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Reporting Capabilities, Financial Closing Time and Effects on Cost of Equity Capital

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ABSTRACT

Facing a competitive capital market, firms have incentives to reduce information uncertainty by releasing earnings early. However, firms do differ in how soon they are able to release earnings to investors. We posit that firms cannot reduce their reporting time without underlying accounting information systems that are efficient and effective. Moreover, given the reduced information asymmetry and better managed accounting processes associated with timely reporting, we expect investors to require lower risk premiums on firms that are able to report faster than others. Empirically, we find that firms with shorter time-lags from fiscal-year end to earnings release date (financial closing time) are associated with lower implied cost of capital. This result is robust after controlling for known risk factors influencing cost of capital. We contribute to the body of knowledge by quantifying the benefits of effective information systems in terms of reduced financial reporting time and investors' required risk premium.

Keywords

Accounting information systems, financial reporting, closing time, cost of equity capital

INTRODUCTION

Public firms differ in the length of time that is needed to release their earnings information. We posit that firms cannot reduce their reporting time without having underlying accounting systems that are efficient and effective. Survey evidence (CFO, 2010) indicates that executives are aware of the many benefits associated with a streamlined and integrated reporting process, and that firms achieve timely reporting as a result of effective use of information technologies and business process redesign. The reduced information uncertainty and information asymmetry associated with timely reporting and better managed accounting information systems should lower the required risk premium asked by shareholders. In other words, firms with capabilities in faster financial reporting should have a lower cost of capital.

Extant knowledge (Brazel and Dang 2008) shows that efficiencies resulting from ERP implementations reduce the financial reporting time between fiscal year end and earnings release date (financial closing time) for firms with positive earnings surprises ("good news" firms). We extend this stream of literature by investigating the effect of reduced financial closing time on equity investors' required risk premium, or firms' cost of equity capital. Our results show that, on average, a one-day reduction in financial closing time is associated with half a basis point of savings in the implied cost of equity. This relationship is statistically significant and economically meaningful, as all else equal, a two-day reduction in the financial closing time is associated with a reduction of cost of capital by one basis point. Our results also suggest that financial closing time explains variations in the implied cost of equity in a way consistent with the notion that better managed information systems and accounting processes contribute to lower cost of equity.

BACKGROUND AND RESEARCH MOTIVATION

Prior literature has largely assumed that the timing of financial information disclosures is directly under the control of management. We take the earnings release date as the most significant date at which annual financial information is made available to the general public. This is consistent with other work in this area (e.g., Brazel and Dang 2008, Landsman et al 2011). The current underlying assumption in the literature is that managers can exercise discretion about the timing of their public release of earnings information, and that firms having to report unfavorable news tend to delay earnings announcements. Empirical support for this finding is provided by Givoly and Palmon (1982), Brazel and Dang (2008).

Extant research has shown that managers with results below expectations – that is, negative “earnings surprises” (Brazel and Dang, 2008) – tend to delay making those public. For example, managers may choose to delay release of bad news until industry-wide news are released in order for their specific bad news to be gradually impounded into stock prices. Managers may also delay with the hope that, in the interim, more positive news will arise that will offset the information content of the bad news they were holding onto (Kasznik and Lev, 1995). Finally, managers may hold back release of bad news in order to complete extant projects and contracts in a more favorable light, or to attempt manipulation of negative results (Givoly and Palmon, 1982). In summary, these finds suggest that the timing of the release of earnings information is under the discretion of managers, and those with negative or unfavorable information tend to delay those announcements.

On the other hand, although managers who learn about negative results may choose to delay releasing that information, others who learn about positive results cannot release that information prior to its generation. We posit that the minimum time required to produce internal reports is not under immediate management discretion, but rather is a function of existing financial transaction processing and reporting systems. Thus, any elapsed time between fiscal year end and when managers have earnings information that could potentially be released to the public is a result of the quality and sophistication of the reporting systems and processes already in place. Firms that release their earnings later than others either have less efficient accounting systems, have engaged in strategic delays due to the negative content of the earnings release, or some combination of both. Earlier releasers, on the other hand, must have accounting and reporting processes that allow them to make earnings information available to the public sooner than others. Empirical evidence documented in Brazel and Dang (2008) also supports this notion. Given that “earnings surprises” are, by definition, unexpected and random, we argue that, in the aggregate, differences in reporting times among companies are indicative of underlying differences in the quality and sophistication of their accounting systems and reporting processes.

