

The Impact Of Social Capital On The Propensity And Properties Of Management Earnings Forecasts


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ABSTRACT

This paper examines the relationship between the regional variation in social capital in the United States and the propensity and properties of the management earnings forecasts. Social capital refers to connections among individuals—social networks and the norms of reciprocity and trustworthiness that arise from them (Putnam 2000). Using a comprehensive sample of companies in the United States, we find that firms located in region with higher social capital are more likely to issue a management earnings forecast and are inclined to forecast more frequently. In addition, earnings forecasts made by those firms tend to be more specific. Our findings suggest that managers of firms in the high social capital regions are more likely to be concerned about their reputation of providing transparent information regarding their businesses because of the close connections among individuals and the greater propensities to honor obligations. This study contributes to the accounting literature by identifying a non-financial factor (i.e., social capital) that affects management's voluntary disclosure practices.

Keywords: Social Capital; Management Earnings Forecasts; Voluntary Disclosure

INTRODUCTION

ocial capital refers to connections among individuals—social networks and the norms of reciprocity and trustworthiness that arise from them (Putnam 2000). High social capital areas comprise individuals with higher degrees of mutual trust, more community-centric attitudes, and greater propensities to honor obligations (Jha 2012). Researchers in sociology, political science, and economics have invoked the concept of social capital in their research. For example, it has been shown that social capital affects economy development (Knack and Keefer 1997, Guiso, Sapienza and Zingales 2004), cost of capital (Uzzi 1999), efficiency of government (Putnam 1993, Knack 2002), corruption (LaPorta, LopezDeSilanes, Shleifer, and Vishny 1997), organizational dissolution rates (Pennings, Lee, and van Witteloostuijn 1998), supplier relations (Baker 1990), and entrepreneurship (Chong and Gibbons 1997).

Accounting is influenced by the environment in which it operates. Jaggi (1975) argues that, apart from the economic, legal, and political environment, the cultural environment and individual value orientations influence the generation of reliable financial information. This suggests that social capital may have an impact on the management financial reporting behavior. However, there is limited empirical studies examine the influence of social capital on management financial reporting choices. Jha (2012) is the first study that investigates the role that social capital may play in the corporate financial reporting context. Specifically, Jha (2012) finds that earnings management is lower for firms headquartered in high social capital regions. Jha's study contributes to literature by demonstrating the role of social capital on management's misbehavior over the mandatorily disclosed financial information. As we know, in addition to mandatorily disclosed financial information (e.g. annual/quarterly financial reports and other SEC filings), companies also voluntarily disclose financial information via news release, conference calls, etc. Researchers have shown that voluntary disclosures provide more information to investors than mandatory disclosures do (Beyer, Cohen, Lys, and Walther 2010). Moreover, managers have different incentives for disclosing financial information voluntarily and different degrees of flexibility over voluntary disclosure than those for

mandatory disclosure. Therefore, we need to explore further to better understand the relationship between social capital and corporate financial reporting practices. This paper aims at investigating the influence of social capital on management voluntary disclosure practices.

Prior work studying voluntary disclosure identifies both the motives and constrains for managers to provide voluntary disclosures. The key factors motivating voluntary disclosures include reduced information asymmetries, improved liquidity in firm's stocks, reduced cost of capital, mitigated litigation risk, and reputation for transparent and accurate reporting. On the other hand, proprietary cost of disclosure, reputational risks of erroneous forecasts, and avoidance of setting an unmaintainable disclosure precedent deter voluntary disclosures (see Hirst, Koonce, and Venkataraman 2008 and Beyer et al. 2010 for a review of determinants of voluntary disclosures). Overall, existing literature suggests that managers acting in the best interests of the firm should enhance transparency by issuing more frequent, specific, and accurate forecasts, while managers acting in their own self-interest could decide to disclose less than what is optimal for various reasons (Ajinkya, Bhojraj and Sengupta 2005).

Since social capital literature suggests that in high social capital regions people tend to be less opportunistic and more inclined to honor their obligations, managers of firms in the high social capital regions are more likely to act in the best interests of their firms. Furthermore, managers of firms in the high social capital regions are more likely to be concerned about their reputation of providing transparent information regarding their businesses because of the close connections among individuals. Therefore, when it comes to voluntary disclosure, it is reasonable to expect that managers of firms in high social capital regions are likely to issue more frequent, precise, and accurate forecasts to enhance transparency and to develop and maintain a reputation for transparent reporting. However, managers may face loss of reputation and credibility if they are unable to deliver on their forecasts (Cheng, Subramanyam and Zhang, 2007). This suggests that if managers of firms headquartered in the high social capital regions are more fearful of starting a practice that they might later want to abandon and are concerned more about the distortion of their reputation of meeting their forecasts, and then they may tend to provide less voluntary disclosures in quantity and depth. Therefore, the impact of social capital on voluntary disclosures becomes an empirical question.

Using annual management earnings forecasts issued from 1997 to 2008 by Thomson Reuters and the social capital data provided by the Northeast Regional Center for Rural Development of Pennsylvania State University, we find that firms located in regions with higher social capital are more likely to issue management earnings forecasts. In addition, earnings forecasts made by those firms tend to be more precise. These findings are consistent with the notion that managers of firms in the high social capital regions tend to develop a reputation for transparent reporting by providing more voluntary disclosures and more detailed voluntary disclosures.

