An Empirical Test of the Optimal Disclosure Hypothesis
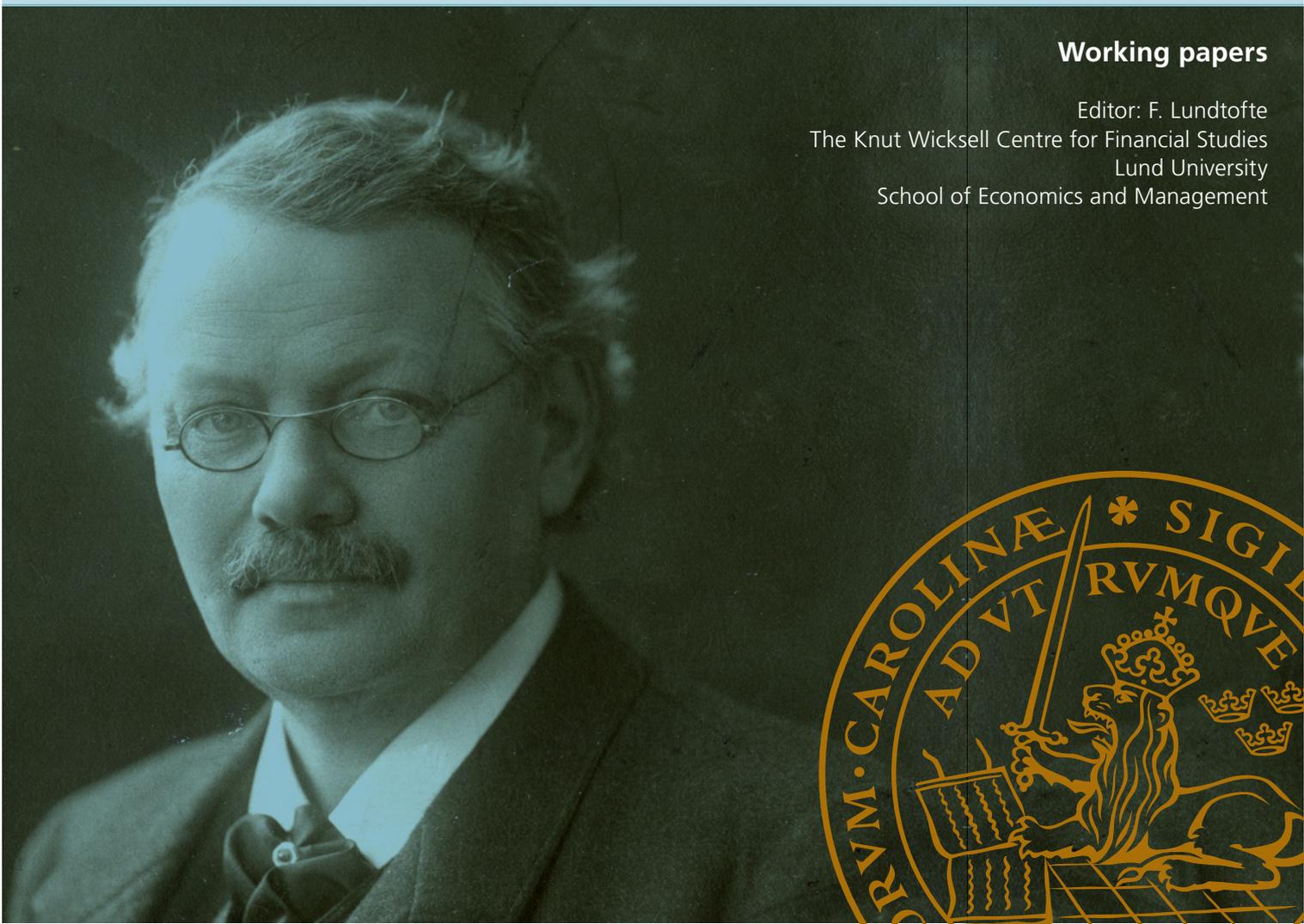
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Håkan Jankensgård*

Abstract

According to the cost-of-capital hypothesis, increased voluntary disclosure should reduce information asymmetries, lower the cost of capital, and increase firm value. The optimal-disclosure hypothesis, however, predicts that costs related to voluntary disclosure lead to the existence of an interior optimum of disclosure that maximizes firm value. These hypotheses are tested using disclosure indexes based on analysts' ratings of firms' financial reports for a sample of 181 Swedish firms. For annual reports, the data supports the optimal disclosure hypothesis, whereas for quarterly reports the findings suggest the existence of a "disclosure premium" in accordance with the cost of capital hypothesis.