In other words, early releasers of information have efficient reporting systems that allow them to close the books in a timely manner. They have better accounting information systems and are able to generate financial information faster than others. Given the lowered information asymmetry and better accounting systems reflected through faster reporting, firms with shorter financial closing time have reduced risk prospects for investors and therefore should enjoy a lower cost of capital. Empirically, we use the average of three major measures of implied cost of capital and find a positive association between cost of capital and financial closing time. Major information systems overhauls have long lead-times and are fraught with the difficulties associated with implementing large-scale changes in complex organizations (Li and Pinsker, 2005). As such, implied cost of capital - which is a forward looking and long term measure - better matches the time horizon that must be considered by managers when making decisions on such projects.

Incentives for Early Reporting

Several streams in the literature support our argument that companies have an incentive to report results in a timely manner. First, it is in the best interest of managers to reduce and minimize information asymmetry between themselves and shareholders, which has the deleterious effect of increased monitoring costs and/or the costly use of external debt financing (Myers and Majluf, 1984). The information asymmetry (or “lemons” problem) arises from the existence of different information sets between managers and investors, coupled with the presence of conflicting incentives. Due to the lack of accurate information, investors will rationally undervalue some good investments and overvalue some poor ones, relative to valuation information that is privately available to management. There are a number of possible solutions to this problem. For example, optimal contracts could be written that provide incentives for full disclosure of private information, or regulations could require the same level of disclosure. The existence of information intermediaries, such as rating agencies and financial analysts, is due in part to their ability to efficiently engage in costly searches geared toward uncovering private information.

Capital markets may, additionally, demand that managers take actions to minimize the existence of information asymmetries through stock valuations and price and volume reactions to specific events. For instance, timely financial disclosure contributes to the efficient functioning of stock markets so that rumors and information leaks - which are inefficient means of information dissemination- will not be useful for market participants. Timely reporting also helps mitigate the negative effects associated with moral hazard and adverse selection that occur when one party is more informed than the other about the true underlying value of a tradable asset. All else being equal, companies are expected to report information as timely as possible to avoid adverse selection (Grossman, 1981). At the same time, favorable news are met with better reactions and are likely to have attached to them a more positive reward for the discloser, which leads to firms with “good news” also wanting to release them as early as possible.

Although investors cannot interpret delayed news as necessarily negative – they could be positive or neutral news with high proprietary costs attached to them - investors still want to protect themselves by assuming a negative outcome when facing delayed news release. As a result, management is better off by releasing the information in a timely manner. Timely reporting and disclosure also lessen the need for information intermediaries (e.g., financial analysts, rating agencies) to undertake costly searches. In essence, managers as agents are in a better position to reduce information asymmetries at a lower cost than external parties, making both the manager and shareholders better off as a result. To summarize, the timeliness of financial disclosure is important to investors and rewarded by them accordingly. As managers currently operate in a business and regulatory environment which presents strong incentives for timely release of earnings, we argue here that the differences in reporting times reflect underlying reporting capabilities of firms. In the next section we review the role that information technology plays in determining those capabilities.

Information Technology and Accounting Processes

Accounting information systems (AIS) can be generally defined as the set of processes, applications and technologies aimed at fulfilling three main objectives, namely (a) transaction processing in support of the day-to-day operations of the organization, (b) information processing, aggregation and delivery in order to support internal decision making by management, and (c) provision of information necessary to fulfill statutory and other reporting requirements (i.e., external reporting) (Spathis and Constantinides, 2004). The latter is more visible in public and can be measured by the length of time taken to release earnings information. On the other hand, any improvements to the processes geared toward the other two objectives would also positively impact the efficacy of external financial reporting.