This study contributes to the accounting literature in the following ways. It contributes to the management forecast studies by identifying a non-financial factor (i.e., social capital) that affects management's voluntary disclosure practices. Prior literature has documented many determinants of management's voluntary disclosures (e.g., to reduce information asymmetry, to signal management capability, to reduce stock volatility, to reduce litigation risk, to maintain prior forecasting behavior, and avoid proprietary costs). However, to our knowledge none of the prior studies have shown that social capital affects the management forecast behavior. Our study fills this void and extends the management forecast literature to the new area that beyond the firm, individual management and the stock market characteristics.

Our study also adds to the social capital literature by identifying a new context in which social capital plays a role. Researchers have invoked the concept of social capital in the areas of sociology, political science, and economics and they have identified various contexts in which social capital plays an important role. As far as we know, even though this paper is not the first one to link the social capital to corporate disclosure, but it is the first one to extend the study of social capital to corporate voluntary disclosure. Given the fact that voluntary disclosure is the primary information source for the participants of capital market, this study deepens our understanding of the significance of social capital.

The remainder of this study is organized as follows. Section 2 discusses the background of this study and raises the research question. Section 3 formulates the hypothesis. Section 4 describes the measures and sample used

in the empirical analyses. Section 5 presents the main empirical test results. Section 6 discusses robustness tests, and Section 7 concludes the study.

BACKGROUND AND RESEARCH QUESTION

Voluntary disclosures have been the interest of many researchers, because they are the primary information sources on the capital market. Beyer et al. (2010) document that management earnings forecasts and earnings pre-announcements (i.e., voluntary disclosures) accounted for about 66% of the total accounting-based information used by investors, while earning announcements and other SEC filings (i.e., mandatory disclosures) provide less than 12% of the accounting-based information used by investors.

Hirst et al. (2008) summarize earnings forecasts as having three components - antecedents, characteristics, and consequences. In terms of consequences, management earnings forecasts have been shown to affect stock prices (Pownall, Wasley and Waymire 1993), analysts and investor behavior (Baginski and Hassell 1990; Bushee and Noe 2000), information asymmetry/cost of capital (Coller and Yohn 1997), earnings management (Kasznik 1999; Cheng et al., 2007), and litigation risk (Skinner 1994; Field, Lowry and Shu 2005). Regarding properties or attributes of management earnings forecasts, extant research has documented substantial variation in the types of news that management earnings forecasts convey (good or bad), the accuracy, the forms (qualitative or quantitative), the horizon and timeliness, the delivery channel (stand-alone or bundled), and the levels of disaggregation. As for factors that influence whether the manager will issue a forecast or not (i.e., forecast antecedents), Hirst et al. (2008) summarize those factors into two categories- forecast environment and forecaster characteristics.

It has been documented that firm specific characteristics such as pre-disclosure information asymmetry, managerial incentives, performance, volatility, corporate governance, litigation risk, firms' prior forecasting behavior, and proprietary costs are correlated with the propensity and properties of the management earnings forecasts (Coller and Yohn 1997; Nagar, Nanda and Wysocki 2003; Cheng and Lo 2006; Rogers and Stocken 2005; Miller 2002; Waymire 1985; Ajinkya et al. 2005; Cao and Narayanamoorthy 2011; Kasznik and Lev 1995; Skinner 1994 and 1997; Williams 1996; Rogers and Stocken 2005; and Wang 2007).

Regarding forecast environment, Hirst et al. (2008) explicitly point out the influence of the legal and regulatory environment and the analyst and investor environment on management earnings forecasts. As we know, in addition to the economic, legal, and regulatory environment, the cultural environment and individual value orientations influence the generation of reliable financial information (Jaggi, 1975). A growing strand of literature documents that the social environment where the firm is headquartered affects the corporate culture, and subsequently corporate decisions such as financial reporting decisions. For instance, McGuire et al. (2012) document that religion, as a significant sociological factor, affects financial reporting irregularities (i.e., earnings management and accounting restatement). Jha (2012) finds that firms headquartered in high social capital regions are less likely to engage in earnings management. However, those studies focus on corporate mandatory disclosures. Since managers have different incentives for disclosing financial information voluntarily and different degrees of flexibility over voluntary disclosures than those for mandatory disclosures, this leads naturally to the question of whether social environment also impact corporate voluntary disclosures? The objective of this paper is to provide some insights into this question.

HYPOTHESIS

Transparent Scenario

Existing accounting literature suggests that managers acting in the best interests of the firm should enhance transparency by issuing more frequent, specific, and accurate forecasts, while managers acting in their own self-interest could decide to disclose less than what is optimal for various reasons (Ajinkya et al. 2005). Social capital literature suggests that in high social capital regions people tend to be less opportunistic and more inclined to honor their obligations and this reduces the transaction cost associated with any economic activity involving cooperation or mutual trust (Jha 2012). Assuming that employees reside close to the firm and there is congruence among employees' value orientation, corporate culture and corporate behavior, it is reasonable to argue that employees of

firms, managers in particular, in the high social capital regions are more likely to act in the best interests of their firms. When it comes to voluntary financial disclosure, we would expect that firms located in the high social capital regions are more likely to issue forecasts to enhance transparency of their firms. Furthermore, since managers of firms in the high social capital regions are more likely to be concerned about their reputation of providing transparent information regarding their businesses because of the close connections among individuals and Graham, Harvey, and Rajgopal (2005)'s survey evidence shows that developing a reputation for transparent reporting is the key factor motivating voluntary disclosures, it is reasonable to expect that managers of firms in high social capital regions are likely to issue more specific and accurate forecasts to develop and maintain a reputation for transparent reporting.