Key words: Voluntary disclosure, cost of capital, Tobins q, optimal disclosure
JEL code: G30, G32

1. Introduction

A firm that is transparent and forthcoming with information will be rewarded by capital markets with a lower required rate of return for investing its securities, thus reducing its cost of capital and increasing its value. Such a view is not only the received wisdom, but it is also fairly well supported by financial theory. According to theoretical models, voluntary disclosure reduces two important sets of information asymmetries that impede financial contracting as well as trade in a firm's securities: the information gap between a firm's managers and its investors (Brown, 1979; Barry and Brown, 1984; Lambert, Leuz, and Verrecchia, 2007), and the information gap between investors with different levels of private information about the firm (Diamond and Verrecchia, 1991; Easley and O'Hara, 2004). Based on these theoretical models, subsequent empirical literature has generally assumed that the functional relationship between voluntary disclosure and the cost of capital is linear and negative (Welker, 1995; Botosan, 1997; Botosan and Plumlee, 2002; Hail, 2003). This can be referred to as the cost-of-capital hypothesis of voluntary disclosure.

The optimal disclosure-hypothesis, however, holds that voluntary disclosure increases firm value only up to a point, after which the costs of further disclosure will exceed the benefits. The literature has identified at least three sources of costs associated with voluntary disclosure. First, there are out-of-pocket expenses related to disclosure from having to produce and disseminate financial reports and other forms of investor communication (Singhvi and Desai, 1979). Second, disclosure may impair a firm's ability to compete in product markets since rival firms can make decisions in response to public information (e.g. Hayes and Lundholm, 1996). Third, there can be too much of a good thing: with limited abilities to absorb information, investors may simply 'drown' in a flood of information and have difficulties making sense of it (Oxelheim, 1999).

In this research I empirically test the cost of capital and optimal disclosure-hypotheses in a Tobins Q framework, using a sample of 181 Swedish listed firms from 2009. The extent and quality of firms' voluntary disclosure are captured through analysts' rankings of 1) annual reports, 2) quarterly reports, and 3) financial information on web pages. Such rankings, or so-called 'beauty contests', are commonly used by researchers as measures of voluntary disclosure (Daske and Gebhardt, 2006).

The data supports the optimal disclosure-hypothesis. Inconsistent with the cost of capital-hypothesis, the main disclosure index based on annual reports is insignificant (with a negative sign). When we add the squared term these variables are jointly significant at the 1%-level, however. The squared term is negative, suggesting decreasing marginal returns to disclosure beyond the optimal level. A tabular analysis of Tobins Q and disclosure (without controls) also supports the existence of a non-linear relation.

These findings are in contrast with Cheung, Jiang, and Tan (2010) who report a strong relation between disclosure and Tobins Q for a sample of Chinese firms. The difference could be explained by China being a relatively low-information environment, so that information-starved investors put a high value on disclosures.[1] Sweden, on the other hand, is an information-rich environment in which companies have responded to the post-Enron calls for increased transparency with substantial increases in the supply of financial information. The information overload-argument when it comes to annual reports in Western economies is by no means trivial. The Financial Reporting Council in the UK released a report in 2011 entitled 'Cutting Clutter: Combating the Clutter in Annual Reports'. In a similar vein, the European Financial Reporting Advisory Group (EFRAG) released a discussion paper in 2012 that

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[1] Another potential source of the difference is that these authors do not control for growth opportunities, which raises suspicions of omitted variable bias.

argues that the surge of information in financial footnotes has become 'a burden' for investors, who 'fail to see the wood for the trees'.

