CEO Social Capital and Discretionary Accruals

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Abstract

This study investigates the relationship between CEO social capital and the use of discretionary accruals in a firm, as well as the pricing of discretionary accruals from the capital market, for the period of 1998-2017. We find that firms managed by CEOs with higher social capital are more likely to use discretionary accruals (predicted by cross-sectional Modified Jones (1991) Model) to manage earnings upward, rather than alter firms' real operating activities. However, those behaviors concentrate in the income decreasing (negative) discretionary accruals sub-sample. The result is robust with the control for self-selections bias, the omitted variables, and the endogeneity. Further analysis unveils that compared with the ones used in the firms managed by CEOs with lower social capital, the discretionary accruals used in the firms managed by CEOs with higher social capital, especially the ones in the income decreasing (negative) discretionary accruals sub-sample, can better reflect the future operating performance of the firms and are thus positively priced by the capital market.

JEL Codes: G30, G40, M41

Keywords: CEOs social capital, earnings management, discretionary accruals, pricing of accruals

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Section 1. Introduction

Literature has long debate on whether accrual-earnings or cash flow has more incremental information content towards a firm's future economic performance (Bowen, Burghstahler, and Daley, 1987; Dechow 1994; Dechow, Kothari, and Watts, 1998; Subramanyam, 1996). Accrual-earnings is viewed as a superior measurement of a firm's performance to cash flow as it helps mitigate the timing and mismatching problems inherent in measuring cash flow (Dechow, 1994). However, due to the flexibility under the Generally Accepted Accounting Principles (GAAP), the choice and magnitude of accruals used in financial reporting is subject to managerial discretion. On the one hand, managerial discretion can enhance the informativeness of accrual-earnings by allowing better communication of private information to the public and can therefore improve the ability of accruals to reflect the economic value of a firm. (Watts and Zimmerman, 1990; Holthausen, 1990; Healy and Palepu, 1993). On the other hand, due to the potential conflict of interest between managers and stockholders, managers may have incentives to use discretionary accruals to opportunistically manage earnings to benefit themselves, and thereby create perversions in the reported earnings (Watts and Zimmerman, 1986; Healy and Palepu, 1993).[1] Since investors can not directly observe the managers' opportunistic behaviors, in turn, they may require a higher expected return to invest in a firm with higher accruals and that leads to a potential higher cost of equity for the firm (Francis, Lafond, Olsson, and Schipper, 2005). As a result, Guay, Kothari, and Watts (1996) suggest that

[1] That is why the use of discretionary accruals is sometimes referred to as the accruals-based earnings management. In this study, these two concepts are interchangeable.

researchers take managers' incentives into account when studying the role of discretionary accruals.

Literature also documents evidence to support that CEO social network is an important channel for business information flow and sharing (Nohria, 1992; Burt, 1997; El-khatib, Fogel, and Jandik, 2015; Fracassi and Tate, 2012; Woolcook, 1998). As the network connection allows CEOs to have easier access to information and resources within the network, CEO network connection is normally considered as a great resource, or more formally, an intangible asset, to a firm. Woolcock (1998) provides a more formal definition, CEO social capital, to measure the importance and influence of CEO within the network. Extant literature reveals that CEO social capital can encourage both reputation-incentive and rent-seeking behaviors through the information and reputation channels, and therefore represents a double-edged sword in terms of firm and market outcomes (El-Khatib et al., 2015; Bhandari, Mammadov, Shelton, and Thevenot, 2018; Griffin, Hong, Liu, and Ryou, 2021; Ferris, Javakhadze, and Raikovic, 2017). Specifically, a growing literature reveals that CEO social capital can positively or negatively influence a firm's overall information environment and financial reporting practices (Bhandari et al., 2018; Griffin et al., 2021), potentially including a firm's decision to use accruals in the financial reporting. Thus, we argue that CEO social capital can influence CEOs' incentives to manage earnings by accruals,[2] to either opportunistically manage earnings or provide better private information to the public. We are thereby interested in studying the relation between CEO social capital and discretionary accruals. Specifically, we emphasize on examining (1) whether CEO social capital affects the use of discretionary accruals;[3] (2) what type of

[2] The examples of CEO's incentives to manage earnings by accruals include maintaining their reputation within the labor market and increase their compensation by meeting or beating earnings target.
[3] To be consistent, in this study, we assume that firms use discretionary accruals to manage earnings upward by default.

discretionary accruals (positive/income increasing vs. negative/income decreasing) CEO social capital has a greater impact on if CEO social capital affects the use of discretionary accruals; and (3) how CEO social capital influences the pricing of discretionary accruals (by the capital market).

To further study this topic, we first collect C-Suite employment histories and other biographical data on U.S. CEOs from BoardEx to construct CEO network centrality variables to proxy for CEO social capital for the period of 1998-2017.[4] Specifically, we construct degree (*Degree*) and eigenvector centrality (*Eigenvector*) to capture the number of connections and the connection to the connected people. Additionally, we use principal component analysis to create a third centrality measurement, *PCA*, to capture the common features between *Degree* and *Eigenvector*. Next, we follow extant literature (Jones, 1991; Dechow, Sloan, and Sweeney, 1995; Subramanyam, 1996; Krishnan, 2003) and construct the variable to proxy for the level of discretionary accruals used in a firm (*Dis Accruals*) using cross-sectional Modified Jones (1991) Model.[5] Furthermore, we collect other firm-level financial and return information from Compustat and CRSP to construct other controls variables as needed. Finally, we merge all the datasets and exclude firm-year observations in utility industries (with SIC codes 4000-4999) and financial companies (SIC codes 6000-6999) and the ones with missing value for required variables in our empirical analysis.

We first find that firms managed by CEOs with higher social capital are more likely to use discretionary accruals to manage earnings upward, rather than alter real operating activities,

[4] We argue that our CEO network centrality measurements can capture the importance and influence of a CEO within the network, the essential meaning presented by CEO social capital.

[5] As extant literature reports the substitute effect between the use of accrual-based and real-activities earnings management (e.g., Zang, 2012). To capture the substitute effect, we control for the level of real earnings management used a firm in the main regression and thereby also create a variable to proxy for real earnings management (*Real EM*) following Roychowdhury (2006). In this study, managing earnings through the alteration of real operating activities is also referred to as the real-activities or real earnings management.

after controlling for factors that partially determine the use of earnings management including the substitute effect between these two methods (Zang, 2012; Chan, Chen, Chen, and Yu, 2015; Black, Joo, and Schmarkebeck, 2017). Furthermore, when we partition the sample into sub-samples with income increasing (positive) and income decreasing (negative) discretionary accruals, we discover that firms managed by CEOs with higher social capital are more likely to manage earnings upward in the negative discretionary accruals sub-sample. The result is robust with the control for self-selections bias, the omitted variables, and the endogeneity. Moreover, we analyze whether CEO social capital influences the pricing of discretionary accruals. The analyses reveal that compared with the ones used in the firms managed by CEOs with lower social capital, the discretionary accruals used in the firms managed by CEOs with higher social capital have better predictabilities on the firms' future performance[6] and are thus positively priced by the capital market (proxied for by the increasing relevance of the discretionary accruals to the future stock return of the firms).

Our findings have several contributions to literature. First, we complement the behavioral literature by documenting evidence that CEO social capital influences a firm's use of discretionary accruals. As a firm's use of discretionary accruals reflects the firm's financial reporting practice, our result adds additional evidence to support that CEO social capital help facilitate a firm's financial reporting practice (Bhandari et al., 2018; Griffin et al., 2021).

It is also worth noting that our study is related to the one conducted by Griffin et al. (2021), but our CEO social capital measurement differs from them by focusing on the current board overlapping and by including the connections to the connected people in addition to

[6] Following extant literature (e.g., Robin and Wu, 2015), we measure firms' future performance by the one-year ahead earnings and the probability of future dividend increase.

number of connections, to capture the hierarchy of social network.[7] Additionally, our results (regarding the managerial choice of managing earnings upward through discretionary accruals or through the alternation of real activities) are completely opposite to theirs.

Furthermore, we shed light on the choice of discretionary accruals by firms managed by CEOs with higher social capital. The use of discretionary accruals has normally been considered to induce higher potential cost to firms and can be easily detected by SEC (Zang, 2012; Chan et al., 2015; Black et al. 2017; and Griffin et al., 2021), so firms try to avoid using it or shift to managing earnings by altering real operating activities, especially in post-SOX period. However, our evidence reveals that firms managed by CEOs with higher social capital can use discretionary accruals in a positive fashion to convey information to market participants. Contrary to extant literature (Lee, Li, and Yue, 2006; Robin and Wu, 2015), our evidence also suggests that managers can also report income decreasing (negative) discretionary accruals to provide useful private information to the market. Overall, our study provides evidence that the use of discretionary accruals to manage earnings upward in a firm may not always bring in detrimental consequences for the firm. To some extent, the use of discretionary accruals can be beneficial to a firm by improving its informational environment.

Finally, consistent with the extant literature (Diamond, 1985; Faleye, Kovacs, and Venkateswaran, 2014; Ferris et al., 2017), we confirm that firms managed by CEOs with higher social capital have flexibility to take risk (proxied for by choosing to use discretionary accruals to manage earnings upward), however, the risk-taking won't cause bad consequences. To some extent, such risk-taking can benefit the firm by improving its overall informational environment through the better communication of private information to the public.

[7] El-Khatib et al. (2015) argue that the hierarchy of social network affects the direction of information flow and can therefore affect firm and market outcomes.

The rest of the paper will be organized in the following format: Section 2 discusses previous literatures and develop hypotheses; section 3 introduces key variables and sample construction; section 4 introduces the research design and presents the main empirical results; section 5 concludes.

Section 2. Literature Review and Hypotheses Development

2.1. CEO Social Capital and the use of discretionary accruals

Whether firms operate efficiently is a debatable topic between traditional economic theories (e.g., Neoclassical economic theory; agency theory proposed by Fama, 1980) and modern behavior theories (e.g., upper echelons theory from Hambrick and Mason, 1984). Unlike the traditional economic theories, behavior theories argue against firm's operational efficiency, specifically, the theories assert that executives are heterogeneous in nature and that the characteristics of the executives can potentially influence firm and market outcomes.

Woolcock (1998) first introduces the concept of CEO social capital as a measurement of the power and influence of a CEO within the social network. According to social network theories, CEO social capital is a valuable resource for a firm as it allows its CEO to have easier access to information and resource within the network. In addition, network can enable trust transactions by assisting in sending out more "trustworthy" information (Burt 1997, 2007), and in turn, help enhance CEOs' reputation and enforce CEOs' good behaviors. However, CEO social capital may release CEOs' concern on labor market and shield CEOs from internal and external governance, and therefore induces CEOs to participate in rent-seeking behaviors (e.g., El-Khatib et al., 2015). Overall, existing financial theories predict that CEO social capital can influence firm and market outcomes through the information and reputation channels.

Extant literature documents evidence to support that CEO social capital has positive or negative impacts on firm and market outcomes, such as mergers and acquisitions (El-Khatib et al., 2015), corporate risk-taking (Ferris et al., 2017), and capital investment (Fracassi, 2017). Moreover, a growing literature reveals that CEO social capital can influence a firm's overall information environment and financial reporting practices (Bhandari et al., 2018; Griffin et al., 2021), potentially including a firm's decision to use accruals in the financial reporting. As GAAP grants to managers flexibility to determine the use and magnitude of accruals, the use and magnitude of accruals reflects managerial incentives. Generally, there are two sets of managerial incentives: to provide private information to the market and to opportunistically manage earnings. We argue that CEO social capital can potentially influence CEOs' incentives, as well as their ability, to use discretionary accruals through the information and reputation channels.

Through the information channel, CEOs with higher social capital to learn more "soft" information from their network and decides whether, time, and how to use accruals. With the use of discretionary accruals, firms managed by CEOs with higher social capital can better communicate private information and signal firms' quality or managerial trust and competency to the market. The managed earnings, in turn, can help improve firm value by reducing the cost of equity (Francis et al., 2015). From an opposite perspective, CEO network itself represents less costly way to share information, firms managed by CEOs with higher social capital may not need to use accruals to achieve certain corporate goals.

Through the reputation channel, CEOs with higher social capital may direct the firms to use high-quality accruals that can better reflect future operating performance. The use of discretionary accruals, in turn, can help enhance the CEOs' reputation, and bring to the CEOs some additional benefits (e.g., increase of compensation). Inversely, if the use of discretionary

accruals is of low-quality or even fraudulent, the practice could result in bad consequences to the firms and CEOs, such as the violation of GAAP, SEC litigation, and adverse media coverage. If CEOs care about their reputation, they may not want to direct the firms to use low-quality or fraudulent discretionary accruals. From a reverse perspective, CEO social capital may release CEOs from the labor market concerns (Liu, 2010) or shield CEOs from internal and external governance (El-Khatib et al., 2015), and therefore induce CEOs to engage in rent-seeking behaviors to benefit themselves. For instance, CEOs can direct the firms to opportunistically report discretionary accruals to meet or beat earnings targets, and potentially receive a higher incentive compensation.

It is also worth noting that extant literature demonstrates that managing earnings by accruals (sometimes referred to as the accruals-based earnings management) can be easily detected by SEC and firms might shift to managing earnings by the alteration of real operating activities (sometimes referred to as real earnings management), especially in post-SOX period (Cohen, Dey, and Lys, 2008; Cohen and Zarowin, 2010). As the use of discretionary accruals may have potential higher cost to the firms, managing earnings through discretionary accruals may represent a form of corporate risk-taking activities. As extant literature demonstrates that CEOs with higher social capital have the flexibility to tackle the risk-taking activities but can still achieve comparatively good outcomes (Ferris et al., 2017), we argue that firms managed by CEOs with higher social capital may be more likely to use discretionary accruals.[8]

[8] Extant literature has long dissension on the potential cost of managing earnings through the alteration of real operating activities in the long run. One example is that firms that manage earnings upward through the alteration of real operating activities may be forced to skip valuable projects with positive NPV for purpose of managing earnings to meet or beat the target (Gunny, 2005; Griffen et al., 2021). However, the use of accruals, can eventually be reversed in the future. From this perspective, as long as the firms can use accruals in an appropriate manner, the use of accruals may not induce potential high cost of the firms in the long run.