Commitment Cost Scenario

Graham et al. (2005) also shows that the desire to avoid setting a disclosure precedent that is difficult to maintain in the future deters voluntary disclosures. This suggests that if managers of firms headquartered in the high social capital regions are more fearful of starting a practice that they might later want to abandon and are concerned more about the distort of their reputation of meeting their self forecasts, then they may tend to provide less voluntary disclosures and less detailed voluntary disclosures.

Because of the two competing arguments the impact of social capital on voluntary disclosures we specify our hypothesis as follows:

H₀: Ceteris paribus, the propensity and properties of the management earnings forecasts of firms headquartered in regions with high social capital is not different from that of firms headquartered in regions with low social capital.

RESEARCH DESIGN

The Measure Of Social Capital

Following Jha (2012), we use the county-level social capital index (i.e., *SC_COUNTY*) provided by Northeast Regional Center for Rural Development (NERCRD) of Pennsylvania State University as the main measure of social capital in this study. Social capital index is created using principal component analysis using four factors- the number of associations per 10,000 people, the voter turnout, the census response rate, and the number of nonprofit organizations per 10,000 people. We obtain and use the county-level social capital index for 1997, 2005 and 2009. Following Jha (2012), we linearly interpolate the data to obtain the values in the missing years (1998 to 2004 and 2006 to 2008). Furthermore, we use other two state-level social capital indices (i.e., *SC_PUTNAM* and *SC_HONESTY*) as the measures of social capital. *SC_PUTNAM* is constructed using 14 indicators including responses to survey questions pertaining to trust, honesty and voluntary work and information from secondary data such as membership in organizations and voters turnout (Putnam 2000). *SC_HONESTY* is a measure constructed by DDM Needham Life Style Surveys based on the responses to survey questions like "if most people are honest". For all of those three measures, a greater value indicates higher social capital. Table 1 presents the social capital index for each state.

Table 1: Social Capital Index by State

Rank	States	SC_COUNTY	Rank	States	SC_COUNTY
1	District of Columbia	3.018	26	Rhode Island	-0.187
2	North Dakota	2.323	27	Oklahoma	-0.239
3	South Dakota	1.929	28	Idaho	-0.26
4	Kansas	1.681	29	New Mexico	-0.436
5	Nebraska	1.68	30	Maryland	-0.438
6	Minnesota	1.654	31	New York	-0.441
7	Montana	1.525	32	Texas	-0.528
8	Iowa	1.451	33	Delaware	-0.541
9	Wyoming	1.247	34	West Virginia	-0.594
10	Colorado	0.785	35	New Jersey	-0.619
11	Vermont	0.581	36	North Carolina	-0.638
12	Maine	0.568	37	Louisiana	-0.674
13	Wisconsin	0.533	38	Mississippi	-0.715
14	Illinois	0.504	39	South Carolina	-0.752
15	Oregon	0.48	40	Arkansas	-0.791
16	New Hampshire	0.307	41	Alabama	-0.793
17	Missouri	0.267	42	Nevada	-0.842
18	Massachusetts	0.241	43	California	-0.876
19	Ohio	0.118	44	Kentucky	-0.887
20	Michigan	0.097	45	Florida	-0.95
21	Washington	0.013	46	Tennessee	-1.078
22	Indiana	-0.094	47	Utah	-1.167
23	Virginia	-0.105	48	Georgia	-1.34
24	Pennsylvania	-0.107	49	Arizona	-1.658
25	Connecticut	-0.184			

Note: Table 1 presents the social capital index (*SC_COUNTY*) for each state. The *SC_COUNTY* presented in this table are the average of the county level social capital for each state reported by NERCRD. NERCRD does not report the social capital measure at the county level for Alaska and Hawaii.

Table 1 reveals that District of Columbia, North Dakota and South Dakota are the three regions with highest social capital (i.e., *SC_COUNTY*), whereas Utah, Georgia and Arizona are the three regions with the lowest social capital. The data also reveals that there is a fair amount of variation in the level of social capital across regions. *SC_COUNTY* varies from -1.658 (for Arizona) to 3.018 (for District of Columbia).

Measures Of Management Earnings Forecasts Propensity And Properties

Since management earnings forecasts are voluntary disclosures, the first question confronting managers is whether or not to issue a forecast. We use *OCCUR* as the measure of management earnings forecasts propensity. *OCCUR* equals 1 if the firm issues at least one earnings forecast during a fiscal period and 0 otherwise. When testing the forecast occurrence, we do not distinguish a firm that issues just a single forecast and a firm that issues multiple forecasts in the period. To gain the insight into the impact of social capital on the frequency of management earnings forecasts, we construct a measure for forecast frequency (i.e., *FREQ*) which equals the number of forecasts issued by a firm in a fiscal period for all the firm-year that has at least one forecast. We treat multiple forecasts issued by the same firm on the same day as one forecast. After making the decision of whether to issue an earnings forecast or not, managers then face a broad array of choices regarding the attributes of their forecasts. We use *QUANN* as the measure of the form of forecasts. *QUANN* equals the number of point or range forecasts made by a firm in a fiscal year. The point and range forecasts (such as “about 0.50” or “between 0.46 and 0.50”) are viewed as more specific than the open-end or qualitative forecasts (such as “more than 0.50” or “comfortable with analyst expectations”). We use the management earnings forecast data provided by Thomson Reuters to construct the above measures.