The advent of Enterprise Resource Planning (ERP) systems has especially changed firms' capabilities to collect and report financial data. ERP systems can be defined as “information systems packages that integrate information and information-based processes within and across functional areas in an organization” (Kumar and Hillegersberg, 2000, p. 22). Implementations of ERP tend to be major undertakings accompanied by large-scale and fundamental impacts across various areas of an organization. Indeed, ERP systems are typically the largest single IT investment made by an organization (Grabski et al 2011). Though originally only the purview of large organizations, today the majority of publicly traded firms have adopted an ERP system (Brazel and Dang, 2008).

Of particular interest here are the effects of ERPs on basic accounting processes. As discussed by Sutton (2006), the implementation of ERP systems substantially changes the financial accounting process. The functions used to record, assimilate and distribute financial information are greatly affected with the new system being put in place. This includes changes to the processes starting from the capture of transaction information to the generation of financial reports. And these changes can be quite drastic: Sutton (2000) reports that Cisco Systems aims to achieve a “virtual close”, that is, being able to close its periodic accounts within a day of fiscal year end. Although there is likely a minimum period of time needed for firms to close their books, improvements in information technology have made it possible to shorten reporting delays. This point was recognized as early as thirty years ago by Givoly and Palmon (1982). Survey evidence also reveals that the most popular reasons for implementing ERP packages are related to the increased demand for real-time information for decision making. The respondents in Spathis and Constantinides (2004) also point out the importance of accounting process efficiencies and the resulting decrease in reporting time needed for information generation. To summarize, information technology is a major determinant of the reporting capabilities of an organization.

Reporting Capabilities, Financial Closing Time and Cost of Capital

In the previous sections we have discussed the strong incentives for managers to report earnings information sooner rather than later. Secondly, improved accounting processes implemented through information technology can significantly reduce reporting time lag and financial closing time. Taken together, faster reporting reflects stronger capabilities in the firms' accounting and control systems used to generate financial reports, thereby reducing information uncertainty as well as information asymmetry for investors. Firms that report faster therefore should have lower risk prospects and enjoy reduced costs of capital. Using available archival data on observable firm characteristics, in this study we try to answer the following research question: ***Whether firms with shorter financial closing time have lower cost of capital?*** Based on our analyses above, we expect a positive relation between financial closing time and implied cost of equity capital: Firms reporting earnings in a timely manner should enjoy a lower cost of capital.

EMPIRICAL RESULTS

Implied Cost of Capital

Various approaches exist in the accounting and finance literature on the measurement of cost of capital or investors' required returns on their equity investments. Prior work mostly employs *ex-post* realized stock returns as a measure of investors' required returns, but this measure is not theoretically sound and empirically satisfying in many aspects. In theory, realized returns observed *ex-post* tend to reflect the expectations of minority investors under heterogeneous expectations and short-selling constraints. Empirically, Fama and French (1997) conclude that cost-of-capital measures based on realized returns are imprecise and noisy at the best.

As a remedy, recent research in accounting and finance has proposed different methods to estimate investors' *ex ante* required return or *implied cost of equity*. Major estimation methods for this *ex-ante* measure of cost of capital have been developed by Gebhardt, Lee and Swaminathan (2001, hereafter GLS), Claus and Thomas (2001, hereafter CT), and Gode and Mohanram (2003, hereafter GM). Despite the use of different methods of estimation, the implied cost of equity is essentially the required discount rate or internal rate of return that equates an asset's market value or stock price to the present value of all expected future dividends. However, market expectations for future dividends are not easily observable. Thus this stream of research use analysts' earnings forecast as the baseline for market expectations of earnings and dividends. For example, the GLS measure of implied cost of equity capital is modeled with the following equation:

$$P_t = B_t + \sum_{i=1}^{\infty} \frac{E_t[NI_{t+i} - r_e B_{t+i-1}]}{(1 + r_e)^i} \quad (1)$$