Given the bright and dark side of CEO social capital on firms' choice of discretionary accruals, we hypothesize in the alternative format that

H1a: Firms managed by CEOs with higher social capital are more likely to use discretionary accruals to manage earnings upward.

H1b: Firms managed by CEOs with higher social capital are less likely to use discretionary accruals to manage earnings upward.

The null hypothesis is that there's no significant relation between CEO social capital and level of discretionary accruals used in the firms.

2.2. The use of income increasing (positive) vs. income decreasing (negative) discretionary accruals

Literature has long debate on the pros and cons for the use of income increasing (positive) or income decreasing (negative) discretionary accruals. A set of literature demonstrates that mangers have strong motivations to manage earnings upward to beat benchmark or analysts' estimate (Burgstahler and Dichev, 1997; Degeorge, Patel, and Zeckhauser, 1999). Additionally, Robin and Wu (2015) and Lee et al. (2006) find evidence to support that high-growth firms prefer to use income increasing discretionary accruals to signal favorable private information to external investors and to influence equity valuation, but those firms may incur a rising cost due to increasing amount of managed earnings. Further, Peasnell, Pope, and Young (2000) document evidence to suggest that firms with pre-managed earnings below zero or the prior year's earnings are more likely to use discretionary accruals to manage earnings upwards, while firms with pre-managed income well above these benchmarks may choose to adopt income decreasing discretionary accruals. Moreover, Ramanna and Roychodhury (2010) find that politically

connected firms with more extensive outsourcing activities are more likely to use income decreasing discretionary accruals to manage the political costs they face from negative outsourcing-related scrutiny. As the extant empirical evidence unveils both pros and cons for the use of income increasing and income decreasing discretionary accruals, we can not draw a conclusion on what specific discretionary accruals sub-sample CEOs with higher social capital may direct the firms to manage earnings upward. Thus, we hypothesize in the alternative format a dual hypothesis as follows:

H2a: If firms managed by CEOs with higher social capital use discretionary accruals to manage earnings upward, they prefer to use it in the income increasing discretionary (positive) accruals sub-sample.

H2b: If firms managed by CEOs with higher social capital use discretionary accruals to manage earnings upward, they prefer to use it in the income decreasing discretionary (negative) accruals sub-sample.

The null hypothesis is that firms managed by CEOs with higher social capital have no preference of managing earnings upward in income increasing or income decreasing discretionary accruals sub-sample.

2.3. CEO Social Capital and the pricing of discretionary accruals

As stated above, managers have incentives to direct the firms to use discretionary accruals to either provide private information to the market or opportunistically manage earnings. The information sent to the market allows the capital market to evaluate a firm's current performance, as well as predicting the firm's performance in the future, and hence to

assign value to the firm (or saying price the firm). Such a signaling role links the use of discretionary accruals to the stock return of the firm.

The pricing of discretionary accruals has drawn great attention from researchers. Subramanyam (1996) is the first study that directly investigates the link by regressing returns on various components of earnings including discretionary accruals, and the study reports that market attaches value to discretionary accruals. However, although partially supporting the view that discretionary accruals improve the ability of earnings to reflect economic value, Subramanyam (1996) can not rule out the alternative view that discretionary accruals are opportunistic and value-irrelevant but priced by an inefficient market. Both Xie (2001) and Kraft, Leone, and Wasley (2007) report a negative association between discretionary accruals and future stock returns. Their findings imply that investors overprice discretionary accruals in the current period and thereby supports the alternative view from Subramanyam (1996). Robin and Wu (2015) demonstrate that managers tend to use discretionary accruals, especially the income increasing (positive) discretionary accruals, to signal future favorable performance while the capital market positively prices the discretionary accruals, especially the income increasing discretionary accruals. Hypothesizing that auditing plays an important role in mitigating aggressive and opportunistic reporting of discretionary accruals, Krishnan (2003) investigates the link between audit quality and the pricing of discretionary accruals and find that discretionary accruals used in the firms audited by “Big 6” auditors have greater associations with future profitability and stock return. The result indicates that market recognizes the superiority of good external governance mechanism in pricing of discretionary accruals.

As discussed earlier, CEO social capital can influence CEOs’ incentives to use discretionary accruals through the information and reputation channel. We argue that CEO social

capital can potentially affect the pricing of discretionary accruals in the similar manner. If CEO social capital can motivate the CEOs to direct the firms to use high-quality discretionary accruals, and the capital market recognizes the situation, the discretionary accruals used in the firms managed by CEOs with higher social capital can better reflect the future operating performance and are thereby more relevant to firm value. Otherwise, the discretionary accruals used in those firms may be opportunistically reported and create more uncertainties for future operating situation, and thus would be priced negatively. It is also possible that capital market does not recognize the impact of CEO social capital on the use of discretionary accruals and does not assign positive or negative value for the process. The above discussion leads to our last two hypotheses, both in alternative format:

H3a: The association between the discretionary accruals and future operating performance is greater for firms managed by CEOs with higher social capital than for firms managed by CEOs with lower social.

H3b: The association between the discretionary accruals and future operating performance is weaker for firms managed by CEOs with higher social capital than for firms managed by CEOs with lower social.

H4a: The association between the discretionary accruals and stock return is greater for firms managed by CEOs with higher social capital than for firms managed by CEOs with lower social.

H4b: The association between the discretionary accruals and stock return is greater for firms managed by CEOs with higher social capital than for firms managed by CEOs with lower social.

The null hypotheses for H3 and H4 are that there's no significant difference for the association between discretionary accruals and future operating performance and between discretionary accruals and stock return, respectively, for firms managed by CEOs with higher or lower social capital.

Section 3. Sample Construction, Variables Description, and Summary Statistics

3.1. Sample Construction

We construct our sample by collecting data from multiple datasets. To start with, we collect data from BoardEx dataset and construct CEO network centrality measurements to proxy for CEO social capital. The BoardEx dataset is a comprehensive data that includes personal information, educational histories, professional appointments, and firm information for hundreds of thousands of executives and non-executives at North American firms, non-profit organizations, and public entities. Specifically, we construct degree (*Degree*) and eigenvector centrality (*Eigenvector*) to capture the number of connections and the connection to the connected people and use principal component analysis to create a third centrality measurement, *PCA*, to capture the common features between Degree and Eigenvector. The detailed calculation process for CEO network centrality measurement is provided in section 3.2.

We next derive annual firm-level financial and return information from Compustat and CRSP, respectively, to calculate proxy for the use of discretionary accruals and other control variables. The detailed calculation process for the level of discretionary accruals used in a firm is provided in section 3.3.

In the final step, we merge the CEO network centrality measurements and the firm-level financials & return information to create our final sample for the empirical analysis. To enhance data homogeneity, we exclude financial (SIC 6000-6999) and utility firms (SIC 4900-4999) from our databases. We also delete observations with missing value for required variables in the empirical analysis. Our final sample consists of 12,953 firm-year observations from 1998 -2017. Out the sample, 8,833 and 4,102 firm-year observations report positive and negative discretionary accruals, respectively.

3.2. CEO Social Capital (Network Centrality) variables

Under the assumption that current relationships better capture the information advantage of the executives with higher social capital, we focus on current board appointments when calculating centrality measurements. To begin with, adding up the number of direct connections to other directors gives us degree centrality *(Degree),* which is simply the number of direct and current connections one has to other executives. *Degree* is hence a measure of the size of one's direct network. An extension of degree centrality is eigenvector centrality *(Eigenvector),* which takes into consideration the connection to the connected people. Stated otherwise, a CEO with a higher eigenvector centrality is connected to other executives who, in turn, are connected to many other executives. *Eigenvector* is therefore an indication of the "importance" of one's network. Degree and eigenvector centralities are informative as to both the efficiency of information acquisition and dissemination given that executives with more (and better connected) connections are more likely to have access to more information at less cost, as well as with less reputational risk (since presumably more reputable and experienced executives are granted more board appointments). Specifically, we follow the extant literature (El-Khatib et al.,

2015; Egginton and McCumber, 2019; Egginton et al., 2022) and calculate the raw value for degree and eigenvector centrality measurements as:

$$Degree\ (D_i) = \Sigma_{ji} X_{ij} \quad (1)$$

where x_{ji} is 1 for presence of a social connection between i and j

$$Eigenvector\ (E_i) = \ satisfying\ \lambda E'E = E'AE \quad (2)$$

where E is an eigenvector of the matrix of connections A, and λ is its associated eigenvalue E_i is taken as the elements of the eigenvector E* associated with A's principal eigenvalue, λ*.

Additionally, we also use principal component analysis to create a third centrality measurement, *PCA*, to capture the common features of degree and eigenvector centrality.

To construct the CEO network centrality measurements, we first create annual networks of U.S. executives from 1998-2017 and calculate raw value of degree and eigenvector centralities for all executives in the networks each year. While interpreting degree centrality results are intuitive, for example, 188 direct connections is likely "better" than 8 connections, eigenvector centrality results are not, as well as the PCA centrality. We thereby rank raw value of CEOs' network centrality into percentiles value each year such that, for example, a CEO in the 71st percentile of eigenvector centrality in a specific year has a higher eigenvector centrality than 70% of all executives in the network that same year.

3.3. Proxy for the level of discretionary accruals used in a firm

We follow extant literature (Subramanyam, 1996; Krishnan, 2003; Robin and Wu, 2015) and use cross-sectional modified Jones (1991) model to estimate the use of discretionary

accruals. Specifically, by each year and industry (determined by 2-digit SIC code), we run the following cross-sectional regression for all the firms that are available in the Compustat dataset:

$$TlA_{cct} = \alpha + \beta_1 \times \left(\frac{1}{AT_{t-1}}\right) + \beta_2 \times (\Delta REV_t - \Delta RCT_t) + \beta_3 \times PP\&E_t + \varepsilon_t \quad (3)$$

where TlA_{cct} = total accruals of a firm at year t, calculated as difference between income before extraordinary items and operarting cash flow; AT_{t-1} = total asset at the end of year t-1; ΔRev_t = change in sales revenue for a firm at year t; ΔRec_t = change in receivables for a firm at year t; $PP\&E_t$ = gross PP&E for a firm at year t; All variables are scaled by lagged total assets.

The residual estimated from the above regression proxies for the level of discretionary accruals used in a firm. The higher values indicate higher-level discretionary accruals (can be either positive or negative) reported. We only keep the data with more than 15 observations by each year and industry.

We measure the level of discretionary accruals used in a firm using modified Jones (1991) model for several reasons: First, Lee et al. (2006) point out that controlling for performance and/or growth in the discretionary accruals model will lead to the reduction of the power of tests, as well as the underestimation of the amount of managed earnings for firms with better performance or higher growth. Second, several existing studies (Subramanyam, 1996; Bartov, Gul, and Tsui, 2000; DeFond and Subramanyam, 1998) evaluate the ability of accruals in detecting earnings management among several different models and find that the cross-sectional modified Jones (1991) model outperforms other time-series models. Finally, the use of the cross-

sectional modified Jones (1991) model allows us to compare our results with other related studies (e.g., Subramanyam, 1996).[9]

It is also worth noting that we also follow extant literature (Roychowdhury, 2006; Cohen et al., 2008; Zang, 2012) and create the proxy for firm's managing earnings with alternation of real operating activities (sometimes referred to as real earnings management) as one of the control variables. The detailed procedure to calculate the proxy is provided in appendix B.

3.4. Summary Statistics

Table 1 reports summary statistics. The mean (median) values for *Degree* and *Eigenvector* are 64 (63) and 57 (58), respectively. There is considerable heterogeneity in our sample of CEO social capital. For example, at the 25th percentile in sample *Degree* is in the 51st percentile of all executives in the network while at the 75th percentile *Degree* is in the 78th percentile of all executives; the standard deviation is approximately 17.34 percentiles.

One other key variable, *Dis Accruals*, has a mean (median) value of 0.06 (0.05), with about 68% of the values being positive. While the value of *Dis Accruals* is left-skewed, we do observe approximately equivalent 1st (Q1) and 3rd (Q3) quartiles relative to the median value, suggesting a broadly symmetric distribution of *Dis Accruals* around the median value.

[Insert Table 1 about here]

4. Research Methodology and Empirical Results

4.1. CEO Social Capital and the use of Discretionary Accruals

[9] As we can not completely rule out the possibility that the potential misspecification problem of the modified Jones (1991) model drives our result, in an un-tabulated analysis, we use discretionary accruals estimated by the performance-matched modified Jones (1991) model (introduced by Kothari, Leone, and Wasley, 2005) in all our regressions and find similar result.