Regression Model

To test our hypothesis, we employ the following model:

$$\begin{aligned} \text{FORECAST_P} = & \beta_0 + \beta_1 \text{SC_COUNTY} + \beta_2 \text{OUTDIR} + \beta_3 \text{INST} + \beta_4 \text{LMVAL} + \beta_5 \text{AUDIT} + \beta_6 \text{NUMEST} + \beta_7 \\ & \text{DISPFOR} + \beta_8 \text{LITIGATE} + \beta_9 \text{MKBK} + \beta_{10} \text{LOSS} + \beta_{11} \text{NEWS} + \beta_{12} \text{EARNVOL} + \beta_{13} \text{BETA} + \beta_{14} \text{RD} + \beta_{15} \text{URBAN} \\ & + \beta_{16} \text{REL} + \beta_{17} \text{FD} + \sum \beta \chi_i \text{YEAR} + \sum \beta \gamma_i \text{INDUSTRY}_i + \text{error} \end{aligned} \quad (1)$$

Model (1) is similar to that used by Ajinkya et al. (2005).¹ *FORECAST_P* is either *OCCUR*, *FREQ*, or *QUANN*. Firms' specific characteristics such as size (*LMVAL*), investor and analysts environment (*INST*, *NUMEST*, *DISPFOR*, and *FD*), information environment (*AUDIT*), performance (*NEWS* and *LOSS*), systemic risk (*BETA*), earnings volatility (*EARNVOL*), corporate governance (*OUTDIR*), litigation risk (*LITIGATE*), proprietary costs (*MKBK* and *RD*), and geographic location (*URBAN*) are included to control for other determinants of management forecasts that have been identified by prior studies. To alleviate the potential correlated omitted variable problem suggested by Hilary and Hui (2009), we add *REL* (a measure of the religiosity of the region) to the model. We also include *YEAR* - a year dummy and *INDUSTRY* - an industry dummy to control for the time effect and industry effect. Please see appendix for the details about those variables.

The impact of social capital on management earnings is captured by β_1 , the coefficient on *SC_COUNTY*. An insignificant β_1 indicates that social capital has no impact on management earnings forecast. A positive and significant β_1 indicates that firms located in counties with higher social capital are on average more likely to issue earnings forecasts or to issue more precise forecasts than firms located in counties with lower social capital. A negative and significant β_1 suggests the opposite.

Sample Selection

The sample used in the main tests consists of all firms headquartered in the United States that have the required data from Compustat (for financial accounting information), CRSP (for stock return information), the Investor Responsibility Research Center (IRRC) (for ownership and board information), and Thomson Reuters (for management earnings forecasts and analysts forecasts information). We delete firm-year observations with negative total assets or negative total book values to eliminate outliers. In this paper, we study only the annual forecasts. These sample requirements result in 28,448 firm-year observations covering the period 1997-2008. For certain robustness tests, sample sizes vary due to different data constraints.

MAIN EMPIRICAL ANALYSES

Sample Descriptive Statistics

Panel A of Table 2 reports the summary statistics for the forecasting group and control group. The forecasting group consists 17,614 firm-years with at least one annual earnings forecast during that year. The control group (i.e., non-forecasting group) consists 10,834 firm-years without an annual earnings forecast during that year. We find that the social capital indices (i.e., *SC_COUNTY*, *SC_PUTNAM* and *SC_HONESTY*) for the forecasting firms are significantly higher than those for non-forecasting firms, except that the difference in the median *SC_PUTNAM* is insignificant. Panel B of Table 2 presents the Pearson correlations among variables. It shows that *SC_COUNTY* is positively related to *OCCUR*, *FREQ*, and *QUANN*. Collectively, Table 2 provides the preliminary evidence that supports the positive relationship between social capital and management forecast.

Table 2 also reveals that the forecasting firms are different from non-forecasting firms in many other firm-level characteristics. For instance, forecasting firm-years tend to have more outside directors (*OUTDIR*), more institutional investors (*INST*), larger market capitalization (*LMVAL*), more Big 4 auditors (*AUDIT*), more analysts following (*NUMEST*), higher analyst forecast dispersion, higher litigation risk (*LITIGATE*), higher market-to-book

¹ Following Ajinkya et al. (2005), we also include *HORIZON* as an additional independent variable when using *QUANN* as the dependent variable.

ratio, less frequent accounting losses (*LOSS*), more positive earnings news, less earnings volatility (*EARNVOL*), more systemic risk (*BETA*), less proprietary costs (*RD*), and more religious corporate culture than non-forecasting firm-years. Therefore, multivariate regression analyses are necessary to draw reliable inferences on the relationship between social capital and management forecast.

Table 2: Descriptive Statistics

Panel A: Forecasting Group vs. Control Group						
Variables	Mean			Median		
	Forecasting Group (n=17,614)	Control Group (n=10,834)	Diff. p-value	Forecasting Group (n=17,614)	Control Group (n=10,834)	Diff. p-value
SC_COUNTY	-0.373	-0.528	<.0001	-0.280	-0.507	<.0001
SC_PUTNAM	-0.165	-0.182	0.0061	-0.190	-0.180	0.9789
SC_HONESTY	3.808	3.803	<.0001	3.790	3.790	<.0001
OUTDIR	69.284	66.031	<.0001	70.382	67.476	<.0001
INST	68.121	47.778	<.0001	72.154	53.321	<.0001
LMVAL	7.708	6.651	<.0001	7.589	6.482	<.0001
AUDIT	0.924	0.875	<.0001	1.000	1.000	<.0001
NUMEST	11.324	8.322	<.0001	10.000	6.000	<.0001
DISPFOR	0.056	0.032	<.0001	0.024	0.026	0.0183
LITIGATE	0.065	0.027	<.0001	0.000	0.000	<.0001
MKBK	3.643	3.452	<.0001	2.640	2.312	<.0001
LOSS	0.045	0.217	<.0001	0.000	0.000	<.0001
NEWS	0.715	0.623	<.0001	1.000	1.000	<.0001
EARNVOL	0.314	0.387	<.0001	0.181	0.162	<.0001
BETA	0.841	0.817	<.0001	0.844	0.784	<.0001
RD	0.027	0.049	<.0001	0.000	0.000	0.0618
URBAN	0.526	0.523	0.6288	1.000	1.000	0.6288
REL	5.952	5.895	<.0001	6.028	6.033	0.0001