where P_t and B_t are the stock price and book value per share at the time of measurement, NI is the analyst earnings forecast and r_e is the implied cost of capital or the internal rate of return that equates the left and right-hand side of the equation. While equation (1) is a theoretical valuation model, the following is the empirical implementation of the GLS model:

$$P_t = B_t + \sum_{i=1}^{11} \frac{FROE_{t+i} - r_{gls}}{(1 + r_{gls})} \cdot B_{t+i-1} + \frac{FROE_{t+12} - r_{gls}}{(1 + r_{gls})^{11}} \cdot B_{t+11} \quad (2)$$

where r_{gls} is the empirical measure of the cost of equity capital, $FROE$ is the forecasted return on equity. For year t

from one to three, $FROE$ is the future return on equity estimate based on the assumption of future book value as $B_{t+1} = B_t + k * FEPS_{t+1}$, where $FEPS_{t+1}$ is the mean of the one-year-ahead analyst earnings per share

forecast in the Institutional Brokerage Estimate System (I/B/E/S) summary data; and k is the dividend payout ratio¹. For t beyond three, $FROE$ is obtained through linear interpolation to median return on equity based on Fama and French's (1997) 48 industries. The cost of capital estimate is the numerical value obtained through an iterative computation that minimize the difference between price calculated from equation (2) and the actual market price at time t .

The Claus-Thomas (CT) measure of the implied cost of equity is estimated using the following equation:

$$P_t = B_t + \frac{AE_{t+1}}{(1 + r_{ct})} + \frac{AE_{t+2}}{(1 + r_{ct})^2} + \dots + \frac{AE_{t+5}}{(1 + r_{ct})^5} + \frac{AE_{t+5}(1 + g_{ae})}{(r_{ct} - g_{ae})(1 + r_{ct})^5} \quad (3)$$

¹ The dividend payout ratio is measured as a firm's total fiscal-year dividends divided by its income before extraordinary items as of its fiscal year end immediately preceding the I/B/E/S forecast release date in June.

where AE_t is the abnormal earnings for year t equal to $FEPS_t - r_{ct} * B_{t-1}$; $FEPS_t$ is the mean I/B/E/S analyst

forecasted earnings ranging from years $t+1$ to $t+5$. When I/B/E/S does not provide an earnings forecast for year $t+3$, $t+4$ or $t+5$, the available forecast for the preceding year is multiplied by one plus the consensus long-term growth rate in I/B/E/S to arrive at an estimate for the relative time horizon. The estimated book value in the future is arrived in a way similar to that in GLS, but the dividend payout ratio of each period is set to be at a fixed 50 percent of the forecasted earnings of the corresponding period. g_{ae} is the growth rate of abnormal earnings beyond year $t+5$ and is set to be the yield on 10-year U.S. Treasury bonds minus 3% in the CT measure.

The GM measure does not require a computationally iterative solution for the positive root of a polynomial equation, but rather employs the following model:

$$r_e = A + \sqrt{A^2 + \left(\frac{FEPS_{t+1}}{P_t}\right)(g_2 - r_f - 0.03)} \quad (4)$$

where $A = \frac{1}{2} \left((r_f - 0.03) + \frac{DPS_{t+1}}{P_t} \right)$. r_f is the yield of 10-year constant-maturity treasury bond and g_2 is the I/B/E/S consensus long-term growth rate. DPS_{t+1} is estimated as the forecasted earnings ($FEPS_{t+1}$) times dividend payout ratio k , which is measured in the same manner as that in GLS.

Sample and Regression Results

Figure 1 shows the median and five-year moving average of the time lag between fiscal year end and earnings release date. Consistent with earlier work, there was a general trend toward decreasing times from the beginning of the sample period until the early 2000s when reporting times started to increase markedly, which can be in large part attributed to the new reporting requirements imposed by the Sarbanes-Oxley Act of 2002 and subsequent reporting requirement changes (CFO, 2010).