4.1.1. CEO Social Capital and the Level of Discretionary Accruals used in a firm

To test our first hypothesis, we regress the level of discretionary accruals used in a firm (*Dis Accruals*) on CEO social capital measurements and other control variables (including the level of real earnings management used in the firm) in a pooled OLS regression as:

$$Dis\ Accruals_{i,t} = \alpha + \beta_{i,t} CEO\ Social\ Capital + \delta_{i,t} Controls + \lambda_{i,t}\ Industry + \gamma_{i,t} Year + \mathcal{E}_{i,t} \quad (4)$$

The dependent variable is the level of discretionary accruals used in a firm (*Dis Accruals*). Our variable-of-interests are the CEO social capital measurements. To separate the effect of CEO social capital on the use of discretionary accruals from other factors, we include firm-level and CEO characteristics that are found to affect the use of discretionary accruals (Dechow, Ge, and Schrand., 2010; Dechow, Ge, Larson, and Sloan., 2011, Dechow and Dichev. 2002; Roychowdhury 2006; Griffin et al. 2021; Zang, 2012; Chan et al., 2015). Specifically, we include firm size (*Size*), leverage (*Leverage*) and return on asset (*ROA*), to control for scale effect and profitability of a firm (Kothari et al., 2005; Cohen et al., 2008). As Barth, Beaver, Hand, and Landsman. (1999), Skinner and Sloan (2002), and Zang (2012) find that the incentives to report higher earnings figure increase with firms' growth potential, we thereby include Book-to-Market equity ratio (*BTM*) to control for firms' growth potential. We also control for firms' volatility of profitability (*ROAstd*) and cash flow (*CFstd*) because firms are more likely to use discretionary accruals to manage earnings in volatile performance environment. Following Zang (2012) and Chan et al. (2015), we include Growth of sale (*Sales Growth*) and use of big four accounting firms as auditor (*Big4*) to control for cost of managing earnings using discretionary accruals. Dechow and Dichev (2002) suggest that longer operating cycles indicate more operational uncertainty that may possibly lead to use of earnings management, so we also include firms'

operating cycle (*Cycle*) in the regression. Following Ali and Zhang (2015), we control for other CEO characteristics such as numbers of years a CEO is in the position (*Tenure*), and whether the CEO simultaneously serves as board director (*Duality*). Finally, we incorporate in the regression the level of real earnings management used in a firm to capture the substitution effect between managing earnings with the use of discretionary accruals and the alteration of real operating activities (Cohen et al., 2008; Zang, 2012). All regressions include time and industry (determined by the classifications of 48 industries from Fama and French,1997) fixed effects, and errors are robust to firm heteroscedasticity. T-stats are reported in parentheses.

Table 2 reports the results of pooled OLS regressions of CEO social capital, on the level of discretionary accruals used in a firm. As can be seen from the table, the coefficients for all CEO social capital measurements are positive and significant ($p<0.1$). Set *Degree* (column (1)) as an example to illustrate the marginal effect: Holding other constant, on average one unit (equal to 1%) increase in degree centrality will lead to increasing use of discretionary accruals that equals to about 0.0423% of asset. The result is also economically significant, for instance, moving from 25th to 75th percentile degree centrality in the sample, the level of discretionary accruals used increase by around 19% of the mean value of discretionary accruals in the sample.[10] Of all the control variables, *Real EM*, *Size*, *ROA*, *Leverage*, *ROAstd*, and *CFstd* show significant statistical relation (either positive or negative) with the dependent variable. Overall, the results from table 2 illustrate that, holding other constant, CEO social capital has a significantly positive correlation with the level of discretionary accruals used in a firm.

Motivated by the Griffin et al. (2021), we re-run equation (4) by switching the places of *Dis Accruals* (as the independent variable) and *Real EM* (as one of the dependent variables).

[10] 19% is calculated by $0.000423 \times (78 - 51) / 0.06$

Table 3 reports the results. As can be seen from the table, the coefficients for all CEO social capital measurements are negative and highly significant ($p<0.01$). The results from table 3 reveal that, holding other constant, CEOs social capital has a significantly negative correlation with the level of real earnings management in a firm.[11] Combined the results from tables 2 and 3 together, we conclude that firms managed by CEOs with higher social capital are more likely to manage earnings upward using discretionary accruals, rather than alter real operating activities. Overall, the results from this section support H1a.

[Insert Tables 2 and 3 about here]

4.1.2. Income Increasing (Positive) vs. Income Decreasing (Negative) Discretionary Accruals

To test our second hypothesis, we divide our sample into two sub-samples based on whether a firm uses income increasing (positive) or income decreasing (negative) discretionary accruals and re-run equation (4) in each sub-sample. Table 4 reports the results. As can be seen from the table, the coefficients for CEO social capital in columns (1), (3), and (5) are positive but insignificant, whereas the ones in columns (2), (4), and (6) are positive and highly significant ($p<0.05$). The result indicates that the significantly positive association between CEO social capital and the level of discretionary accruals used in a firm concentrates in the income decreasing (negative) discretionary accruals sub-sample. Stated otherwise, compared with firms managed by CEOs with lower social capital, firms managed by CEOs with higher social capital are more likely to manage earnings upward in the income decreasing (negative) discretionary accruals sub-sample. It is also worth noting that the table also reveals a significantly negative

[11] Further analyses (result un-tabulated) show that the significantly negative relation between the real earnings management and CEO social capital measurements comes mainly from the effects of abnormal production cost and abnormal discretionary expenditure. Please refer to the appendix for the definition and the calculation process for the components of the real earnings management.

coefficient and a significantly positive coefficient for *BTM* and *Sales Growth* in columns (1), (3), and (5). The result is consistent with the finding from extant literature that high-growth firms are more likely to report positive discretionary accruals to potentially signal positive private information to the market and to influence equity valuation (Robin and Wu, 2015; Lee et al., 2006). Overall, the results from this section support H2a.

[Insert Table 4 about here]

4.1.3. Robustness Check

To ensure that the results from the previous sections are not biased due to the use of OLS regression model, the self-selections bias, the omitted variables, and the endogeneity issue, we apply the following robustness analyses.

4.1.3.1. Two-stage IV regression

It may be that firms that more likely to manage earnings upward using discretionary accruals hire CEOs with higher social capital and reputable. In turn, we attempt to triangulate against possible reverse causality and endogeneity concerns by applying the two-stage instrumental variable (IV) regression. Under the assumption that county mean CEO social capital will be correlated with firm CEO social capital but should not be a determinant of the level of discretionary accruals used in a firm, we instrument CEO social capital with county mean CEO social capital and rerun the analyses. Table 5 presents the result for the second stage of the two-stage instrumental variable (IV) regression. As indicated in the table, the coefficients for the CEO social capital measurements remain positive and highly significant in columns (3), (6), and (9). The result from table 5 reinforce the finding from table 4 that firms managed by CEOs with

higher social capital are more likely to manage earnings upward in the income decreasing (negative) discretionary accruals sub-sample.

[Insert Table 5 about here]

4.1.3.2. Difference-in-difference analysis: Evidence from CEO turnover

To further mitigate endogeneity concerns, we use CEO turnover as an experiment and apply a difference-in-difference analysis. We admit that CEO turnover events may not be exogenous in nature as it could be affected by both CEO social capital and the use of discretionary accruals in a firm, so this test cannot completely resolve the endogeneity issue, instead, it serves as additional evidence to reinforce the finding from the baseline regression. Specifically, we focus on comparing the difference between two types of CEO turnover made by firms that were initially managed by CEOs with lower social capital. For the first type, firms switch to new CEOs with higher social capital measured by *Degree*, *Eigenvector*, and *PCA* (the treatment group). For the second type, firms literally switch to new CEOs with lower social capital (the control group). We use indicator variables (*treat_CEO Social Capital*) to define whether a firm belongs to the treatment group, or the control group; specially, the indicator variables (*Treat_CEO Social Capital*) include *Treat_Degree*, *Treat_Eigenvector*, and *Treat_PCA* based on the CEO social capital value measured by *Degree*, *Eigenvector*, and *PCA*, respectively. The indicator variables equal one if a firm has an average CEO social capital value below the median value each year for the pre-transition period and an average CEO social capital value above the median value each year for the post-transition period, and zero if a firm has an average CEO social capital value below the median value for both the pre-transition and post-transaction periods. We use the indicator variable, *Post*, to represent observations following CEO turnover. We estimate the following regression:

$$Dis\ Accruals_{i,t} = \alpha + \beta_{1,i,t} Treat\_CEO\ Social\ Capital + \beta_{2,i,t} Post + \beta_{3,i,t} Treat\_CEO\ Social\ Capital \times Post + \delta_{i,t} Controls + \lambda_{i,t}\ Industry + \gamma_{i,t} Year + \varepsilon_{i,t} \quad (5)$$

Our variable of interest is the coefficient ($\beta_{3,i,t}$) for the interaction term between the two dummy variables (*Treat_CEO social capital* × *Post*). We expect $\beta_{3,i,t}$ to be positive and significant if an increase of CEO social capital following the CEO turnover results in higher level of discretionary accruals used in a firm.

We construct our CEO turnover samples by identifying the change of DirectorID in a firm within our sample. Additionally, we require the CEO turnover sample to fulfill the following criteria: (1) The CEOs in both pre- and post-transition period must work for two consecutive years (excluding the transition year); (2) To avoid the confounding effect of multiple CEO turnovers on our results, if a firm changes its CEO more than once, we only count the first CEO turnover and ignore the subsequent CEO turnover in our sample period. Defining our sample in this manner, our treatment groups consist of 9, 20, and 13 firms, whereas our control group consist of 30, 42, and 37 firms based on the CEO social capital value measured by *Degree*, *Eigenvector*, and *PCA*, respectively.

Table 6 reports the results for the difference-in-differences analysis. As can be seen from the table, the coefficients for *Treat_CEO social capital* × *Post* in columns (3) and (9) are positive and significant ($p<0.1$) while the one in column (6) are positive but insignificant. The evidence suggests that compared with firms that switch from CEOs with lower social capital to CEOs with lower social capital, firms that switch from CEOs with lower social capital to CEOs with higher social capital significantly increase the level of discretionary accruals in the income decreasing

(negative) discretionary accruals sub-sample. Similar to the one from table 5, the result from table 6 reinforces the findings from table 4.[12]

[Insert Table 6 about here]

4.1.3.3. Propensity score matching

In an un-tabulated analysis, we create dummy variables to proxy for the high (if equal to 1) and low (if equal to 0) CEO social capital based on the median value of each CEO social capital measurement, replace the dummy variables with the percentile value of the CEO social capital measurements into the regression, and find similar results (un-tabulated). Furthermore, as the systematic differences between firms managed by CEOs with high versus low social capital firms may influence our results in the previous sections, we employ a propensity score method (closest neighbor method) to alleviate the endogeneity concern (including the self-selection bias). [13] Specifically, we first run equation (4) without the CEO social capital measurements and predict the level of discretionary accruals; we next rank the predicted level of discretionary accruals by year and industry (measured by 2-digit SIC code); moreover, we use propensity score method (closest neighbor method) to match firms managed by CEOs with higher with the ones managed by CEOs with lower social capital to create a reduced sample; finally, we re-run equation (4) including the percentile value of the CEO social capital measurements within the reduced sample predicted by the propensity score matching method. Table 7 reports the result. As can be seen from the table, the coefficients for the CEO social capital measurements in

[12] Although the coefficient for *Treat_Eigenvector* × *Post* in column (6) is positive but not significant, we argue that the result from the difference-in-difference analysis in table 6 still supports the findings from table 4 as the coefficient for *Treat_PCA* × *Post* in column (9) is positive and marginally significant.

[13] In an un-tabulated analysis, we also apply a new method with similar function to the propensity score matching, called entropy balancing. The use of entropy balancing allows for the retention of all sample firms but assigns different weights for different observations in the regression. The results remain identical after applying the entropy balancing method.

columns (1), (4), and (7), as well as in columns (3), (6), and (9), are positive and significant ($p<0.1$). The result from table 7 confirms the findings from tables 2 and 4 that firms managed by CEOs with higher social capital are more likely to manage earnings upward by discretionary accruals, particularly in the income decreasing (negative) discretionary accruals sub-sample. It is also worth noting that the results remain the same (un-tabulated) if we include the dummy variables (of high and low CEO social capital), rather than the percentile value of the CEO social capital measurements, in the regression within the reduced sample.

[Insert Table 7 about here]

4.1.3.4. Controlling for managerial ability

Extant literature reports that managerial ability may affect the use of discretionary accruals (Demerjian, Lev, Lewis, and McVay, 2013), so managerial ability represents the potential omitted variable for the regression. To ensure that our findings are primarily driven by the effect of social capital, rather than solely from the effect of human capital of management team in a firm, we control for managerial ability (Demerjian et al. 2013) in equation (4), and we still find similar results (un-tabulated).

4.1.4. CEO Social Capital and the use of Discretionary Accruals: Information vs Reputation Channels (Effects)

CEO social capital measures may proxy for both reputation and information effects. In this section, we analyze which effect(s) drive the use of discretionary accruals. To do so, we follow the literature (e.g., Egginton, McBrayer, and McCumber., 2022) to create proxies for information and reputation channels (effects). Specifically, we first regress the aggregate CEO social capital measurements on a vector of plausible variables of firm and personal CEO characteristics that are likely to be correlated with our social capital measurements. Since larger

and more profitable firms are more likely to hire reputable and experienced CEOs, the vectors of firm characteristics contain firm size, leverage, and profitability. The vectors of CEO personal characteristics include the total executive tenure of the executive (from first executive appointment at any firm), the total number of boards the CEOs have served, whether the CEO has a degree from an elite university, and whether and how many times the CEOs has been recognized with a meaningful award.[14] The predicted value and the residual from this stage are proxies for the reputation and information channels (effects), respectively. Next, we substitute the proxies for reputation and information channels (effects) into equation (4) for the CEO social capital measurements and rerun the regression. Table 8 reports the result. As can be seen from columns (1) and (3), the coefficients for *Information Channel* are positive and significant ($p<0.1$). Similarly, columns (4) and (6) also report positive and significant coefficients for *Reputation Channel*. The overall results suggests that both information and reputation effects contribute to the level of discretionary accruals used in a firm.