Panel B: Pearson Correlation Matrix										
	OCCUR	FREQ	QUANN	OUTDIR	INST	LMVAL	AUDIT	NUMEST	DISPFOR	LITIGATE
SC_COUNTY	0.083 <.0001	0.038 <.0001	0.030 <.0001	0.041 <.0001	0.007 0.2143	0.047 <.0001	0.011 0.0581	-0.032 <.0001	-0.013 0.0301	-0.025 <.0001
OCCUR	.	.	.	0.130 <.0001	0.348 <.0001	0.302 <.0001	0.084 <.0001	0.228 <.0001	0.035 <.0001	0.084 <.0001
FREQ		.	0.967 <.0001	0.148 <.0001	0.257 <.0001	0.320 <.0001	0.068 <.0001	0.235 <.0001	-0.020 0.0094	0.049 <.0001
QUANN			.	0.146 <.0001	0.267 <.0001	0.291 <.0001	0.065 <.0001	0.212 <.0001	-0.020 0.0066	0.045 <.0001
OUTDIR				.	0.116 <.0001	0.135 <.0001	0.025 <.0001	0.087 <.0001	-0.001 0.8996	-0.066 <.0001
INST					.	0.201 <.0001	0.110 <.0001	0.222 <.0001	0.033 <.0001	0.072 <.0001
LMVAL						.	0.210 <.0001	0.739 <.0001	0.012 0.037	-0.070 <.0001
AUDIT							.	0.149 <.0001	0.012 0.0463	0.031 <.0001
NUMEST								.	0.017 0.0042	0.014 0.0189
DISPFOR									.	0.016 0.0066

(Table 2 continued)

	MKBK	LOSS	NEWS	EARNVOL	BETA	RD	URBAN	REL	FD	HORIZON
LITIGATE	-0.012 0.0355	-0.035 <.0001	-0.007 0.2688	-0.035 <.0001	-0.029 <.0001	-0.112 <.0001	-0.040 <.0001	0.055 <.0001	0.031 <.0001	0.017 0.024
MKBK		0.023 0.0001	0.094 <.0001	-0.070 <.0001	0.161 <.0001	0.223 <.0001	0.098 <.0001	0.017 0.0049	-0.085 <.0001	-0.026 0.0005
LOSS			-0.27 <.0001	0.21 <.0001	0.12 <.0001	0.42 <.0001	0.06 <.0001	0.01 0.2801	-0.05 <.0001	0.04 <.0001
NEWS				-0.133 <.0001	-0.001 0.9319	-0.054 <.0001	0.007 0.2238	0.008 0.1604	0.018 0.0023	-0.032 <.0001
EARNVOL					0.064 <.0001	0.052 <.0001	0.039 <.0001	0.032 <.0001	0.006 0.2837	0.024 0.0017
BETA						0.242 <.0001	0.110 <.0001	0.031 <.0001	0.208 <.0001	0.012 0.1045
RD							0.148 <.0001	0.012 0.036	-0.038 <.0001	-0.010 0.1686
URBAN								0.331 <.0001	0.011 0.0625	0.001 0.9106
REL									0.024 <.0001	0.001 0.8868
FD										0.065 <.0001

Note: Panel A of Table 2 reports the summary statistics for the forecasting group and control group. The difference in means and medians between forecasting group and control group are tested based on t-tests and Wilcoxon tests, respectively. All continuous variables are winsorized at the 1st and 99th percentiles. Panel B of Table 2 reports the Pearson correlation among variables. Except for *FREQ*, *QUANN* and *HORIZON*, the correlation between variables are calculated using 28,448 observations (that is, the full sample). The correlation between *FREQ*, *QUANN*, *HORIZON* and other variables are calculated using 17, 614 observations (i.e., the forecasting group). Please see the appendix for the variable definitions. *p*-values are provided below each coefficient.

Main Test Results

The logistic regression results of Equation (1) when using *OCCUR* as the dependent variable is reported in the Colum (1) of Table 3. We find that the coefficient on *SC_COUNTY*, β_1 , is significantly positive (Coeff. = 0.0997, $p < 0.001$). This suggests that the probability of issuing a management earnings forecast is significantly higher for firms that are headquartered in the regions with higher social capital indices. Colum (2) and (3) of Table 3 present the OLS regression results of Equation (1) when *FREQ* and *QUANN* are used as the dependent variable, respectively. In each case, the coefficient on *SC_COUNTY*, β_1 , is positive and significant. Specifically, the β_1 is 0.0560 ($p = 0.0015$) when *FREQ* is the dependent variable and the β_1 is 0.0468 (p -value = 0.0087) when *QUANN* is the dependent variable. Those findings indicate that firms headquartered in regions with high social capital indices are likely to have more frequent earnings forecasts and tend to issue more specific earnings forecasts.