The data does, however, suggest that a "disclosure premium" for the disclosure index targeting the flow of information *between* two annual reports (that is, the firms' quarterly reports and financial information made available on the firms' web page). For this index the squared term adds nothing. This premium, however, appears to be conditional on a firm having an above-median number of analysts following it. This makes sense if analysts are the primary "consumers" of quarterly reports, which tend to go more unnoticed for smaller firms. Managers heeding the results in this paper, then, might do well to reconsider the amount of resources being directed towards the annual report, and instead increase the supply of information in the quarterly reports and web pages (especially, then, if their company has an analyst following).

When interpreting these results, it should be kept in mind that disclosure and firm value are potentially endogenous variables (Nikolaev and Van Lent, 2005). For example, talented managers may use voluntary disclosure as a way to signal their ability (Healy and Palepu, 2001). It could therefore be expected that high-performing firms are more forthcoming with information, which could induce a spurious relation between firm value and voluntary disclosure. In this paper I use a rich set of controls as the primary strategy for dealing with potential endogeneity. We first document that firms disclosure levels are significantly related to size, investment opportunities, profitability, and diversification (all have a positive sign). Since these, together with other variables identified by Allayannis and Weston (2001), are included as controls in the Tobins Q-regression we reduce the risk that our estimates of the returns to disclosure are biased due to omitted variable bias. I also highlight and discuss other

reasons why endogeneity is unlikely to be a major concern when interpreting the findings in this paper. Nevertheless, I do also look at an instrumental variables-approach (2SLS) for dealing with potential unobserved firm heterogeneity. The results in the 2SLS-regression are not qualitatively different from the OLS-results.

The main contribution of this paper is that it is the first to explore the optimal disclosure-hypothesis in a Tobins Q-setting, similar to how earlier papers have sought to empirically test for non-linear relationships between managerial ownership and firm value (Morck, Shleifer, and Vishny, 1988; Chen and Steiner, 2000). Most of the empirical papers in the voluntary disclosure-literature rely on the research design introduced in Botosan (1997), in which the cost of capital is derived as the internal rate of return that equates the current stock price with the forecasted earnings obtained from security analysts. In a departure from this research design this paper instead uses firm value (as measured by Tobins Q) as the independent variable, closely following the Tobins Q-framework in Allayannis and Weston (2001). Besides requiring some fairly arbitrary choices with regard to terminal value calculations, the implied cost-of-capital approach has the drawback of relying on subjective analyst forecasts. It is well documented in the literature that these forecasts suffer from an optimistic bias (McNichols and O'Brien, 1997; Ertimur, Muslu, and Zhang, 2011). Such an upward bias means that the internal rate required to equate the forecasts with the stock price will be inflated relative the true cost of capital.[2] Also, which perhaps is more problematic, there will be a bias in the implied cost-of-capital estimates insofar the optimistic bias in analysts' forecasts is systematically linked to certain firm attributes.

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[2] Indeed, Botosan (1997) reports an estimated average implied cost of equity capital of 20.1%, which even considering the long-term interest rates at the time of her study (around 7%), seems like a high estimate.

Several earlier empirical papers have acknowledged the costs related to disclosure, but preferred to specify their hypothesis as indeterminate, meaning that either benefits or costs dominate (e.g. Francis, Nanda, and Olsson, 2008). However, the idea that there is an interior optimum of information release has a long pedigree (Diamond, 1985), suggesting that a non-linear model specification is more appropriate. A few other papers in the literature have used Tobins Q to measure the value-impact of disclosure (Cheung, Jiang, and Tan, 2010; Jiao, 2011). However, none of these papers have tested for a non-linear relationship. This study fills this gap. It also adds to the literature about the determinants of various forms of voluntary disclosure (Marston and Shrives, 1991; Lang and Lundholm, 1993; Nagar, Nanda, and Wysocki, 2003). We find, in particular, that an important driver of disclosure is investment growth, presumably because fast-growing firms need to maintain an open window to capital markets to finance their growth.

The paper proceeds as follows. In Section 2 we review the relevant literature. Section 3 reports the data used in the study. Section 4 contains our empirical analysis. Section 5 concludes the paper.