[Insert Table 8 about here]

4.2. CEO Social Capital and the Pricing of Discretionary Accruals

4.2.1. CEO Social Capital, the use of Discretionary Accruals, and the Future Operating Performance of a firm

To test our third hypothesis, we follow the extant literature (Subramanyam, 1996; Krishnan, 2003; Kraft et al., 2007; Robin and Wu, 2015) and run the following regression:

[14] "Elite" university is determined by creating a list of the top 100 global institutions according to *The Financial Times*, *US News and World Report*, and *The Times Higher Education* world university rankings. These institutions include Ivy League universities, Stanford, Chicago, London School of Business, etc. "Meaningful" awards are those parsed from BoardEx data and include regional, national, or international recognitions such as *Forbes'* "Top 20 CEOs."

$$Future\ Operating\ Performance_{i,t+1} = \alpha + \beta_{1,i,t} Opearting\ CF + \beta_{2,i,t} NA\ Accruals + \beta_{3,i,t} Dis\ Accruals\ + \beta_{4,i,t} High\ CEO\ Social\ Capital + \beta_{5,i,t} Operating\ CF \times High\ CEO\ Social\ Capital + \beta_{6,i,t} NA\ Accruals \times High\ CEO\ Social\ Capital + \beta_{7,i,t} DIS\ Accruals \times High\ CEO\ Social\ Capital + \delta_{i,t} Controls + \lambda_{i,t}\ Industry + \gamma_{i,t} Year + \varepsilon_{i,t} \quad (6)$$

where *Future Operating Performance* is presented by either the one-year ahead return on asset (*Future ROA*), or the probability of dividend increase one-year ahead (*Future DV Increase*); *Operating CF*, *NA Accruals*, and *Dis Accruals* represent current cash flow from operation, the level of non-discretionary accruals, and the level of discretionary accruals;[15] *Controls* is a vector of control variables common in extant literature.[16] The variables-of-interest are the interaction terms between CEO social capital and level of discretionary accruals used in a firm (*High CEO Social Capital* × *Dis Accruals*).[17]

Table 9 and 10 present the results, with dependent variable as *Future ROA* and *Future DV Increase*,[18] respectively. As can be seen from table 9, the coefficients for *Dis Accruals* are positive and significant in columns (1), (2), (4), (5), (7), and (8), supporting the finding from extant literature that the use of discretionary accruals, especially the positive ones, can have positive predictability on future profitability of a firm (Dechow, 1994; Robin and Wu, 2015; Lee

[15] The three variables represent the decomposition of the current earnings. All the variables are scaled over lagged total asset.
[16] Detailed descriptions of all variables, including control variables, are provided in Appendix A.
[17] To avoid the potential multicollinearity issue caused by the interaction between the percentile value of CEO social capital and the level of discretionary accruals used in a firm, we use the dummy variable of high- and low- CEO social capital group, rather than the percentile value of CEO social capital, in the regression. Additionally, using dummy variable allows us to see the economic significance for the impact of CEO social capital on the association between the level of discretionary accruals and the future operating performance. Similar situation applies in equation (7).
[18] We use logistic regression in table 9 because the dependent variable is an indicator variable, whereas we use OLS regression in table 8 because the dependent variable is a continuous variable.

et al., 2006). The coefficients for *High CEO Social Capital × Dis Accruals* are positive and significant ($p<0.05$) in columns (1), (3), (4), (6), (7), and (9), indicating that the CEO social capital has a significantly positive impact on the predictability of discretionary accruals, especially the negative ones, towards the future profitability of a firm.[19] Similar situation can be observed in table 10 except that the coefficients for *High CEO Social Capital × Dis Accruals* are positive and significant ($p<0.1$) only in columns (3), (6), and (9), but are positive and insignificant in columns (1), (4), and (7).

Overall, the results from tables 9 and 10 proves that compared with the ones used in the firms managed by CEOs with lower social capital, the discretionary accruals used in the firms managed by CEOs with higher social capital, particularly the negative ones, can better predict firms' future operating performance, and thus supports H3a.

[Insert Tables 9 and 10 about here]

4.2.2. CEO Social Capital, the use of Discretionary Accruals, and the Future Stock Return of a firm

As can be concluded from the previous sub-section, the association between negative discretionary accruals and future operating performance is greater for firms managed by CEOs with higher social capital, it is thereby reasonable to test whether the capital market recognizes the situation and assign positive values for those firms.[20] To test the hypothesis, we follow the extant literature (Subramanyam, 1996; Krishnan, 2003; Kraft et al., 2007; Robin and Wu, 2015) and run the following regression:

[19] In an un-tabulated analysis, we also re-run the equation (6) using the future operating cash flow to proxy for the future profitability of a firm, but only find that CEO social capital has a positive but insignificant impact on the predictability of discretionary accruals towards the future operating cash flow.
[20] This is to formally test the pricing of the discretionary accruals (by capital market), or to test our 4th hypothesis.

$$Stock\ Return_{i,t+1} = \alpha + \beta_{1,i,t} Opearting\ CF + \beta_{2,i,t} NA\ Accruals + \beta_{3,i,t} Dis\ Accruals\ +$$
$$\beta_{4,i,t} High\ CEO\ Social\ Capital + \beta_{5,i,t} Operating\ CF \times High\ CEO\ Social\ Capital +$$
$$\beta_{6,i,t} NA\ Accruals \times High\ CEO\ Social\ Capital + \beta_{7,i,t} DIS\ Accruals \times$$
$$High\ CEO\ Social\ Capital + \delta_{i,t} Controls + \lambda_{i,t}\ Industry + \gamma_{i,t} Year + \mathcal{E}_{i,t} \quad (7)$$

where *Stock Return* is the compounded monthly stock returns for a twelve-month period ending three months after the end of the fiscal year of the firm; Other variables are the same as the ones used in equation (6).

Table 11 reports the results. As can be seen from the table, the coefficients for *Dis Accruals* are positive and significant in columns (2), (5), and (8), but are negative and significant in columns (3), (6), and (9), indicating that the capital market positively prices the level of income increasing (positive) but negatively price the income decreasing (negative) discretionary accruals used in the firms managed by CEOs with lower social capital. Interestingly, the coefficients for *High CEO Social Capital* × *Dis Accruals* are positive and significant ($p<0.1$) in columns (3), (6), and (9), demonstrating that the CEO social capital has significantly positive impact on the pricing of the negative discretionary accruals (by the capital market).

Thus, the result from table 11 supports H4a that capital market prices the (negative) discretionary accruals used in the firms managed by CEOs with higher social capital in a more positive manner than the ones used in the firms managed by CEOs with lower social capital.[21]

[Insert Table 11 about here]

Section 5: Conclusion

[21] It is worth noting that he results from tables 9, 10, and 11 are robust after controlling for the proxy for the managerial ability from Demerjian et al. (2013).

Our study investigates the relationship between CEO social capital and the use of discretionary accruals in a firm, as well as the pricing of discretionary accruals from the capital market. Our analyses reveal that firms managed by CEOs with higher social capital are more likely to use discretionary accruals (predicted by cross-sectional Modified Jones (1991) Model) to manage earnings upward, rather than alter firms' real operating activities. However, those behaviors concentrate in the income decreasing (negative) discretionary accruals sub-sample. The result is robust with the control for self-selections bias, the omitted variables, and the endogeneity. Further analysis unveils that compared with the ones used in the firms managed by CEOs with lower social capital, the discretionary accruals used in the firms managed by CEOs with higher social capital, especially the ones in the income decreasing (negative) discretionary accruals sub-sample, can better reflect the future operating performance and are thus more relevant to the future stock return of the firms.

As extant literature documents evidence to suggest that the use of discretionary accruals may incur higher cost for the firm (Cohen et al., 2008; Cohen and Zarowin, 2010), managing earnings through discretionary accruals may thereby represents a form of corporate risk-taking activities. Moreover, as indicated in the previous studies, the use of negative discretionary accruals may not reflect the future operating earnings, and thus, is priced negatively by the capital market. Our findings regarding the more frequent use of discretionary accruals to manage earnings upward, particularly in the income decreasing (negative) discretionary accruals sub-sample, thus reveal that CEOs with higher social capital are more likely to engage in risk-taking activities, consistent with the findings from previous literature (Faleye et al., 2014; Ferris et al., 2017). However, as CEOs with higher social capital have the degree of freedom to operate (Diamond, 1985), their risk-taking won't cause bad consequences. To some extent, such risk-

taking can benefit the firm by improving its overall informational environment through the supply of appropriate level of negative discretionary accruals that can reflect the firms' future operating performance, and thus are positively priced by the capital market.

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Appendix A: Variables Descriptions

The Appendix documents the definitions of variables used in this study ("_w" indicates that the value of the variables is winsorized at 1% and 99% level).

Variables	Descriptions
Dependent Variables:	
Dis Accruals	The error term estimated by the cross-sectional Modified Jones (1991) Model
Real EM	The sum of abnormal prediction cost, abnormal cash flow and abnormal discretionary expense, suggested by Roychowdhury (2006) Model
Future ROA	One-year ahead return on asset
Future DV Increase	Indicator variable that equals one if dividend payout of a firm increases one-year ahead, and zero otherwise.
Stock Return	The cumulative stock return for the twelve-month period ending three months after the fiscal year end
Variables-of-interest:	
Degree	Number of direct ties with others in the network
Eigenvector	Importance of an individual in the network
PCA	Principal Component Analysis of the percentile value of Degree and Eigenvector
Instrumented Degree	The predicted value for degree centrality by regressing a firm's CEO degree centrality on the instruments of the county mean CEO degree centrality (without the firm), along with the control variables
Instrumented Eigenvector	The predicted value for eigenvector centrality by regressing a firm's CEO eigenvector centrality on the instruments of the county mean CEO eigenvector centrality (without the firm), along with the control variables
Instrumented PCA	The predicted value for PCA centrality by regressing a firm's CEO PCA centrality on the instruments of the county mean CEO PCA centrality (without the firm), along with the control variables
Information Channel	The residual value generated by regressing the raw aggregate CEO network centrality data on a vector of plausible variables of firm and personal CEO characteristics that are likely to be correlated with the CEO network centrality measures
Reputation Channel	The predicted value generated by regressing the raw aggregate CEO network centrality data on a vector of plausible variables of firm and personal CEO characteristics that are likely to be correlated with the CEO network centrality measures.
Treat_Degree	Indicator variable that equals one if a firm has an average value of degree below the median value each year for the pre-transition period and an average value of degree above the median value

	each year for the post-transition period, and zero if a firm has an average value of degree below the median value for both the pre-transition and post-transaction periods.
Treat_Eigenvector	Indicator variable that equals one if a firm has an average value of eigenvector below the median value each year for the pre-transition period and an average value of eigenvector above the median value each year for the post-transition period, and zero if a firm has an average value of eigenvector below the median value for both the pre-transition and post-transaction periods.
Treat_PCA	Indicator variable that equals one if a firm has an average value of PCA below the median value each year for the pre-transition period and an average value of PCA above the median value each year for the post-transition period, and zero if a firm has an average value of PCA below the median value for both the pre-transition and post-transaction periods.
Post	Indicator variable that equals one for post-CEO transition, and zero for pre-CEO transition
Operating CF	Cash flow from operation of a firm in year t.
NA Accruals	The predicted value estimated by the cross-sectional Modified Jones (1991) Model; or the difference between total accruals and Dis Accruals
Controlled Variables:	
Size	Firm size at year t (natural log of assets)
BTM	Book to Market equity ratio at year t; calculated as book value divided by market value of assets, of which market value of total assets is equal to book value of total assets minus common equity plus market value of equity
ROA	Return on assets at year t
Leverage	Total debt scaled by total asset at year t
ROAstd	Rolling standard deviation of return on assets for the past three years including the current year
CFstd	Rolling standard deviation of operating cash flow on assets for past three years including current year
Cycle	Thousand days' receivable plus the days' inventory less days' payable (operating cycle divided by one thousand)
Sales Growth	Sales growth in year t
Big4	Indicator variable that equals one if a firm is audited by big four auditors, zero otherwise
Duality	Indicator variable that equals one if CEO also serves as chair of board, zero otherwise
Tenure	Numbers of years a CEO is in the position

Appendix B. Detailed procedure to calculate the proxy for real earnings management following Roychowdhury (2006)

Roychowdhury (2006) divides the real activities manipulation into three categories: sales manipulation, reduction of discretionary expenditures, and reduction of Cost of Goods Sold (COGS) due to overproduction and measures real earnings management as abnormal level of operational cash flow, production cost, and discretionary expenditures.

The normal operational cash flow is modeled as:

$$\frac{CFO_t}{At_{t-1}} = \alpha + \beta_1 \times \frac{1}{At_{t-1}} + \beta_2 \times \frac{S_t}{At_{t-1}} + \beta_3 \times \frac{\Delta S_t}{\Delta At_{t-1}} + \mathcal{E}_t \quad (8)$$

where CFO_t = operating cash flow for a firm at year t; At_{t-1} = a firm's total assets at year t-1; S_t = net sales of a firm at year t; ΔS_t = change in net sale of a firm at year t.

The normal production cost is modeled as:

$$\frac{PROD_t}{At_{t-1}} = \alpha + \beta_1 \times \frac{1}{At_{t-1}} + \beta_2 \times \frac{S_t}{At_{t-1}} + \beta_3 \times \frac{\Delta S_t}{At_{t-1}} + \beta_4 \times \frac{\Delta S_{t-1}}{\Delta At_{t-1}} + \mathcal{E}_t \quad (9)$$

where $PROD_t$ =cost of goods sold of a firm in year t plus change in inventory of a firm in year t;

The discretionary expenditure is modeled as:

$$\frac{DisExp_t}{At_{t-1}} = \alpha + \beta_1 \times \frac{1}{At_{t-1}} + \beta_2 \times \frac{S_{t-2}}{At_{t-1}} + \mathcal{E}_t \quad (10)$$

where $DisExp_t$ = total amount of selling, general, and administrative expenses, R&D, advertising and R&D expenses.