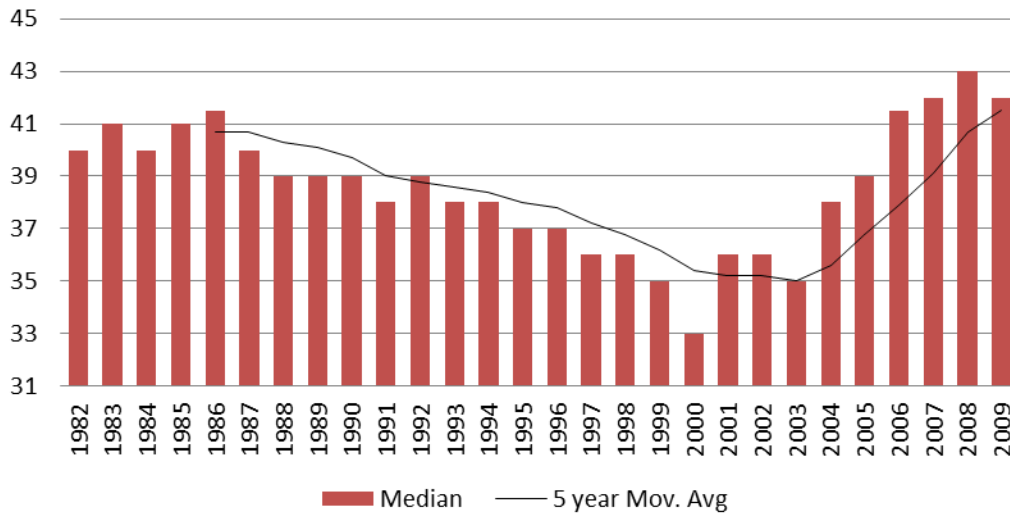


Figure 1. Times-Series Trend of Median Financial Closing Time (in Days) for Fiscal Years 1982 - 2009

We also show in Figure 2 the mean and median changes in reporting times year over year for all years included in our sample. The relatively small magnitude of the mean and median times differences indicates that reporting times, though slowly decreasing, tend to be stable across companies and time periods, thus supporting our argument that differences in reporting times between companies are evidence of underlying differences in reporting capabilities and not a transient phenomenon that occurs randomly.

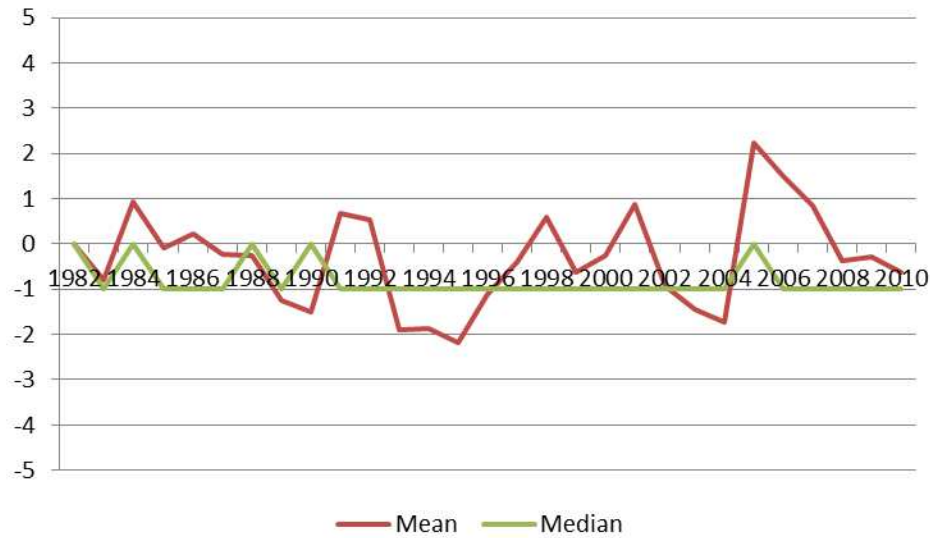


Figure 2. Mean and Median Year-by-Year Change of Financial Closing Time (number of days)