The signs of the coefficients on the control variables are, in general, consistent with those indicated in the literature (e.g., Ajinkya et al, 2005). For instance, the signs suggest that firms with more outside directors (*OUTDIR*), more institutional owners and (*INST*), more analysts following (*NUMEST*), larger size (*LMVAL*) and greater litigation exposure (*LITIGATE*) are more likely to issue management earnings forecast. Furthermore, those firms are inclined to forecast more frequently and their forecast tend to be more precise. Firms with more uncertainty in the earnings prospects (*DISPFOR* and *EARNVOL*), loss (*LOSS*), higher systematic risk (*BETA*), more R&D expenditures (*RD*) are likely to issue forecast less frequently and tend to issue less precise forecasts. The positive coefficient on FD indicates an increase in the level of forecast activity after the passage of Reg FD. The results also show that the religiosity of the region (*REL*), which is used as a proxy for firm’s risk aversion in Hilary and Hui (2009), is positively related to the management earnings forecast occurrence, frequency, and precision.

Table 3: Social Capital and the Propensity and Property of Management Earnings Forecasts

Variable	Predicted sign	Column (1) Dependent var. =OCCUR	Column (2) Dependent var. =FREQ	Column (3) Dependent var. =QUANN
INTERCEPT	?	-1.9108*** ($<.0001$)	-1.3969*** ($<.0001$)	-1.5543*** ($<.0001$)
SC_COUNTY	?	0.0997*** ($<.0001$)	0.0560*** (0.0015)	0.0468*** (0.0087)
OUTDIR	+	0.0076*** ($<.0001$)	0.0106*** ($<.0001$)	0.0101*** ($<.0001$)
INST	+	0.0051*** ($<.0001$)	0.0026*** (0.0007)	0.0029*** (0.0001)
LMVAL	+	0.1547*** ($<.0001$)	0.3301*** ($<.0001$)	0.3043*** ($<.0001$)
AUDIT	+	-0.0237 (0.4606)	0.0673 (0.2371)	0.1065* (0.0639)
NUMEST	+	0.0089*** ($<.0001$)	0.0138*** ($<.0001$)	0.0136*** ($<.0001$)
DISPFOR	-	-0.1045*** (0.0004)	-0.1276* (0.0943)	-0.1343* (0.0811)
LITIGATE	?	0.3397*** (0.0002)	0.5341*** ($<.0001$)	0.5117*** ($<.0001$)
MKBK	-	-0.0038 (0.1884)	-0.0076* (0.1073)	-0.0204*** ($<.0001$)
LOSS	-	-0.7336*** ($<.0001$)	-0.4704*** ($<.0001$)	-0.4809*** ($<.0001$)
NEWS	-	0.0349* (0.0755)	0.1106*** (0.0007)	0.1211 (0.0002)**
EARNVOL	-	-0.0566*** (0.0003)	-0.0561* (0.0966)	-0.0580 (0.0890)
BETA	-	-0.1779*** ($<.0001$)	-0.2355*** ($<.0001$)	-0.2603*** ($<.0001$)
RD	-	-1.9115*** ($<.0001$)	-3.1104*** ($<.0001$)	-2.6847*** ($<.0001$)
URBAN	+	0.0149 (0.4378)	-0.0455 (0.1326)	-0.0672** (0.0278)
REL	+	0.0473*** ($<.0001$)	0.0748*** ($<.0001$)	0.0763 ($<.0001$)
FD	+	0.7549*** ($<.0001$)	2.9575*** ($<.0001$)	3.4111*** ($<.0001$)
HORIZON	-			-0.0003*** (0.0163)
YEAR	?	yes	yes	yes
INDUSTRY	?	yes	yes	yes
Log likelihood/Adj. R ²		10148.70	30.27%	32.07%
No. of observations		28,448	17,614	17,614

Note: This table presents the regression results of Equation (1) when *OCCUR*, *FREQ*, and *QUANN* are used as the dependent variable, respectively. Please see the appendix for the variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. For brevity, the coefficients on the industry dummies and year dummies are not reported. p-values are provided in parentheses below each coefficient. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

In summary, the results presented in Table 3 reject the null hypothesis and support the transparent reporting hypothesis. That is, managers of firms in the high social capital regions are more likely to be concerned about their reputation of providing transparent information regarding their businesses because of the close connections among individuals and the greater propensities to honor obligations.

ROBUSTNESS TESTS

Alternative Measures Of Social Capital

To alleviate the concern that our results might be specific to the way the social capital is measured, we conduct analysis by using alternative measures of social capital, namely, *SC_PUTNAM* and *SC_HONESTY*. Table 4 shows that both *SC_PUTNAM* and *SC_HONESTY* are positively related with the management earnings forecast propensity and properties (i.e., *OCCUR*, *FREQ*, *QUANN*). This suggests that the main findings of this study are not sensitive to the choice of social capital measure.