2. Literature review

As mentioned in the introduction, the basic prediction of the theoretical literature on voluntary corporate disclosure is that more disclosure generally leads to a lower cost of capital. Researchers have identified several explanations why cost of capital should be a decreasing function of the level of disclosure. One argument is that disclosure by firms decreases the information asymmetry between well-informed and less well-informed investors. Less informed investors will demand higher return to hold stocks for which private information is higher (Diamond, 1985; Diamond and Verecchia, 1991; Easley and O'Hara, 2004). This

introduces a bid-ask spread and reduces the number of shares that less informed investors are willing to buy or sell, which lowers the liquidity of a firm's shares. This information risk is systemic, and consequently priced by these investors, in the sense that less informed investors are always on the disadvantageous end of the deal (Easley and O'Hara, 2004). A policy of high disclosure will tend to mitigate this problem by making private information public, thus lowering the informational advantage of informed traders.

A second line of argument focuses instead on the information asymmetry between a firm and its investors. In the process of valuing a firm's shares investors and analysts to a large extent rely on information provided by the firm itself. In asset pricing models investors are typically assumed to have perfect foresight with respect to the parameters of a security's future return distribution, which leads to the counterintuitive conclusion that corporate disclosure is irrelevant to the cost of capital. Some researchers have relaxed the perfect foresight-assumption and allowed so-called 'estimation risk' to affect a firm's cost of capital (Brown, 1979; Barry and Brown, 1984; Lambert et al, 2007). In this literature estimation risk is construed as the increase in cost of capital that arises because investors cannot be sure about the true parameters of the security's payoff distribution. Again, additional disclosure, since it allows investors be more confident in their forecasts, should have a beneficial effect resulting from the fact that it lowers the estimation risk component of the cost of capital.

A third argument for a negative relationship between disclosure and cost of capital is that increased transparency reduces agency costs. According to Leuz and Wyzocki (2008), disclosure can have first-order effects on agency problems and investment efficiency. The idea is that disclosure improves managerial decision-making and reduces management's possibilities for pursuing pet projects or otherwise appropriate wealth. An important part of

this argumentation is the observation that the ability of capital markets and labour markets to monitor management decreases as disclosure levels fall. As a result, to maximize private control benefits, managers generally prefer less disclosure. This has prompted Nagar, Nanda and Wysocki (2003) to argue that "the disclosure agency problem the fundamental agency problem underlying other agency problems".

While the above arguments suggest substantial benefits of increased disclosure, the costs of disclosure also need to be taken into account. First there are straightforward direct costs, which arise due to the need to produce and disseminate financial reports and other forms of investor communication. These activities can entail high fixed costs that are especially burdensome for small firms (Singhvi and Desai, 1979). Researchers have also identified indirect costs of disclosure. These come about mainly because information disclosed by a firm, in response to a demand for such information in the investor community, is also observed by its competitors. For example, Hayes and Lundholm (1996) develop a model in which a rival firm allocates its investment budget based on proprietary information about business segments revealed by the focal firm. Such a competitive threat is anticipated and lowers the optimal level of disclosure in equilibrium. Some researchers have also argued that there can be too much of a good thing. It is also possible that high levels of information can do more harm than good, simply because the receiver is overwhelmed by the amount and unable to process it at a reasonable cost (Oxelheim, 1999).

The empirical literature investigating the predictions of the models of voluntary disclosure originally focused on its effect on directly observable outcomes in the stock market, such as bid-ask spreads and trading volume. This strand has, by and large, been able to document the

predicted negative relationship between disclosure and proxies for the firm's cost of capital (Welker, 1995; Healy, Hutton, and Palepu, 1999; Leuz and Verrecchia, 2000; Ng, 2011).

Botosan (1997) introduced a new research design that aimed to measure the impact of corporate disclosure on cost of capital in a direct way. Using a discounted dividends formula, one is able to solve for the discount rate that equates the prevailing dividend forecast with the current market price. In a second step, a cross-sectional analysis of the cost of capital estimates is carried out with a disclosure index as an independent variables Her main findings for the mechanics-industry in the US were that disclosure indeed is associated with a lower cost of capital, but only for firms with a low analyst following. For the full sample, however, there is no significant relationship. Botosan and Plumlee (2002), using a larger sample, find the expected negative relationship for measures of disclosure based on annual reports, but for measures based on press-releases the opposite result is found. Using a sample of Swiss firms, Hail (2003) finds that more forthcoming firms enjoy a significantly lower cost of capital estimate, a finding attributed to a weak disclosure environment, with Swiss firms having considerable latitude in setting their disclosure policy.