With regard to cost of capital, the three estimates (GLS, CT and GM) are measured at June of every year. The average of the three measures in excess of the 10-year U.S. Treasury constant maturity rate is the cost of equity capital measure (*ceq*) in the literature and the dependent variable in our regression analyses. We obtain analyst forecasts and growth estimates from I/B/E/S unadjusted historical summary forecasts, book-values from the Compustat North America Fundamental Annual Xpressfeed (XPF), and stock prices from CRSP. We first use the regression model in equation (5) to test the association between financial closing time (*FCT*) and cost of equity capital (*ceq*) while controlling for the effect of earnings surprises (*ESURP*), as firms with earnings exceeding expectation (“good news” firms) may announce their financial results within a shorter reporting lag and affect costs of equity as well.

$$ceq_{t,t} = \beta_0 + \beta_1 FCT_{t,t-1} + \beta_2 ESURP_{t,t-1} + e_{t,t} \quad (5)$$

We measure financial closing time ($FCT_{t,t-1}$) as the time lag between fiscal year end and earnings announcement date². Similar to prior literature (Brazel and Dang 2008), earnings surprises ($ESURP_{t,t-1}$) is the difference between actual earnings per share (EPS) and market expectation, scaled by the magnitude of market expectation. Table 1 shows the results for the annual regressions of equation (5) from 1982 to 2010.

² We take the earnings announcement date from I/B/E/S firm actuals file, The earnings announcement date from Compustat is used when I/B/E/S does not provide an actual earnings announcement date.

Year	Intercept	t(Intercept)	FCT	t(FCT)	ESURP	t(ESURP)
1982	289.12	12.59	0.296	0.55	42.621	2.98
1983	311.72	21.04	-1.911	-5.8	-10.261	-1.13
1984	224.59	15.75	-0.052	-0.18	80.025	8.86
1985	294.42	25.12	0.775	3.29	34.866	5.31
1986	331.60	31.34	0.406	1.91	10.602	2.07
1987	298.78	28.92	0.323	1.6	43.435	7.6
1988	343.61	27.78	0.798	3.24	4.899	0.75
1989	381.44	30.34	0.729	2.91	27.064	4.32
1990	371.61	28.54	0.585	2.17	-4.334	-0.49
1991	315.83	32.79	0.955	5.34	15.958	1.99
1992	366.04	43.71	1.213	8.33	18.973	3.23
1993	299.88	25.31	4.657	19.39	37.781	2.49
1994	316.79	29.98	3.592	16.56	39.910	1.58
1995	401.53	36.39	2.535	10.35	86.685	3.4
1996	291.78	26.78	2.686	10.92	0.920	0.04
1997	279.38	31.86	3.248	17.69	-8.055	-0.34
1998	343.48	36.37	3.492	19.33	11.468	0.59
1999	313.88	27.39	4.642	19.38	-3.797	-1.02
2000	499.91	45.99	1.851	11.49	-11.333	-0.29
2001	383.18	35.47	3.055	14.36	-26.187	-0.98
2002	456.73	49.91	1.343	9.12	-67.826	-2.83
2003	519.86	49.88	3.096	14.58	-95.566	-3.55
2004	351.88	26.99	3.094	9.82	-24.688	-1.13
2005	412.69	31.02	2.993	9.96	90.025	3.36
2006	405.11	39.06	1.252	5.87	42.033	1.81
2007	391.15	39.7	0.440	2.23	-3.208	-0.12
2008	630.75	37.32	0.584	1.66	19.075	0.5
2009	408.40	18.18	5.113	10.73	-20.531	-0.89
2010	507.70	23.56	4.921	10.75	-7.845	-0.22

Table 1. Year-by-Year Regression of Implied Cost of Equity Premium (in Basis Points) on Financial Closing Time (FCT) and Earnings Surprises (ESURP)