Table 4: Using Alternative Social Capital Measures

Panel A: Social Capital Measure=<i>SC_PUTNAM</i>				
Variable	Predicted sign	Dependent var. =<i>OCCUR</i>	Dependent var. =<i>FREQ</i>	Dependent var. =<i>QUANN</i>
<i>INTERCEPT</i>	?	-1.7750*** ($<.0001$)	-1.2935*** ($<.0001$)	-1.4648*** ($<.0001$)
<i>SC_PUTNAM</i>	?	0.0853*** ($<.0001$)	0.0675** (0.0212)	0.0678** (0.0218)
<i>OUTDIR</i>	+	0.0076*** ($<.0001$)	0.0105*** ($<.0001$)	0.0100*** ($<.0001$)
<i>INST</i>	+	0.0052*** ($<.0001$)	0.0025*** (0.0008)	0.0029*** (0.0001)
<i>LMVAL</i>	+	0.1632*** ($<.0001$)	0.3342*** ($<.0001$)	0.3078*** ($<.0001$)
<i>AUDIT</i>	+	-0.0140 (0.6637)	0.0755 (0.1842)	0.1139** (0.0474)
<i>NUMEST</i>	+	0.0075*** (0.0005)	0.0134*** ($<.0001$)	0.0133*** ($<.0001$)
<i>DISPFOR</i>	-	-0.1035*** (0.0005)	-0.1241* (0.1037)	-0.1310* (0.0889)
<i>LITIGATE</i>	?	0.3245*** (0.0004)	0.5296*** ($<.0001$)	0.5097*** ($<.0001$)
<i>MKBK</i>	-	-0.0037 (0.2015)	-0.0075* (0.1098)	-0.0204*** ($<.0001$)
<i>LOSS</i>	-	-0.7307*** ($<.0001$)	-0.4679*** ($<.0001$)	-0.4786*** ($<.0001$)
<i>NEWS</i>	-	0.0338* (0.0849)	0.1101*** (0.0007)	0.1208*** (0.0002)
<i>EARNVOL</i>	-	-0.0520*** (0.0009)	-0.0547* (0.1052)	-0.0567* (0.0963)
<i>BETA</i>	-	-0.1779*** ($<.0001$)	-0.2337*** ($<.0001$)	-0.2589*** ($<.0001$)
<i>RD</i>	-	-1.9894*** ($<.0001$)	-3.2181*** ($<.0001$)	-2.7883*** ($<.0001$)
<i>URBAN</i>	+	-0.0041 (0.8280)	-0.0535* (0.0746)	-0.0727*** (0.0165)
<i>REL</i>	+	0.0114 (0.2382)	0.0526*** (0.0008)	0.0579*** (0.0003)
<i>FD</i>	+	0.7496*** ($<.0001$)	2.9535*** ($<.0001$)	3.4072*** ($<.0001$)
<i>HORIZON</i>	-			-0.0003*** (0.0155)
<i>YEAR</i>	?	yes	yes	yes
<i>INDUSTRY</i>	?	yes	yes	yes
Log likelihood/R ²		10090.61	30.25%	32.07%
No. of observations		28,448	17,614	17,614

Panel B: Social Capital Measure=SC_HONESTY

Variable	Predicted Sign	Dependent var. =OCCUR	Dependent var. =FREQ	Dependent var. =QUANN
INTERCEPT	?	-3.1516*** ($<.0001$)	-5.0445*** ($<.0001$)	-5.6001*** ($<.0001$)
SC_HONESTY	?	0.3577*** (0.0002)	0.9881*** ($<.0001$)	1.0899*** ($<.0001$)
OUTDIR	+	0.0076*** ($<.0001$)	0.0100*** ($<.0001$)	0.0094*** ($<.0001$)
INST	+	0.0052*** ($<.0001$)	0.0025*** (0.0010)	0.0028*** (0.0002)
LMVAL	+	0.1626*** ($<.0001$)	0.3325*** ($<.0001$)	0.3059*** ($<.0001$)
AUDIT	+	-0.0148 (0.6435)	0.0838 (0.1403)	0.1234** (0.0316)
NUMEST	+	0.0076*** (0.0005)	0.0143*** ($<.0001$)	0.0143*** ($<.0001$)
DISPFOR	-	-0.1032*** (0.0005)	-0.1219* (0.1096)	-0.1284* (0.0951)
LITIGATE	?	0.330*** (0.0003)	0.5510*** ($<.0001$)	0.5344*** ($<.0001$)
MKBK	-	-0.0035 (0.2193)	-0.0082* (0.0798)	-0.0212*** ($<.0001$)
LOSS	-	-0.7287*** ($<.0001$)	-0.4650*** ($<.0001$)	-0.4753*** ($<.0001$)
NEWS	-	0.0348* (0.0767)	0.1132*** (0.0005)	0.1242*** (0.0001)
EARNVOL	-	-0.0527*** (0.0008)	-0.0559* (0.0971)	-0.0580* (0.0885)
BETA	-	-0.1769*** ($<.0001$)	-0.2295*** ($<.0001$)	-0.2542*** ($<.0001$)
RD	-	-1.9520*** ($<.0001$)	-3.2888*** ($<.0001$)	-2.8743*** ($<.0001$)
URBAN	+	-0.0104 (0.5810)	-0.0571** (0.0556)	-0.0760*** (0.0117)
REL	+	0.0116 (0.2301)	0.0556*** (0.0004)	0.0612*** (0.0001)
FD	+	0.7482*** ($<.0001$)	2.9472*** ($<.0001$)	3.4001*** ($<.0001$)
HORIZON	-			-0.0003*** (0.0143)
YEAR	?	yes	yes	yes
INDUSTRY	?	yes	yes	yes
Log likelihood/R ²		10081.79	30.39%	32.23%
No. of observations		28,448	17,614	17,614

Note: This table presents the regression results of Equation (1) when using SC_PUTNAM and SC_HONESTY as alternative social capital measures. Please see the appendix for the variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. For brevity, the coefficients on the industry dummies and year dummies are not reported. p-values are provided in parentheses below each coefficient. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Linear Interpolation Of Data Over Time

Following Jha (2012), we linearly interpolate the county-level social capital index (i.e., SC_COUNTY) data to obtain the values in the missing years (1998 to 2004 and 2006 to 2008) when conducting the main tests. The

linear interpolation of data potentially creates systematic noise in a sample, which may introduce a higher level of exactness than is warranted (Hilary and Hui, 2009). To address this potential problem, we use the standardized rank of *SC_COUNTY* in each year as the measure of social capital and perform the analyses again. We also conduct state-level and county-level tests. That is, we average all variables in Equation (1) at the state or county level to estimate the model. Untabulated results show that the main findings still hold.