In summary, the literature has, by and large, found the negative association that theory would predict, although the results are sometimes described as somewhat 'mixed' (Leuz and Wysocki, 2008). None of the reviewed studies have, however, allowed for the possibility of a non-linear relation on account of the previously discussed costs of disclosure. The rest of the paper will pursue this hypothesis.

3. Data

3.1 Sample

Eligible firms for inclusion are those listed on the Small, Medium and Large-Cap lists on the Stockholm Stock Exchange as of 2009-12-31 (257 firms). Financial firms and firms domiciled in other countries were excluded to maximize comparability. To be included, a full set of data was required for the variables discussed below. The number of firms in the final sample is 181. The industry composition for the final sample is as follows: Telecom 1%, Property 10%, Material 7%, Industry 24%, Healthcare 13%, IT 25%, Energy, 2%, Discretionary 16%, and Staples 3%.

3.2 Measuring disclosure

As our measure of disclosure we use the score assigned to annual reports by Aktiespararna (an association representing the interests of small shareholders in Sweden) in collaboration with the Swedish financial advisory company Kanton. Our variable *ADISC* is thus the score obtained in Aktiespararnas and Kantons annual ranking. *QDISC* is the similarly obtained ranking of these firms' quarterly reports. *WDISC* is the score given to the amount of information about financial performance and corporate governance available on the company's website. These variables are thus the scores obtained what has been labelled 'beauty contests', which are regularly conducted in a large number of companies and extensively used in academic research (Daske och Gebhardt, 2006).

Aktiespararna has carried out this review of annual reports since 1992. Kanton joined the partnership in 2008. According to Kanton, the criteria for the rankings are selected based on yearly reviews of the international research on corporate disclosure, as well as discussions with relevant third parties, such as the Swedish Association of Financial Analysts. At least two analysts have scrutinized each annual report. Reviewed companies are informed about

their score on each criterion and given the chance to comment before the final grading is set. The range of possible scores in the YDISC disclosure index is between zero and 52. The main categories considered are 1) company description, 2) share price-related information, 3) key financial ratios (five years back in time), 4) corporate governance, and 5) profit forecast and risk-analysis. The complete list of categories and sub-categories is found in appendix A. The criteria for QDISC and WDISC are found in appendices B and C.

Previous research has shown that it is important to consider the economic impact of disclosure information in light of the degree of analyst coverage of the firm's stock. For example, Botosan (1997) finds that disclosure decreases cost of capital but only for firms with low analyst coverage. Security analysts constitute an important intermediate of information between a firm and the investor community, as well as a producer of novel information about a firm (Bhushan, 1989). We define *ANALYST* as the number of stock market analysts following a firm. The data for this variable is obtained from Bloomberg and Reuters.

3.3 Measuring firm value

To estimate firm value, most researchers in the hedging premium-literature uses *TOBINS Q* defined as Total Book Value of Assets minus Book Value of Equity plus Market Value of Assets divided by Total Book Value of Assets. This is also the definition used in this paper. Since Tobins Q exhibits a skewed distribution I follow the practice in the literature of taking the natural log, which also has the advantage of allowing interpretations of regression coefficients in percentage terms. Data for Tobins Q was obtained from Datastream

3.4 Other determinants of firm value

To measure the marginal impact of disclosure as accurately as possible it is important to control for other factors that research has shown to be relevant for firm value. In this section I introduce each of these controls. The selection of variables draws largely on Allayannis and Weston (2001), where a more detailed discussion of the theoretical background of each variable is available. To preserve space, I keep the introduction here brief. Unless otherwise stated, the data for calculating the variables is obtained from Datastream.