The general trend in Table 1 suggests that financial closing time is significantly and positively associated with firms' cost of equity. In other words, firms with shorter reporting lags appear to have a lower cost of equity. This trend is especially pronounced in the time periods starting from 1993 and 1994, which coincides with the trend in ERP implementation starting in 1994 identified in prior research (Brazel and Dang 2008). The effect of earnings surprises

(*ESURP*), however, does not seem to be affecting cost of capital in a systematic way. This is consistent with the measurement of implied cost of equity since it is an *ex-ante* market expectation of future earnings over a relative long period time based on consensus analyst earnings forecasts into the future. The results in Table 1 seem to suggest that prompt financial closing time signals to the market participants firms' underlying quality of accounting processes and reduced information uncertainty, which in turn affects investors' risk assessments and required rate of return.

In addition to controlling firm earnings surprises through the variable *ESURP*, we use a fixed-effect regression model for a panel data set featured in equation (6) to control for the effects of unobserved time-invariant industry characteristics based on Fama-French's (1997) 48 industries. We also include additional control variables identified in the literature that are associated with implied cost of equity (see. Gebhardt et al 2001, Table 7).

$$ceq_{i,t} = \sum_{n=1}^{48} \alpha_n + \delta_1 FCT_{i,t-1} + \delta_2 ESURP_{i,t-1} + \delta_3 Indus_{i,t} + \delta_4 \ln(Size)_{i,t} + \delta_5 \ln(BM)_{i,t} + \delta_6 \ln(Disp)_{i,t} + \delta_7 Ltg_{i,t} + \delta_8 Beta_{i,t} + \varepsilon_{i,t} \quad (6)$$

Indus is the average of industrial implied cost of equity premium. It is included in addition to industry fixed effects to control for the time-varying industry premium on cost of equity. *Size* is the market capitalization of the firm; *BM* is the book-to-market ratio; *Disp* is the analyst forecast dispersion, measured as the standard deviation of one-year-ahead analyst forecast divided by the mean of forecasts. We include the natural log of *BM*, *Size* and *Disp* in the regression analysis following established empirical practice. *Ltg* is the consensus long-term growth rate provided by I/B/E/S and *Beta* is the market beta in the Capital Asset Pricing Model. Table 2 provides the summary statistics of all the variables used in the study. Table 3 has the regression results based on equation (6). The coefficient on financial closing time is positive and significant, indicating that on average a one-day reduction in the time lag between fiscal year end and earnings announcement is associated with a reduction in the cost of equity premium of over half a basis point. The signs and significance of other control variables are consistent with prior literature (e.g., Gebhardt et al 2001).

Although the results in the annual regressions do not suggest any systematic pattern on the relation between earnings surprises and cost of equity, the coefficient on *ESURP* in the pooled regression in Panel A of Table 3 suggests that the implied cost of equity is higher for firm-years with large positive earnings surprises. Although firms tend to report good news early, it seems that the market does not necessarily welcome surprises. This illustrates the nature of the measure of implied cost of equity as an *ex-ante* measure of investors' required returns. Investors may discount current earnings news due to the lower persistence of future earnings when current surprises of earnings are larger.

Variable	N	Mean	Median	Std Dev
CEQ	61,021	467.751	421.324	309.259
FCT	61,021	41.808	38.000	27.463
ESURP	61,021	0.008	0.009	0.608
Indus	61,021	0.059	0.056	0.073
ln_Size	61,021	6.385	6.271	1.700
ln_BM	61,021	0.510	0.414	0.516
ln_Disp	61,021	0.087	0.037	0.188
Ltg	61,021	0.164	0.147	0.091
Beta	61,021	1.097	1.024	0.977