The regressions (8), (9), and (10) are run by each year and industry (proxied for by 2-digits SIC code). The “abnormal” measures are defined as actual amounts minus the “normal” amounts predicted by the three formulas above.

Following Roychowdhury, (2006) and Cohen et al., (2008), we define real earnings management as abnormal PROD minus abnormal C/F and abnormal DisExp. The higher values indicate a higher level of real earnings management. We only keep the data with more than 15 observations by each year and industry.

Table 1. Summary Statistics.

Variable	N	Mean	SD	P25	P50	P75
Dis Accruals	12935	0.06	0.21	-0.02	0.05	0.14
Real EM	12935	-0.07	0.35	-0.25	-0.06	0.10
Future ROA	12935	-0.01	0.23	-0.03	0.04	0.08
Future DV Increase	12935	0.23	0.42	0.00	0.00	0.00
Stock Return	12935	0.18	0.74	-0.24	0.05	0.37
Degree	12935	64.31	17.34	51.00	63.00	78.00
Eigenvector	12935	57.00	23.24	39.00	58.00	76.00
PCA	12935	0.00	1.32	-0.99	-0.04	1.04
Information Channel	12847	0.07	0.95	-0.63	0.08	0.80
Reputation Channel	12847	0.33	0.46	-0.07	0.41	0.54
Treat_Degree	156	0.23	0.42	0.00	0.00	0.00
Treat_Eigenvector	248	0.32	0.47	0.00	0.00	1.00
Treat_PCA	250	0.26	0.44	0.00	0.00	1.00
Post	696	0.50	0.50	0.00	0.50	1.00
Operating CF	12935	0.06	0.18	0.02	0.08	0.14
NA Accruals	12935	-0.13	0.15	-0.18	-0.11	-0.05
Size	12935	6.01	1.98	4.58	5.98	7.43
BTM	12935	0.56	0.89	0.26	0.46	0.76
ROA	12935	-0.01	0.23	-0.02	0.04	0.08
Leverage	12935	0.18	0.21	0.00	0.13	0.28
ROAstd	12935	0.09	0.19	0.02	0.04	0.09
CFstd	12935	0.07	0.09	0.03	0.05	0.08
Cycle	12935	0.08	0.65	0.04	0.08	0.13
Sales Growth	12935	0.19	1.37	-0.03	0.07	0.19
Big4	12935	0.73	0.44	0.00	1.00	1.00
Duality	12935	0.42	0.49	0.00	0.00	1.00
Tenure	12935	5.11	5.61	1.00	3.00	7.00

Table 2. CEO Social Capital and the use of discretionary accruals. This table presents the results of OLS regressions of the effect CEO social capital, on the level of discretionary accruals used in a firm. The dependent variable (*Dis Accruals*) is defined as the error term estimated by the cross-sectional Modified Jones (1991) Model. CEO social capital is measured by *Degree* in column (1), *Eigenvector* in column (2), and *PCA* in column (3). All regressions include control variables as *Real EM* (real earnings management estimated by Roychowdhury (2006) Model), *Size* (natural log of total asset), *BTM* (Book-to-market equity ratio), *ROA* (return on asset), *Leverage* (total debt scaled by total asset), *ROAstd* (rolling standard deviation of return on assets for the past three years including the current year), *CFstd* (rolling standard deviation of operating cash flow on assets for past three years including current year), *Cycle* (days of Operating cycle divided by one thousand), *Sales Growth* (sales growth in year t), *Big4* (indicator variable that equals one if audited by big four auditors), *Duality* (indicator variable that equals one if a CEO also serves as the board chair in year t), and *Tenure* (numbers of years a CEO is in the position). All regressions include time & industry fixed effects, and the errors are robust to firm heteroscedasticity. T-value is reported in parentheses. Statistical significance of the coefficients is designated as ***, **, and * at 1%, 5%, and 10% levels, respectively.

Sample	Entire Sample		
Dependent Variable	Dis Accruals		
	(1)	(2)	(3)
Degree	0.000423***		
	(2.63)		
Eigenvector		0.000217*	
		(1.93)	
PCA			0.00533**
			(2.37)
Real EM	0.121***	0.121***	0.121***
	(12.77)	(12.72)	(12.73)
Size	-0.0194***	-0.0182***	-0.0192***
	(-6.85)	(-6.89)	(-6.68)
BTM	-0.00263	-0.00283	-0.00267
	(-1.52)	(-1.63)	(-1.55)
ROA	0.563***	0.562***	0.563***
	(11.14)	(11.12)	(11.11)
Leverage	0.0752***	0.0741***	0.0747***
	(5.27)	(5.26)	(5.26)
ROAstd	-0.0563*	-0.0563*	-0.0563*
	(-1.74)	(-1.74)	(-1.74)
CFstd	0.230***	0.230***	0.230***
	(3.75)	(3.75)	(3.75)
Cycle	-0.00217	-0.00211	-0.00214
	(-0.94)	(-0.93)	(-0.93)
Sales Growth	0.00422	0.00420	0.00422
	(1.08)	(1.07)	(1.07)
Big4	0.00255	0.00238	0.00218
	(0.57)	(0.54)	(0.49)
Duality	0.000851	0.00125	0.000958
	(0.26)	(0.39)	(0.30)
Tenure	-0.000445	-0.000488*	-0.000455
	(-1.53)	(-1.65)	(-1.57)
_cons	0.0259	0.0302	0.0502*
	(1.06)	(1.22)	(1.81)
N	12935	12935	12935
adj. R-sq	0.340	0.340	0.340
Industry Fixed Effect included	Yes	Yes	Yes
Year Fixed Effect Included	Yes	Yes	Yes

t statistics in parentheses

* p<.10,**p<.05,***<0.1

Table 3. CEO Social Capital and Real Earnings Management. This table presents the results of OLS regressions of the effect of CEO social capital, on the level of real earnings management used in a firm. The dependent variable (*Real EM*) is defined by the sum of abnormal prediction cost, abnormal cash flow and abnormal discretionary expense, suggested by Roychowdhury (2006) Model. CEO social capital is measured by *Degree* in column (1), *Eigenvector* in column (2), and *PCA* in column (3). All regressions include control variables as *Dis Accruals* (the level of discretionary accruals used in a firm estimated by the cross-sectional Modified Jones (1991) Model), *Size* (natural log of total asset), *BTM* (Book-to-market equity ratio), *ROA* (return on asset), *Leverage* (total debt scaled by total asset), *ROAstd* (rolling standard deviation of return on assets for the past three years including the current year), *CFstd* (rolling standard deviation of operating cash flow on assets for past three years including current year), *Cycle* (days of Operating cycle divided by one thousand), *Sales Growth* (sales growth in year t), *Big4* (indicator variable that equals one if audited by big four auditors), *Duality* (indicator variable that equals one if a CEO also serves as the board chair in year t), and *Tenure* (numbers of years a CEO is in the position). All regressions include time & industry fixed effects, and the errors are robust to firm heteroscedasticity. T-value is reported in parentheses. Statistical significance of the coefficients is designated as ***, **, and * at 1%, 5%, and 10% levels, respectively.

Sample	Entire Sample		
Dependent Variable	Real EM		
	(1)	(2)	(3)
Degree	-0.000905***		
	(-4.06)		
Eigenvector		-0.000728***	
		(-4.82)	
PCA			-0.0144***
			(-4.94)
Dis Accruals	0.398***	0.397***	0.398***
	(12.18)	(12.18)	(12.19)
Size	0.0184***	0.0175***	0.0192***
	(7.08)	(7.32)	(7.47)
BTM	0.0407***	0.0408***	0.0405***
	(9.38)	(9.40)	(9.36)
ROA	-0.763***	-0.763***	-0.765***
	(-22.68)	(-22.72)	(-22.68)
Leverage	0.0733***	0.0756***	0.0740***
	(4.23)	(4.37)	(4.27)
ROAstd	-0.115***	-0.115***	-0.115***
	(-2.83)	(-2.83)	(-2.82)
CFstd	0.120*	0.120*	0.120*
	(1.66)	(1.67)	(1.67)
Cycle	-0.00196	-0.00210	-0.00202
	(-0.72)	(-0.79)	(-0.75)
Sales Growth	0.00229	0.00229	0.00226
	(0.43)	(0.43)	(0.42)
Big4	-0.0584***	-0.0566***	-0.0568***
	(-7.58)	(-7.34)	(-7.37)
Duality	0.00368	0.00323	0.00381
	(0.64)	(0.57)	(0.67)
Tenure	-0.00186***	-0.00182***	-0.00188***
	(-3.65)	(-3.56)	(-3.69)
_cons	-0.0140	-0.0182	-0.0750**
	(-0.38)	(-0.49)	(-1.99)
N	12935	12935	12935
adj. R-sq	0.245	0.245	0.245
Industry Fixed Effect included	Yes	Yes	Yes
Year Fixed Effect Included	Yes	Yes	Yes

t statistics in parentheses

* p<.10,**p<.05,***<0.1

Table 4. Income increasing (positive) vs. Income decreasing (negative) discretionary accruals. This table presents the results of OLS regressions of the effect of CEO social capital, on the level of income increasing (positive) and income decreasing (negative) discretionary accruals used in a firm. The dependent variable (Dis Accruals) is defined as the error term estimated by the cross-sectional Modified Jones (1991) Model. CEO social capital is measured by *Degree* in columns (1) and (2), *Eigenvector* in columns (3) and (4), and *PCA* in columns (5) and (6). All regressions include control variables as *Real EM* (real earnings management estimated by Roychowdhury (2006) Model), *Size* (natural log of total asset), *BTM* (Book-to-market equity ratio), *ROA* (return on asset), *Leverage* (total debt scaled by total asset), *ROAstd* (rolling standard deviation of return on assets for the past three years including the current year), *CFstd* (rolling standard deviation of operating cash flow on assets for past three years including current year), *Cycle* (days of Operating cycle divided by one thousand), *Sales Growth* (sales growth in year t), *Big4* (indicator variable that equals one if audited by big four auditors), *Duality* (indicator variable that equals one if a CEO also serves as the board chair in year t), and *Tenure* (numbers of years a CEO is in the position). All regressions include time & industry fixed effects, and the errors are robust to firm heteroscedasticity. T-value is reported in parentheses. Statistical significance of the coefficients is designated as ***, **, and * at 1%, 5%, and 10% levels, respectively.

Sample	Dis Accruals>0	Dis Accruals<0	Dis Accruals>0	Dis Accruals<0	Dis Accruals>0	Dis Accruals<0
Dependent Variable	Dis Accruals					
	(1)	(2)	(3)	(4)	(5)	(6)
Degree	0.0000149	0.000877***				
	(0.13)	(2.88)				
Eigenvector			0.0000391	0.000459**		
			(0.49)	(2.09)		
PCA					0.000545	0.0113**
					(0.36)	(2.53)
Real EM	0.0539***	0.109***	0.0540***	0.110***	0.0540***	0.110***
	(7.68)	(5.74)	(7.68)	(5.72)	(7.67)	(5.74)
Size	-0.0118***	-0.0208***	-0.0120***	-0.0185***	-0.0120***	-0.0204***
	(-9.12)	(-3.26)	(-9.90)	(-3.04)	(-9.19)	(-3.13)
BTM	-0.00603***	0.000838	-0.00602***	0.000735	-0.00601***	0.000945
	(-3.09)	(0.31)	(-3.08)	(0.28)	(-3.07)	(0.36)
ROA	0.212***	0.526***	0.212***	0.524***	0.212***	0.526***
	(7.81)	(6.64)	(7.82)	(6.62)	(7.79)	(6.62)
Leverage	0.0373***	0.101***	0.0373***	0.0978***	0.0374***	0.0993***
	(3.81)	(4.08)	(3.82)	(4.07)	(3.81)	(4.07)
ROAstd	0.0478**	-0.0977	0.0478**	-0.0993	0.0478**	-0.0987
	(2.17)	(-1.61)	(2.17)	(-1.62)	(2.17)	(-1.62)
CFstd	0.236***	0.0661	0.236***	0.0692	0.236***	0.0673
	(5.19)	(0.65)	(5.19)	(0.68)	(5.19)	(0.66)
Cycle	0.000828	0.00941	0.000830	0.00792	0.000826	0.00871
	(1.01)	(0.32)	(1.01)	(0.27)	(1.00)	(0.30)
Sales Growth	0.00804***	-0.00602	0.00804***	-0.00612	0.00804***	-0.00602
	(3.04)	(-0.74)	(3.04)	(-0.75)	(3.04)	(-0.74)
Big4	-0.00689*	0.0170**	-0.00704*	0.0167**	-0.00698*	0.0162**
	(-1.82)	(2.27)	(-1.86)	(2.24)	(-1.84)	(2.17)
Duality	0.00387	-0.00738	0.00383	-0.00678	0.00383	-0.00722
	(1.30)	(-1.38)	(1.29)	(-1.26)	(1.29)	(-1.34)
Tenure	-0.000725***	-0.000174	-0.000720***	-0.000326	-0.000720***	-0.000221
	(-2.98)	(-0.36)	(-2.97)	(-0.65)	(-2.96)	(-0.46)
_cons	0.117***	-0.0350	0.117***	-0.0278	0.119***	0.0152
	(5.41)	(-0.82)	(5.41)	(-0.65)	(5.35)	(0.29)
N	8833	4102	8833	4102	8833	4102
adj. R-sq	0.219	0.460	0.219	0.459	0.219	0.460
Industry Fixed Effect included	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect Included	Yes	Yes	Yes	Yes	Yes	Yes

t statistics in parentheses

* p<.10,**p<.05,***<0.1

Table 5. Instrumented CEO Social Capital and the use of discretionary accruals. This table presents the second-stage results of the effect of instrumented CEO social capital, on the level of discretionary accruals used in a firm. The dependent variable (*Dis Accruals*) is defined as the error term estimated by the cross-sectional Modified Jones (1991) Model. CEO social capital is measured by *Instrumented Degree* in columns (1) - (3), *Instrumented Eigenvector* in columns (4) - (6), and *PCA* in columns (7) - (9). All regressions include control variables as *Real EM* (real earnings management estimated by Roychowdhury (2006) Model), *Size* (natural log of total asset), *BTM* (Book-to-market equity ratio), *ROAstd* (rolling standard deviation of return on assets for the past three years including the current year), *CFstd* (rolling standard deviation of operating cash flow on assets for past three years including current year), *Cycle* (days of Operating cycle divided by one thousand), *Sales Growth* (sales growth in year t), *Big4* (indicator variable that equals one if audited by big four auditors), *Duality* (indicator variable that equals one if a CEO also serves as the board chair in year t), and *Tenure* (numbers of years a CEO is in the position). All regressions include time & industry fixed effects, and the errors are robust to firm heteroscedasticity. T-value is reported in parentheses. Statistical significance of the coefficients is designated as ***, **, and * at 1%, 5%, and 10% levels, respectively.

