persistence:	below P25	between P25 and median	between median and P75	above P75
DV = actpeer	(1)	(2)	(3)	(4)
σ (abn. acc.)	0.217 (0.184)	-0.867*** (0.283)	-1.777*** (0.594)	-4.415*** (0.597)
persistence	-0.069 (0.050)	0.120*** (0.043)	0.249*** (0.033)	0.317*** (0.037)
analysts	0.023*** (0.003)	0.018*** (0.003)	0.004 (0.003)	0.002 (0.003)
accuracy	-1.416*** (0.470)	-0.771 (0.719)	0.709 (0.952)	-0.789 (0.805)
ln (peer total pay)	0.064** (0.026)	0.058** (0.025)	0.029 (0.020)	0.160*** (0.033)
no of peers	0.009*** (0.002)	0.010*** (0.002)	0.010** (0.004)	0.005*** (0.001)
matchsic2d	0.845*** (0.096)	1.061*** (0.084)	1.246*** (0.071)	1.262*** (0.069)
matchsic3d	0.826*** (0.098)	0.746*** (0.097)	0.699*** (0.083)	0.784*** (0.094)
salesmatch	0.597*** (0.063)	0.534*** (0.050)	0.500*** (0.038)	0.565*** (0.053)
assetsmatch	0.149*** (0.029)	0.261*** (0.042)	0.288*** (0.028)	0.290*** (0.034)
mcapmatch	0.122*** (0.044)	0.159*** (0.030)	0.110*** (0.030)	0.128*** (0.037)
dow30match	0.363*** (0.069)	0.893** (0.399)	1.434*** (0.201)	1.408*** (0.214)
largecapmatch	0.429*** (0.068)	0.304*** (0.046)	0.363*** (0.047)	0.399*** (0.052)
midcapmatch	0.102* (0.053)	0.138* (0.071)	0.140*** (0.047)	0.055 (0.064)
constant	-3.581*** (0.103)	-3.559*** (0.080)	-3.352*** (0.113)	-3.479*** (0.096)
Observations	98,771	89,614	98,112	100,071
Log likelihood	-6104	-6064	-6449	-6888
Pseudo R-squared	0.272	0.261	0.266	0.316

Panel B: Performance Peer Group Composition

Selecting firm has accrual quality and earnings persistence:	below P25	between P25 and median	between median and P75	above P75
DV = actpeer	(1)	(2)	(3)	(4)
σ (abn. acc.)	-0.355 (0.370)	-1.613 (1.226)	-6.032*** (1.449)	-5.995*** (1.533)
persistence	-0.190 (0.134)	0.218** (0.090)	0.296*** (0.069)	0.428*** (0.071)
analysts	0.010* (0.006)	0.003 (0.007)	-0.005 (0.006)	0.011** (0.005)
accuracy	2.039 (1.709)	-2.185 (1.368)	-2.464 (1.644)	-0.184 (2.533)
ln (peer total pay)	0.171*** (0.053)	0.050 (0.037)	0.131*** (0.047)	0.115** (0.058)
no of peers	0.011** (0.005)	0.021*** (0.003)	0.016*** (0.004)	0.021*** (0.003)
matchsic2d	1.216*** (0.209)	1.361*** (0.156)	1.610*** (0.134)	1.521*** (0.111)
matchsic3d	0.893*** (0.250)	0.786*** (0.171)	0.805*** (0.147)	0.669*** (0.129)
salesmatch	0.339*** (0.095)	0.318*** (0.091)	0.284*** (0.067)	0.137** (0.070)
assetsmatch	0.129 (0.083)	0.129** (0.055)	0.317*** (0.058)	0.223*** (0.050)
mcapmatch	0.114* (0.059)	0.265*** (0.069)	0.195*** (0.066)	0.212*** (0.068)
dow30match		0.035 (0.134)	0.658** (0.297)	1.279* (0.710)
largecapmatch	0.409*** (0.140)	0.186 (0.130)	0.392*** (0.115)	0.426*** (0.101)
midcapmatch	0.330*** (0.086)	-0.007 (0.116)	0.323*** (0.125)	0.241* (0.124)
constant	-3.580*** (0.150)	-3.511*** (0.222)	-3.589*** (0.185)	-3.880*** (0.162)
Observations	17,660	20,932	28,123	34,011
Log likelihood	-775.7	-1195	-1432	-2067
Pseudo R-squared	0.354	0.313	0.389	0.386

Table 8 presents probit regression analyses of compensation peer groups in Panel A and performance peer groups in Panel B for the year 2011. The aim of the table is to show how results differ for different levels of accrual quality and

earnings persistence of the selecting firm. We report regression results similar to those in Table 3 and Table 4, for different levels of earnings quality of the selecting firm. We aggregate accrual quality and persistence by calculating the average of the percentile ranked values of σ (*abn. acc.*) and *persistence*. Then, we split the sample based on the quarter that the selecting firm belongs to (1. below percentile 25; 2. between percentile 25 and median; 3. between median and percentile 75; 4. above percentile 75). Selecting firms belonging to the quarter “below P25” (“above P75”) exhibit the lowest (highest) earnings quality. Dependent variable, *actpeer*, is a dummy variable equal to one if a potential peer is chosen as a compensation peer by the disclosing firm and zero otherwise. The potential peer group under consideration is the S&P 900 (which is the S&P 500 index plus the S&P 400 MidCap index) in all specifications. All explanatory variables are measured as in previous analyses. Test variables are defined in previous tables and control variables are defined in the Appendix 1. All explanatory variables and control variables are measured in the year 2010. Standard errors are presented below the coefficients in parentheses and are clustered by firm. *, **, *** denote significance at the 10%, 5% and 1% level (two-sided).