Table 2. Summary Statistics

Parameter	Panel A			Panel B		
	Estimate	Standard Error	p value	Estimate	Standard Error	p value
FCT	0.52	0.04	<.0001	0.50	0.04	<.0001
ESURP	7.23	1.72	<.0001	20.56	3.08	<.0001
FCT*ESURP	--	--	--	-0.25	0.04	<.0001
Indus	379.72	14.72	<.0001	380.12	14.72	<.0001
ln_Size	-1.22	0.69	0.078	-1.24	0.69	0.0740
ln_BM	285.78	2.28	<.0001	286.31	2.28	<.0001
ln_Disp	-214.44	5.73	<.0001	-214.47	5.73	<.0001
Ltg	748.42	13.48	<.0001	749.47	13.48	<.0001
Beta	11.40	1.09	<.0001	11.34	1.091	<.0001
	Fixed industry effect F=84.83 p<0.0001; R ² =0.3047			Fixed industry effect F=84.86 p<0.0001; R ² =0.3047		

Note: Regression based on fixed effects model of Fama-French industries.

Table 3: Implied Cost of Equity (in Basis Points) and Financial Closing Time: Cross-Section and Time-Series, 1982-2010.

To further tease out the effect of good or bad news on the relation between reporting lag and cost of equity, we add the interaction term FCT*ESURP into the regression equation. Panel B of Table 3 indicates that the coefficient on this interaction is significant and negative. We interpret this negative sign as the risk premiums required by investors goes even higher when the financial closing time is longer *and* the earnings news is bad. Bad earnings news exacerbates the higher risk premium associated with a slower reporting speed. This give us confidence in concluding that the relationship between reporting lag and cost of equity is not limited to firms' earnings news alone and reflects external investors' valuation of the effectiveness and efficiency of the underlying accounting processes and information systems within the firm. Descriptive statistics on the yearly mean and median of earnings surprises from 1982 to 2010 (not reported here) suggest that earnings surprises are true to their name as there seems to be no systematic pattern on the sign of the average surprises and the magnitude of the means are generally close to zero.

CONCLUDING REMARKS

In this research we examine the relation between firms' financial closing time and cost of equity capital. Our cross-section and time-series results indicate the existence of a positive relation between the two that is robust after controlling for other known determinants of cost of capital and reporting time. After examining the literature in this area, we argue that differences in reporting times reflect underlying differences in reporting capabilities across firms, and faster reporting reduce information asymmetry between managers and investors. Investors therefore reward such capabilities in financial reporting with lower required risk premium and cost of capital.

There are many benefits associated with implementations of ERPs and the redesign of business processes – not the least of which is reduced reporting times among others. Such endeavors are, however, not without their own challenges. These include the evaluation and selection of the appropriate technologies, which involve not only considering the specific functionality provided by each vendor but also the existing firm infrastructure. Equally important are the configuration and testing of the chosen technology, as well as its rollout and implementation including data conversion, training, and the fostering of user acceptance of the new processes. As a result, managers should weigh the costs and benefits of new projects. The theoretical modeling by Li and Pinsker (2005) considers both micro- and macro-level factors associated with the adoption of new technologies. Managers must weigh the increased transparency and associated reductions in cost of capital against the costs of technology implementation.

Our work quantifies some of these benefits. While the relevant costs of implementing new systems are private to each firm and likely heterogeneous across firms based on different legacy platforms, we show that the reduction in the time taken to produce and release earnings has non-trivial benefits. Specifically, our results suggest that a one-day reduction in reporting time is associated with half a basis point reduction in the cost of equity capital. Despite physical constraints that make real time reporting of earnings unlikely, improving reporting and information processing capabilities will bring substantial value in terms of reducing reporting time lags and associated cost of capital.

There are a number of ways in which our research could be extended in the future. First, in-depth case studies that examine the effects on accounting processes are surely needed. Such work would include collecting data on each accounting process and examine how those are affected by new technologies and system redesign. A second area would be to test our findings in emerging markets. The conceptual foundation for our research relies on the presence of strong incentives for managers to report earnings in a timely fashion. The same incentives for timely reporting, however, are not necessarily in place in emerging markets. Moreover, private information search as a substitute for timely public disclosure will be more expensive in new capital markets since they are likely to be more information-opaque. Thus future evidence from emerging markets will provide further insights into the incentives and the resulting reporting behaviors of managers operating in those environments.

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