Sample	Entire Sample	Dis Accruals > 0	Dis Accruals < 0	Entire Sample	Dis Accruals > 0	Dis Accruals < 0	Entire Sample	Dis Accruals > 0	Dis Accruals < 0
Dependent Variable					Dis Accruals				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Instrumented Degree	0.000680**	-0.000324	0.00163***						
	(2.22)	(-1.17)	(3.42)						
Instrumented Eigenvector				0.000151	-0.000121	0.000443*			
				(0.87)	(-0.69)	(1.86)			
PCA							0.00620	-0.00354	0.0161***
							(1.63)	(-0.99)	(2.82)
Real EM	0.122***	0.0532***	0.109***	0.121***	0.0535***	0.110***	0.122***	0.0533***	0.110***
	(12.77)	(7.47)	(5.81)	(12.69)	(7.52)	(5.78)	(12.70)	(7.44)	(5.81)
Size	-0.0209***	-0.00984***	-0.0249***	-0.0179***	-0.0110***	-0.0184***	-0.0195***	-0.0102***	-0.0222***
	(-6.24)	(-5.01)	(-3.69)	(-6.62)	(-7.00)	(-3.23)	(-6.17)	(-5.35)	(-3.48)
BTM	-0.00237	-0.00645***	0.00142	-0.00290*	-0.00616***	0.000715	-0.00260	-0.00633***	0.00128
	(-1.37)	(-3.25)	(0.53)	(-1.67)	(-3.14)	(0.27)	(-1.50)	(-3.19)	(0.49)
ROA	0.566***	0.207***	0.531***	0.561***	0.209***	0.524***	0.564***	0.208***	0.528***
	(11.14)	(7.41)	(6.78)	(11.13)	(7.52)	(6.71)	(11.10)	(7.35)	(6.75)
Leverage	0.0760***	0.0362***	0.103***	0.0741***	0.0371***	0.0978***	0.0748***	0.0367***	0.1000***
	(5.30)	(3.69)	(4.20)	(5.27)	(3.81)	(4.11)	(5.28)	(3.74)	(4.15)
ROAstd	-0.0564*	0.0486**	-0.0972	-0.0562*	0.0480**	-0.0992	-0.0563*	0.0484**	-0.0989*
	(-1.76)	(2.22)	(-1.64)	(-1.74)	(2.19)	(-1.64)	(-1.75)	(2.20)	(-1.65)
CFstd	0.229***	0.236***	0.0628	0.230***	0.236***	0.0692	0.229***	0.236***	0.0662
	(3.76)	(5.21)	(0.63)	(3.76)	(5.22)	(0.68)	(3.76)	(5.22)	(0.66)
Cycle	-0.00220	0.000891	0.0107	-0.00212	0.000831	0.00792	-0.00214	0.000858	0.00907
	(-0.94)	(1.10)	(0.37)	(-0.93)	(1.02)	(0.27)	(-0.93)	(1.06)	(0.31)
Sales Growth	0.00425	0.00803***	-0.00578	0.00419	0.00804***	-0.00613	0.00423	0.00803***	-0.00590
	(1.09)	(3.06)	(-0.72)	(1.07)	(3.06)	(-0.76)	(1.08)	(3.06)	(-0.73)
Big4	0.00200	-0.00626	0.0150**	0.00271	-0.00630	0.0168**	0.00197	-0.00609	0.0149**
	(0.45)	(-1.64)	(2.03)	(0.60)	(-1.64)	(2.23)	(0.44)	(-1.58)	(1.99)
Duality	0.000401	0.00454	-0.00829	0.00136	0.00413	-0.00676	0.000855	0.00439	-0.00761
	(0.12)	(1.49)	(-1.53)	(0.42)	(1.38)	(-1.27)	(0.26)	(1.45)	(-1.42)
Tenure	-0.000394	-0.000778***	0.0000358	-0.000500*	-0.000749***	-0.000329	-0.000443	-0.000769***	-0.000136
	(-1.36)	(-3.14)	(0.07)	(-1.69)	(-3.08)	(-0.65)	(-1.52)	(-3.13)	(-0.28)
_cons	0.0210	0.124***	-0.0488	0.0313	0.120***	-0.0275	0.0528*	0.107***	0.0297
	(0.85)	(5.48)	(-1.13)	(1.26)	(5.46)	(-0.64)	(1.80)	(4.41)	(0.57)
N	12935	8833	4102	12935	8833	4102	12935	8833	4102
adj. R-sq	0.340	0.218	0.458	0.340	0.219	0.459	0.340	0.219	0.460
Industry Fixed Effect included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

t statistics in parentheses

* p<.10,**p<.05,***<0.1

Table 6. Difference-in-difference analysis: Evidence from CEO turnover. This table presents the regression results of difference-in-difference analysis surrounding CEO turnover. We compare the level of discretionary accruals used in firms that switch from CEOs with lower social capital to new CEOs with higher social capital (the treatment group) and firms that switch from CEOs with lower social capital to new CEOs with lower social capital (the control group). The dependent variable (*Dis Accruals*) is defined as the error term estimated by the cross-sectional Modified Jones (1991) Model. The treatment and control groups are formed based on CEO social capital value measured by *Degree* in columns (1) - (3), *Eigenvector* in columns (4) - (6), and *PCA* in columns (7) - (9). Post is an indicator variable that represents observations following CEO turnover. All regressions include control variables as *Real EM* (real earnings management estimated by Roychowdhury (2006) Model), *Size* (natural log of total asset), *BTM* (Book-to-market equity ratio), *ROA* (return on asset), *Leverage* (total debt scaled by total asset), *ROAstd* (rolling standard deviation of return on assets for the past three years including the current year), *CFstd* (rolling standard deviation of operating cash flow on assets for past three years including current year), *Cycle* (days of Operating cycle divided by one thousand), *Sales Growth* (sales growth in year t), *Big4* (indicator variable that equals one if audited by big four auditors), *Duality* (indicator variable that equals one if a CEO also serves as the board chair in year t), and *Tenure* (numbers of years a CEO is in the position). All regressions include time & industry fixed effects, and the errors are robust to firm heteroscedasticity. T-value is reported in parentheses. Statistical significance of the coefficients is designated as ***, **, and * at 1%, 5%, and 10% levels, respectively.

Sample	Reduced Sample for CEO turnover	Dis Accruals > 0	Dis Accruals < 0	Reduced Sample for CEO turnover	Dis Accruals > 0	Dis Accruals < 0	Reduced Sample for CEO turnover	Dis Accruals > 0	Dis Accruals < 0
Dependent Variable					Dis_Accruals				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Post	0.0207	0.0534	-0.104**	-0.0292	-0.0243	-0.00966	-0.0166	0.0151	-0.110**
	(0.45)	(0.91)	(-3.03)	(-1.01)	(-0.93)	(-0.22)	(-0.56)	(0.47)	(-2.40)
Treat_Degree	0.0181	0.132	-0.287*						
	(0.27)	(1.54)	(-2.65)						
Post × Treat_Degree	-0.0222	-0.0749	0.182**						
	(-0.35)	(-1.07)	(3.93)						
Treat_Eigenvector				0.0158	-0.0240	-0.0156			
				(0.48)	(-0.74)	(-0.27)			
Post × Treat_Eigenvector				0.0349	-0.0233	0.0476			
				(0.89)	(-0.56)	(0.58)			
Treat_PCA							-0.0249	-0.0403	-0.0897
							(-0.53)	(-0.64)	(-1.52)
Post × Treat_PCA							0.0439	-0.0340	0.150*
							(0.84)	(-0.53)	(1.93)
Real EM	0.0701	0.0920	0.0569	0.160***	0.0368	0.107	0.130**	0.0618	0.0545
	(1.26)	(1.60)	(0.61)	(3.33)	(0.61)	(1.67)	(2.39)	(0.89)	(1.22)
Size	-0.0377***	-0.0679***	-0.0180	-0.0394***	-0.0464***	-0.00654	-0.0267**	-0.0464***	0.00757
	(-2.99)	(-4.85)	(-1.36)	(-4.31)	(-4.29)	(-0.44)	(-2.34)	(-3.64)	(0.39)
BTM	0.0358	-0.0282	0.0527	0.00770	0.00320	0.0321	-0.00317	-0.0625	-0.0275
	(0.75)	(-0.67)	(0.55)	(0.37)	(0.11)	(0.68)	(-0.11)	(-1.30)	(-0.63)
ROA	0.449***	0.434***	0.710***	0.601***	0.404**	0.552***	0.526***	0.380**	0.552***
	(5.33)	(2.96)	(5.93)	(8.88)	(2.39)	(3.82)	(6.76)	(2.48)	(3.84)
Leverage	-0.0408	0.0484	0.161	0.0494	0.202**	0.0395	-0.0902	-0.112	0.0790
	(-0.45)	(0.27)	(1.29)	(0.57)	(2.27)	(0.31)	(-1.28)	(-0.92)	(0.71)
ROAstd	0.00719	-0.0788	0.724*	-0.0186	0.0446	0.108	-0.0435	-0.0737	0.0670
	(0.06)	(-0.72)	(2.24)	(-0.21)	(0.65)	(0.36)	(-0.44)	(-0.74)	(0.24)
CFstd	-0.0773	0.000217	-0.349	-0.105	-0.159*	-0.267	0.0379	0.0781	-0.494
	(-0.45)	(0.00)	(-0.59)	(-0.69)	(-1.77)	(-0.61)	(0.27)	(0.60)	(-1.30)
Cycle	0.0252	0.289	0.111	0.0192	-0.120	-0.0221	-0.00802	-0.141	0.246
	(0.13)	(1.10)	(0.24)	(0.13)	(-0.67)	(-0.09)	(-0.04)	(-0.53)	(1.08)
Sales Growth	0.0689	0.0815	0.0296	0.0278	-0.0222	0.0200	0.0771*	0.0679	-0.00145
	(1.41)	(1.37)	(0.38)	(0.74)	(-0.61)	(0.50)	(1.69)	(1.46)	(-0.03)
Big4	0.0842*	0.0797*	0.0738*	-0.000949	-0.00513	-0.0321	0.0258	0.0333	-0.0217
	(1.90)	(1.78)	(2.13)	(-0.04)	(-0.20)	(-0.64)	(0.83)	(0.99)	(-0.34)
Duality	0.0666	-0.0411	-0.124	0.00313	0.0222	-0.0557	0.0107	0.0353	-0.0396
	(1.62)	(-0.77)	(-1.36)	(0.13)	(1.09)	(-1.58)	(0.34)	(0.87)	(-0.77)
Tenure	-0.00329	-0.00687	-0.0144**	-0.00291	-0.00193	-0.00184	-0.00620*	-0.00211	-0.00597
	(-0.57)	(-0.60)	(-4.46)	(-1.23)	(-0.44)	(-0.67)	(-1.77)	(-0.23)	(-1.59)
_cons	0.311	0.378*	0.422**	0.244**	0.579***	0.0273	0.272**	0.632***	0.0202
	(1.59)	(1.90)	(2.78)	(2.29)	(5.54)	(0.25)	(2.14)	(4.91)	(0.17)
N	156	103	53	248	160	88	200	133	67
adj. R-sq	0.465	0.346	0.979	0.440	0.373	0.684	0.467	0.302	0.866
Industry Fixed Effect included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

t statistics in parentheses

* p<.10,**p<.05,***<0.1

Table 7. CEO Social Capital and the use of discretionary accruals, in the reduced samples predicted by propensity score (nearest-neighbor) matching method. This table presents the results of OLS regressions of the effect of CEO social capital, on the level of discretionary accruals used in a firm in the reduced samples predicted by propensity score (nearest-neighbor) matching method. The dependent variable (*Dis Accruals*) is defined as the error term estimated by the cross-sectional Modified Jones (1991) Model. CEO social capital is measured by *Degree* in columns (1) - (3), *Eigenvector* in columns (4) - (6), and *PCA* in columns (7) - (9). All regressions include control variables as *Real EM* (real earnings management estimated by Roychowdhury (2006) Model), *Size* (natural log of total asset), *BTM* (Book-to-market equity ratio), *ROA* (return on asset), *Leverage* (total debt scaled by total asset), *ROAstd* (rolling standard deviation of return on assets for the past three years including the current year), *CFstd* (rolling standard deviation of operating cash flow on assets for past three years including current year), *Cycle* (days of Operating cycle divided by one thousand), *Sales Growth* (sales growth in year t), *Big4* (indicator variable that equals one if audited by big four auditors), *Duality* (indicator variable that equals one if a CEO also serves as the board chair in year t), and *Tenure* (numbers of years a CEO is in the position). All regressions include time & industry fixed effects, and the errors are robust to firm heteroscedasticity. T-value is reported in parentheses. Statistical significance of the coefficients is designated as ***, **, and * at 1%, 5%, and 10% levels, respectively.