Alternative Sample Selection Requirements

To determine whether the main test result is sensitive to the sample selection requirements, we perform the tests using different samples. For example, we use a sample that includes only the latest forecast if a firm makes multiple forecasts in a year, a sample that excludes multiple forecasts issued by the same firm on the same day, a sample that excludes forecasts that made after the fiscal period end and we get essentially the same results.

Alternative Model Specifications

To alleviate the concern that our results might be specific to the model specification, we remove the independent variables *REL* and *URBAN* (i.e., the two variables that are not included in Ajinkya et al., 2005) and run the regression. The coefficient on *SC_COUNTY* is still significantly positive (the result is not tabulated). We also substitute the Fama and French (1997) 17 industry groups with the 48 industry groups when construct the industry dummy and we get similar results.

CONCLUSION

A growing strand of literature has documented that the social environment where the firm is headquartered affects corporate culture and subsequently corporate decisions. This paper examines whether social capital influences the propensity and properties of the management earnings forecasts. Using a sample of U.S. firms for the period 1997 to 2008, we find that firms located in region with higher social capital are more likely to issue a management earnings forecast and they tend to issue more specific forecasts. Our findings hold after controlling for the investor and analysts environment and firms characteristic. Robustness tests indicate that our findings are not sensitive to linear interpolation of social capital data over time, the choice of social capital metrics, model specifications, or sample selection requirements. Our findings are consistent with the hypothesis that firms located in the high social capital regions are likely to provide more voluntary disclosures and more precise voluntary disclosures to enhance transparency of their firms. Our study contributes to the accounting literature by identifying a non-financial factor (i.e., social capital) that affects management's voluntary disclosure behavior. Our study also contributes to the social capital literature by showing another mechanism (i.e., management earnings forecast) through which social capital may affect the development of the capital market.

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APPENDIX**Variable Definitions**

Variable	Definition
<i>AUDIT</i>	A dummy variable that equals 1 if firm <i>i</i> is audited by a Big 4/5 auditor in year <i>t</i> ; and 0 otherwise.
<i>BETA</i>	The systematic risk. It is the market model slope coefficient estimated by regressing monthly returns over 60 months on the CRSP value weighted market return index between year's <i>t</i> -6 and <i>t</i> -2 as in Collins and Kothari (1989).
<i>DISPFOR</i>	The standard deviation of analysts' forecasts divided by the median forecast.
<i>EARNVOL</i>	The standard deviation of quarterly earnings over a 5-year rolling window (i.e., from year <i>t</i> -4 to year <i>t</i>).
<i>FD</i>	A dummy variable that equals 1 if the observation is related to the post-Reg FD period (after October 2000); and 0 otherwise.
<i>FREQ</i>	The number of forecasts issued by a firm in a fiscal period.
<i>HORIZON</i>	The number of days between the forecast date and the fiscal period-end date.
<i>INDUSTRY</i>	The dummies for industry membership. We use 17 industry groups reported in Fama and French (1997).
<i>INST</i>	Average institutional ownership in a year.
<i>LITIGATE</i>	A dummy variable that equals 1 for all firms in the biotechnology (2833–2836 and 8731–8734), computers (3570–3577 and 7370–7374), electronics (3600–3674), and retail (5200–5961) industries; and 0 otherwise.
<i>LMVAL</i>	The natural logarithm of market capitalization at the beginning of a fiscal year.
<i>LOSS</i>	A dummy variable that equals 1 if the firm reported losses in the current period; and 0 otherwise.
<i>MKBK</i>	The market-to-book ratio at the beginning of the fiscal year.
<i>NEWS</i>	A dummy variable that equals 1 if the current-period EPS is greater than or equal to the previous-period EPS; and 0 otherwise.
<i>NUMEST</i>	The number of analysts following the firm.
<i>OCCUR</i>	A dummy variable that equals 1 if the firm issued an earnings forecast during the fiscal period; and 0 otherwise.
<i>OUTDIR</i>	The percentage of the board of directors that are not also officers of the firm.
<i>QUANN</i>	A dummy variable that equals 1 if a forecast is either a point or range forecast; and 0 otherwise.
<i>RD</i>	Research and development expenditures in the current year scaled by the lagged total assets.
<i>REL</i>	The degree of religiosity in the county where the firm is headquartered. It equals the number of religious adherents in the county divided by the total population in the county (as reported by ARDA).
<i>SC_COUNTY</i>	The county-level social capital index provided by Northeast Regional Center for Rural Development of Pennsylvania State University.
<i>SC_HONESTY</i>	The state-level social capital index provided by DDM Needham Life Style Surveys.
<i>SC_PUTNAM</i>	The state-level social capital index provided by Putnam (2000).
<i>URBAN</i>	A dummy variable that equals 1 if a firm is headquartered in one of the largest 10 metropolitan areas and 0 otherwise. The largest 10 metropolitan areas are defined by the Office of Management and Budget. We use the metropolitan area definitions issued on June 30, 1999. These definitions are used for presenting metropolitan area statistics in Census 2000 publications.
<i>YEAR</i>	The year dummies.

NOTES