Sample	Entire Reduced Sample	Dis Accruals > 0	Dis Accruals < 0	Entire Sample	Dis Accruals > 0	Dis Accruals < 0	Entire Sample	Dis Accruals > 0	Dis Accruals < 0
Dependent Variable					Dis Accruals				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Degree	0.000368**	-0.0000520	0.000739**						
	(2.22)	(-0.41)	(2.44)						
Eigenvector				0.000223*	0.0000143	0.000417*			
				(1.87)	(0.16)	(1.79)			
PCA							0.00592**	0.0000541	0.0106**
							(2.52)	(0.03)	(2.31)
Real EM	0.122***	0.0518***	0.111***	0.119***	0.0505***	0.114***	0.120***	0.0502***	0.116***
	(11.75)	(6.61)	(5.60)	(11.40)	(6.61)	(5.39)	(11.42)	(6.52)	(5.64)
Size	-0.0182***	-0.0101***	-0.0210***	-0.0174***	-0.0109***	-0.0182***	-0.0187***	-0.0104***	-0.0206***
	(-5.76)	(-6.97)	(-3.33)	(-6.08)	(-7.89)	(-2.89)	(-5.95)	(-7.18)	(-3.11)
BTM	-0.00241	-0.00734***	-0.00165	-0.00247	-0.00651***	-0.000619	-0.00238	-0.00704***	-0.00106
	(-1.25)	(-3.24)	(-0.59)	(-1.36)	(-3.06)	(-0.23)	(-1.28)	(-3.17)	(-0.39)
ROA	0.608***	0.215***	0.568***	0.577***	0.215***	0.531***	0.591***	0.213***	0.557***
	(10.14)	(6.07)	(6.76)	(10.01)	(6.27)	(6.16)	(10.19)	(6.27)	(6.66)
Leverage	0.0681***	0.0312***	0.0969***	0.0630***	0.0276***	0.0970***	0.0643***	0.0280***	0.0953***
	(4.59)	(2.89)	(3.88)	(4.41)	(2.64)	(3.86)	(4.43)	(2.68)	(3.79)
ROAstd	-0.0674*	0.0561**	-0.172*	-0.0836**	0.0538*	-0.150**	-0.0793**	0.0579**	-0.154**
	(-1.75)	(2.23)	(-1.95)	(-2.21)	(1.88)	(-2.06)	(-2.09)	(2.15)	(-2.01)
CFstd	0.259***	0.245***	0.117	0.239***	0.268***	0.131	0.250***	0.251***	0.137
	(3.84)	(4.54)	(0.99)	(3.48)	(4.97)	(1.15)	(3.65)	(4.64)	(1.20)
Cycle	-0.00385**	-0.00124	-0.00386	-0.00324	0.000286	0.0248	-0.00135	0.000257	0.0210
	(-2.03)	(-0.97)	(-0.13)	(-1.55)	(0.39)	(0.79)	(-0.71)	(0.22)	(0.70)
Sales Growth	0.00118	0.00565*	-0.00452	0.00193	0.00565**	-0.00574	0.00104	0.00652**	-0.00492
	(0.23)	(1.79)	(-0.49)	(0.48)	(2.47)	(-0.68)	(0.22)	(2.11)	(-0.59)
Big4	0.00246	-0.00611	0.0171**	0.000972	-0.00533	0.0169**	0.00231	-0.00612	0.0164*
	(0.49)	(-1.40)	(2.02)	(0.20)	(-1.24)	(2.01)	(0.47)	(-1.42)	(1.96)
Duality	0.00000797	0.00378	-0.00932	0.000926	0.00455	-0.00579	-0.000690	0.00339	-0.00750
	(0.00)	(1.17)	(-1.61)	(0.27)	(1.41)	(-1.01)	(-0.20)	(1.06)	(-1.30)
Tenure	-0.000477	-0.000734***	-0.000262	-0.000620*	-0.000785***	-0.000185	-0.000420	-0.000677**	0.0000104
	(-1.43)	(-2.70)	(-0.48)	(-1.90)	(-2.93)	(-0.34)	(-1.29)	(-2.54)	(0.02)
_cons	0.0178	0.110***	-0.0343	0.0293	0.112***	-0.0269	0.0497*	0.110***	0.0189
	(0.67)	(4.66)	(-0.77)	(1.14)	(4.96)	(-0.60)	(1.69)	(4.68)	(0.34)
N	10659	7230	3429	10892	7376	3516	10859	7369	3490
adj. R-sq	0.366	0.221	0.506	0.356	0.223	0.481	0.364	0.225	0.497
Industry Fixed Effect included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

t statistics in parentheses

* p<.10,**p<.05,***<0.1

Table 8. CEO Social Capital and the use of discretionary accruals: Information vs Reputation Channels (Effects). This table presents the results of OLS regressions of the information and reputation effects of CEO social capital, on the level of discretionary accruals used in a firm. The dependent variable (*Dis Accruals*) is defined as the error term estimated by the cross-sectional Modified Jones (1991) Model. CEO social capital is measured by Information Channel in columns (1) - (3), and Reputation Channel in columns (4) – (6). All regressions include control variables as *Real EM* (real earnings management estimated by Roychowdhury (2006) Model), *Size* (natural log of total asset), *BTM* (Book-to-market equity ratio), *ROA* (return on asset), *Leverage* (total debt scaled by total asset), *ROAstd* (rolling standard deviation of return on assets for the past three years including the current year), *CFstd* (rolling standard deviation of operating cash flow on assets for past three years including current year), *Cycle* (days of Operating cycle divided by one thousand), *Sales Growth* (sales growth in year t), *Big4* (indicator variable that equals one if audited by big four auditors), *Duality* (indicator variable that equals one if a CEO also serves as the board chair in year t), and *Tenure* (numbers of years a CEO is in the position). All regressions include time & industry fixed effects, and the errors are robust to firm heteroscedasticity. T-value is reported in parentheses. Statistical significance of the coefficients is designated as ***, **, and * at 1%, 5%, and 10% levels, respectively.

Sample	Entire Sample	Dis Accruals>0	Dis Accruals<0	Entire Sample	Dis Accruals>0	Dis Accruals<0
Dependent Variable	Dis Accruals					
	(1)	(2)	(3)	(4)	(5)	(6)
Information Channel	0.00444*	0.000229	0.0124***			
	(1.77)	(0.12)	(2.70)			
Reputation Channel				0.00994***	0.00405	0.0104*
				(2.62)	(1.13)	(1.66)
REM	0.121***	0.0539***	0.109***	0.122***	0.0542***	0.111***
	(12.78)	(7.67)	(5.74)	(12.78)	(7.66)	(13.27)
Size	-0.0180***	-0.0119***	-0.0184***	-0.0178***	-0.0121***	-0.0168***
	(-7.02)	(-10.08)	(-3.21)	(-7.64)	(-11.03)	(-8.48)
BTM	-0.00299*	-0.00607***	0.000511	-0.00294*	-0.00601***	0.000382
	(-1.71)	(-3.10)	(0.19)	(-1.68)	(-3.06)	(0.15)
ROA	0.562***	0.212***	0.525***	0.562***	0.213***	0.524***
	(11.15)	(7.90)	(6.65)	(11.21)	(7.89)	(43.60)
Leverage	0.0735***	0.0368***	0.0965***	0.0751***	0.0373***	0.0990***
	(5.24)	(3.75)	(4.05)	(5.27)	(3.76)	(7.36)
ROAstd	-0.0564*	0.0478**	-0.0982	-0.0562*	0.0477**	-0.0980***
	(-1.74)	(2.17)	(-1.61)	(-1.73)	(2.16)	(-5.11)
CFstd	0.234***	0.236***	0.0728	0.233***	0.236***	0.0710*
	(3.80)	(5.18)	(0.71)	(3.78)	(5.18)	(1.85)
Cycle	-0.00218	0.000815	0.00908	-0.00207	0.000848	0.00754
	(-0.95)	(0.99)	(0.31)	(-0.91)	(1.02)	(0.48)
Sales Growth	0.00418	0.00803***	-0.00617	0.00413	0.00802***	-0.00634***
	(1.06)	(3.03)	(-0.76)	(1.05)	(3.02)	(-3.33)
Big4	0.00287	-0.00687*	0.0180**	0.00328	-0.00687*	0.0191***
	(0.64)	(-1.81)	(2.38)	(0.73)	(-1.81)	(2.71)
Duality	0.00119	0.00370	-0.00646	0.000152	0.00327	-0.00771
	(0.37)	(1.25)	(-1.20)	(0.05)	(1.08)	(-1.35)
Tenure	-0.000443	-0.000735***	-0.000124	-0.000631**	-0.000775***	-0.000564
	(-1.54)	(-3.00)	(-0.26)	(-2.00)	(-3.14)	(-1.05)
_cons	0.0386	0.118***	-0.00950	0.0381	0.119***	-0.0142
	(1.48)	(5.40)	(-0.21)	(1.50)	(5.50)	(-0.39)
N	12847	8762	4085	12847	8762	4085
adj. R-sq	0.341	0.220	0.460	0.341	0.220	0.459
Industry Fixed Effect included	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect Included	Yes	Yes	Yes	Yes	Yes	Yes

t statistics in parentheses

* p<.10,**p<.05,***<0.1

Table 9. Future Profitability, the use of discretionary accruals, and CEO Social Capital. This table presents the results of OLS regressions of CEO social capital and the use of discretionary accruals on future profitability on a firm. The dependent variable is one-year ahead return on asset (*Future ROA*). The level of discretionary accruals used in a firm (*Dis Accruals*) is defined as the error term estimated by the cross-sectional Modified Jones (1991) Model. CEO Social Capital is measured by *Degree* in column (1) – (3), *Eigenvector* in column (4) – (6), and *PCA* in columns (7) - (9). All regressions include CEO social capital, cash flow from operation (*Operating CF*), the level of non-discretionary accruals (*NA Accruals*), and the level of discretionary accruals (*Dis Accruals*), as well as the interaction terms between CEO social capital and the three variables, to capture the interaction effect of CEO social capital on the variables. Additionally, all regressions include control variables as *Size* (natural log of total asset), *ROAstd* (rolling standard deviation of return on assets for the past three years including the current year), *BTM* (Book-to-market equity ratio, *Sales Growth* (sales growth in year t), and *Big4* (indicator variable that equals to one if audited by big four auditor). All regressions include time & industry fixed effects, and the errors are robust to firm heteroscedasticity. T-value is reported in parentheses. Statistical significance of the coefficients is designated as ***, **, and * at 1%, 5%, and 10% levels, respectively.

Sample	Entire Reduced Sample	Dis Accruals > 0	Dis Accruals < 0	Entire Reduced Sample	Dis Accruals > 0	Dis Accruals < 0	Entire Reduced Sample	Dis Accruals > 0	Dis Accruals < 0
Dependent Variable					Future ROA				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Operating CF	0.825***	0.854***	0.892***	0.841***	0.853***	0.948***	0.839***	0.859***	0.930***
	(18.55)	(15.13)	(12.44)	(15.75)	(14.68)	(9.00)	(16.10)	(14.90)	(9.33)
NA Accruals	0.125*	0.440***	0.129**	0.101	0.442***	0.0722	0.104	0.453***	0.0671
	(1.73)	(9.62)	(2.27)	(1.43)	(9.10)	(0.91)	(1.46)	(9.44)	(0.85)
Dis Accruals	0.157***	0.383***	-0.0230	0.156***	0.395***	0.0175	0.161***	0.398***	0.0203
	(2.67)	(8.43)	(-0.44)	(2.79)	(8.10)	(0.35)	(2.84)	(8.31)	(0.40)
High Degree	0.00793	-0.00248	0.0274						
	(0.66)	(-0.41)	(0.91)						
Operating CF × High Degree	-0.0347	-0.141**	0.0302						
	(-0.39)	(-1.97)	(0.15)						
NA Accruals × High Degree	0.255**	-0.0657	0.140						
	(2.23)	(-0.96)	(1.06)						
Dis Accruals × High Degree	0.262**	-0.0334	0.414***						
	(2.37)	(-0.45)	(2.70)						
High Eigenvector				0.0212**	0.000716	0.0498**			
				(2.37)	(0.12)	(2.14)			
Operating CF × High Eigenvector				-0.0576	-0.123*	-0.0940			
				(-0.79)	(-1.67)	(-0.69)			
NA Accruals × High Eigenvector				0.356***	-0.0691	0.387***			
				(3.22)	(-1.04)	(2.90)			
Dis Accruals × High Eigenvector				0.294***	-0.0618	0.413**			
				(2.83)	(-0.86)	(2.51)			
High PCA							0.0198**	-0.00283	0.0459**
							(2.24)	(-0.46)	(2.02)
Operating CF × High PCA							-0.0574	-0.145**	-0.0518
							(-0.79)	(-2.00)	(-0.39)
NA Accruals × High PCA							0.352***	-0.103	0.418***
							(3.06)	(-1.56)	(3.02)
Dis Accruals × High PCA							0.289***	-0.0768	0.404**
							(2.66)	(-1.07)	(2.45)
Size	0.0115***	0.00681***	0.0208***	0.0109***	0.00640***	0.0194***	0.0112***	0.00672***	0.0194***
	(8.12)	(5.51)	(6.09)	(8.29)	(5.54)	(6.40)	(8.02)	(5.61)	(6.21)
ROAstd	-0.0171	-0.00716	-0.0460	-0.0137	-0.00862	-0.0224	-0.0158	-0.00760	-0.0291
	(-0.65)	(-0.30)	(-0.92)	(-0.53)	(-0.36)	(-0.45)	(-0.61)	(-0.32)	(-0.60)
BTM	-0.00349	-0.00756**	0.00138	-0.00370	-0.00737**	0.000786	-0.00343	-0.00747**	0.00149
	(-1.31)	(-2.23)	(0.35)	(-1.41)	(-2.15)	(0.20)	(-1.29)	(-2.21)	(0.37)
Sales Growth	-0.00410	-0.00419*	-0.00654	-0.00438	-0.00418*	-0.00649	-0.00432	-0.00422*	-0.00682
	(-1.26)	(-1.92)	(-0.95)	(-1.38)	(-1.92)	(-1.00)	(-1.36)	(-1.95)	(-1.04)
big4	-0.00407	-0.00542	0.00425	-0.00350	-0.00467	0.00355	-0.00295	-0.00476	0.00628
	(-1.03)	(-1.35)	(0.50)	(-0.90)	(-1.15)	(0.40)	(-0.75)	(-1.18)	(0.71)
_cons	-0.0523***	-0.0184	-0.138***	-0.0554***	-0.0167	-0.147***	-0.0575***	-0.0181	-0.147***
	(-3.80)	(-1.29)	(-4.69)	(-3.64)	(-1.18)	(-4.41)	(-3.72)	(-1.26)	(-4.37)
N	12935	8833	4102	12935	8833	4102	12935	8833	4102
adj. R-sq	0.516	0.538	0.532	0.519	0.537	0.533	0.519	0.539	0.533
Industry Fixed Effect included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

t statistics in parentheses

* p<.10,**p<.05,***<0.1

Table 10. Probability of Future Dividend Increase, Accruals-based Earnings Management (Modified Jones (1991) Model), and CEO Social Capital. This table presents the results of logic regressions of CEO social capital and the use of discretionary accruals on the probability of future dividend increase on a firm. The dependent variable is the probability of dividend increase one-year ahead (*Future DV Increase*). The level of discretionary accruals used in a firm (*Dis Accruals*) is defined as the error term estimated by the cross-sectional Modified Jones (1991) Model. CEO Social Capital is measured by *Degree* in column (1) – (3), *Eigenvector* in column (4) – (6), and *PCA* in columns (7) - (9). All regressions include CEO social capital, cash flow from operation (*Operating CF*), the level of non-discretionary accruals (*NA Accruals*), and the level of discretionary accruals (*Dis Accruals*), as well as the interaction terms between CEO social capital and the three variables, to capture the interaction effect of CEO social capital on the variables. Additionally, all regressions include control variables as *Size* (natural log of total asset), *ROAstd* (rolling standard deviation of return on assets for the past three years including the current year), *BTM* (Book-to-market equity ratio, *Sales Growth* (sales growth in year t), and *Big4* (indicator variable that equals to one if audited by big four auditor). All regressions include time & industry fixed effects, and the errors are robust to firm heteroscedasticity. T-value is reported in parentheses. Statistical significance of the coefficients is designated as ***, **, and * at 1%, 5%, and 10% levels, respectively.

Sample	Entire Reduced Sample	Dis Accruals > 0	Dis Accruals < 0	Entire Reduced Sample	Dis Accruals > 0	Dis Accruals < 0	Entire Reduced Sample	Dis Accruals > 0	Dis Accruals < 0
Dependent Variable					Future DV Increase				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Operating CF	8.071***	7.988***	9.675***	8.059***	8.532***	8.550***	7.998***	8.201***	8.995***
	(11.72)	(9.36)	(8.38)	(11.86)	(9.89)	(7.02)	(11.50)	(9.51)	(7.33)
NA Accruals	5.830***	5.506***	8.781***	5.354***	4.833***	8.750***	5.471***	4.979***	8.829***
	(8.64)	(6.91)	(5.36)	(7.86)	(6.03)	(5.18)	(7.91)	(6.10)	(5.24)
Dis Accruals	5.668***	4.810***	9.580***	5.543***	4.406***	10.02***	5.563***	4.522***	9.548***
	(8.93)	(6.27)	(5.22)	(8.82)	(5.90)	(5.17)	(8.77)	(6.00)	(5.09)
High Degree	0.179	0.177	0.361*						
	(1.49)	(1.12)	(1.79)						
Operating CF × High Degree	0.892	0.958	1.841						
	(0.75)	(0.63)	(1.15)						
NA Accruals × High Degree	1.076	-0.389	4.175**						
	(0.96)	(-0.31)	(1.97)						
Dis Accruals × High Degree	0.902	-0.848	5.079**						
	(0.85)	(-0.68)	(2.19)						
High Eigenvector				0.0990	0.209	-0.0713			
				(0.82)	(1.32)	(-0.35)			
Operating CF × High Eigenvector				0.969	-0.243	4.564***			
				(0.79)	(-0.16)	(2.73)			
NA Accruals × High Eigenvector				1.934*	0.957	4.860**			
				(1.71)	(0.77)	(2.21)			
Dis Accruals × High Eigenvector				1.110	0.0331	4.670*			
				(1.02)	(0.03)	(1.90)			
High PCA							0.183	0.225	0.305
							(1.51)	(1.41)	(1.51)
Operating CF × High PCA							1.074	0.520	3.247**
							(0.90)	(0.34)	(1.99)
NA Accruals × High PCA							1.751	0.726	4.372**
							(1.56)	(0.58)	(1.99)
Dis Accruals × High PCA							1.106	-0.140	5.336**
							(1.03)	(-0.11)	(2.22)
Size	0.371***	0.368***	0.372***	0.395***	0.395***	0.385***	0.378***	0.380***	0.359***
	(18.72)	(15.89)	(9.35)	(20.48)	(17.42)	(10.05)	(19.20)	(16.43)	(9.22)
ROAstd	-13.79***	-15.30***	-6.855***	-13.83***	-15.38***	-6.617***	-13.83***	-15.36***	-6.624***
	(-11.95)	(-12.53)	(-4.05)	(-12.00)	(-12.56)	(-3.62)	(-11.95)	(-12.56)	(-3.81)
BTM	-0.139***	-0.198***	-0.0518	-0.144***	-0.203***	-0.0607	-0.141***	-0.201***	-0.0551
	(-3.85)	(-3.11)	(-0.96)	(-3.93)	(-3.15)	(-1.06)	(-3.86)	(-3.14)	(-0.99)
Sales Growth	-0.0902	-0.0209	-0.400	-0.0905	-0.0224	-0.416	-0.0878	-0.0209	-0.386
	(-0.39)	(-0.29)	(-1.53)	(-0.39)	(-0.30)	(-1.49)	(-0.39)	(-0.29)	(-1.43)
big4	-0.211***	-0.267***	-0.121	-0.189**	-0.236***	-0.127	-0.206***	-0.255***	-0.145
	(-2.79)	(-2.97)	(-0.81)	(-2.51)	(-2.63)	(-0.86)	(-2.72)	(-2.83)	(-0.97)
_cons	-1.927***	-2.142***	-1.624***	-2.079***	-2.388***	-1.528***	-1.982***	-2.268***	-1.487***
	(-5.87)	(-4.79)	(-2.99)	(-6.22)	(-5.22)	(-2.73)	(-5.98)	(-4.98)	(-2.73)
N	12935	8827	4102	12935	8827	4102	12935	8827	4102
adj. R-sq	0.278	0.269	0.332	0.277	0.268	0.333	0.278	0.269	0.334
Industry Fixed Effect included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

t statistics in parentheses

* p<.10,**p<.05,***<0.1

Table 11. Stock Return, Accruals-based Earnings Management (Modified Jones (1991) Model), and CEO Social Capital. This table presents the results of OLS regressions of CEO social capital and the use of discretionary accruals on future stock return of a firm. The dependent variable is the cumulative stock return for the twelve-month period ending three months after the fiscal year end (*Stock Return*). The level of discretionary accruals used in a firm (*Dis Accruals*) is defined as the error term estimated by the cross-sectional Modified Jones (1991) Model. CEO Social Capital is measured by *Degree* in column (1) – (3), *Eigenvector* in column (4) – (6), and *PCA* in columns (7) - (9). All regressions include CEO social capital, cash flow from operation (*Operating CF*), the level of non-discretionary accruals (*NA Accruals*), and the level of discretionary accruals (*Dis Accruals*), as well as the interaction terms between CEO social capital and the three variables, to capture the interaction effect of CEO social capital on the variables. Additionally, all regressions include control variables as *Size* (natural log of total asset), *ROAstd* (rolling standard deviation of return on assets for the past three years including the current year), *BTM* (Book-to-market equity ratio, *Sales Growth* (sales growth in year t), and *Big4* (indicator variable that equals to one if audited by big four auditor). All regressions include time & industry fixed effects, and the errors are robust to firm heteroscedasticity. T-value is reported in parentheses. Statistical significance of the coefficients is designated as ***, **, and * at 1%, 5%, and 10% levels, respectively.

Sample	Entire Reduced Sample	Dis Accruals > 0	Dis Accruals < 0	Entire Reduced Sample	Dis Accruals > 0	Dis Accruals < 0	Entire Reduced Sample	Dis Accruals > 0	Dis Accruals < 0
Dependent Variable					Stock Return				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Operating CF	0.376***	0.407***	0.419***	0.401***	0.443***	0.456***	0.404***	0.435***	0.456***
	(5.15)	(3.82)	(4.50)	(5.34)	(3.99)	(4.98)	(5.45)	(3.96)	(5.02)
NA Accruals	-0.0601	0.123	0.103	-0.0399	0.212	0.118	-0.0578	0.153	0.0809
	(-0.86)	(0.76)	(1.12)	(-0.59)	(1.26)	(1.40)	(-0.86)	(0.93)	(0.98)
Dis Accruals	0.0889	0.354**	-0.282**	0.0795	0.441**	-0.259**	0.0992	0.380**	-0.221*
	(1.27)	(2.13)	(-2.28)	(1.16)	(2.55)	(-2.27)	(1.47)	(2.25)	(-1.91)
High Degree	-0.0167	-0.0255	0.00277						
	(-0.88)	(-0.90)	(0.09)						
Operating CF × High Degree	0.119	0.0339	0.195						
	(1.32)	(0.27)	(1.45)						
NA Accruals × High Degree	0.264**	0.0995	0.250						
	(2.18)	(0.36)	(1.56)						
Dis Accruals × High Degree	0.158	0.0360	0.368**						
	(1.56)	(0.13)	(2.39)						
High Eigenvector				0.00717	0.00804	0.0286			
				(0.38)	(0.29)	(0.97)			
Operating CF × High Eigenvector				0.0547	-0.0489	0.0813			
				(0.59)	(-0.38)	(0.59)			
NA Accruals × High Eigenvector				0.225*	-0.145	0.265			
				(1.81)	(-0.54)	(1.58)			
Dis Accruals × High Eigenvector				0.192*	-0.194	0.402**			
				(1.82)	(-0.72)	(2.56)			
High PCA							-0.000254	-0.0150	0.0269
							(-0.01)	(-0.53)	(0.86)
Operating CF × High PCA							0.0409	-0.0426	0.0883
							(0.44)	(-0.33)	(0.62)
NA Accruals × High PCA							0.261**	0.00534	0.368**
							(2.04)	(0.02)	(2.14)
Dis Accruals × High PCA							0.145	-0.0388	0.307*
							(1.34)	(-0.14)	(1.93)
Size	-0.0148***	-0.0155***	-0.00915	-0.0183***	-0.0206***	-0.0110	-0.0162***	-0.0171***	-0.0115
	(-3.64)	(-3.14)	(-1.26)	(-4.70)	(-4.29)	(-1.59)	(-4.05)	(-3.49)	(-1.60)
ROAstd	0.101**	0.0945	0.0620	0.105**	0.0926	0.0889	0.103**	0.0940	0.0800
	(2.12)	(1.44)	(0.97)	(2.21)	(1.42)	(1.40)	(2.15)	(1.43)	(1.28)
BTM	-0.0282**	-0.0328*	-0.0202	-0.0281**	-0.0326*	-0.0207	-0.0280**	-0.0326*	-0.0199
	(-2.31)	(-1.86)	(-1.21)	(-2.31)	(-1.86)	(-1.25)	(-2.30)	(-1.86)	(-1.20)
Sales Growth	0.00873	0.00887	0.00322	0.00855	0.00876	0.00297	0.00858	0.00875	0.00331
	(1.39)	(0.99)	(0.47)	(1.36)	(0.98)	(0.44)	(1.36)	(0.98)	(0.50)
big4	0.0306*	0.0136	0.0818***	0.0275*	0.0107	0.0792***	0.0297*	0.0130	0.0807***
	(1.90)	(0.71)	(2.74)	(1.71)	(0.56)	(2.67)	(1.85)	(0.68)	(2.70)
_cons	-0.119*	-0.182**	-0.143	-0.104	-0.163*	-0.140	-0.116*	-0.176**	-0.140
	(-1.75)	(-2.03)	(-1.34)	(-1.53)	(-1.82)	(-1.33)	(-1.70)	(-1.96)	(-1.32)
N	12935	8833	4102	12935	8833	4102	12935	8833	4102
adj. R-sq	0.264	0.259	0.282	0.263	0.259	0.281	0.263	0.259	0.280
Industry Fixed Effect included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

t statistics in parentheses

* p<.10,**p<.05,***<0.1