The degree of debt financing in a firm's balance sheet may impact firm value because of its influence on managerial incentives as well as the risk of financial distress. *LEVERAGE* is defined as Total Interest-bearing Debt/Total Assets. A firm's size may impact firm value positively because of economies of scale and synergies, but negatively because the company becomes more difficult to manage. We define *SIZE* as the log of the firm's Total Assets. We would expect a profitable firm to, all else equal, have a higher market valuation than a less profitable one. We define *PROFITABILITY* as Net Income/Total Assets. Similarly, we would expect that higher expected growth rates would translate into a higher firm value. *CAPEX* is defined as Additions to Fixed Assets/Total Sales. To control for the degree of alignment between the incentives of management and the firm's owners we define *MGTOWN* as shares owned by the firm's CEO plus CFO divided by Total Shares. Data on managerial ownership is obtained from annual reports. We also use *BLOCKOWN,* computed as the number of shares owned by non-managerial blockholders divided by the total number of shares, where a blockholder is defined as a shareholder owning more than 10% of the firm's total number of shares. Data on block holdings is obtained from annual reports. Access to capital markets is proxied by *DIVIDEND,* which is defined as total cash dividends (including preferred) to the market capitalization of the firm's equity. The logic is that companies that are financially

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constrained would normally not be expected to pay a large fraction as dividends. We define *DIVERSIFIED* as a dummy with value = 1 if the company operates in two or more product segments. Diversification is considered to impact firm value negatively, since diversified companies are more difficult to manage and may also reflect agency problems since managers have personal incentives to increase firm size. Geographical diversification is also value-relevant since international growth enables a firm to leverage their comparative advantages across more markets, though it also increases complexity. To proxy for the degree of internationalization we define *FOREIGN* as the ratio of Foreign Sales to Total Sales. To control for industry effects, I define a dummy for each industry following the Global Industry Classification Standard (GICS). *MATURITY* is defined as Retained Earnings to Total Equity. Higher accumulated profits would be expected to signal that a company is older, more established, and has a proven track record.

The variables used in the study are summed up in Table 1.

[INSERT TABLE 1 ABOUT HERE]

4. Results

4.1 Descriptive statistics

Table 2 reports the descriptive statistics of the variables introduced in section 3. Graph 1 shows the distribution for YDISC. Table 3 reports the correlation matrix for the full sample. Table 4 shows the average Tobins Q associated with different deciles of YDISC.

[INSERT TABLE 2 ABOUT HERE]

[INSERT GRAPH 1 ABOUT HERE]

[INSERT TABLE 3 ABOUT HERE]

[INSERT TABLE 4 ABOUT HERE]

In Table 2 we note that there are, remarkably, some companies that fail to obtain even a single point in terms of their quarterly reports and web page. Several noteworthy correlations emerge from Table 3. We see that the correlation between YDISC and QDISC, while significant, is surprisingly low. It tells us that those companies that are considered as having informative annual reports are not necessarily those with the most informative quarterly reports. WDISC and YDISC show a higher correlation, suggesting that companies that are more ambitious with their annual reports also have more informative web pages. ANALYST is positively correlated with all three disclosure indexes. We would expect analysts to be both attracted to firms with good disclosure, as well as demand good disclosure from those it follows. However, the correlations in Table 3 need to be considered against the fact that many variables are highly correlated with SIZE, and that the correlations therefore can be poor indicators of marginal impacts. This would explain why the disclosure index, contrary to expectations, is negatively correlated with Tobins Q.

We also observe in Table 3 that QDISC is negatively correlated with MGTOWN and BLOCKOWN. Especially the last correlation might be suggestive of an agency problem between majority and minority owners in that closely held companies are not as forthcoming with financial information.

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Table 4 gives an early indication that the optimal disclosure-hypothesis more adequately describes the relation between disclosure and Tobins Q. The lowest disclosure-decile is associated with below-average Tobins Q. For the following deciles Tobins Q increases, and then tapers off again at the highest deciles.

4.2 Determinants of disclosure

In this section we analyze the determinants of our disclosure indexes using OLS.[3] Table 5 reports the results.

[INSERT TABLE 5 ABOUT HERE]

In Table 5 four variables are statistically significant. As expected, SIZE positively influences the amount of disclosure, consistent with previous research (Marston and Shrives, 1991). The coefficient on PROFITABILITY has a positive sign. This is broadly consistent with the notion that more talented managers (i.e. those that have higher profits) are more forthcoming with information to signal their quality (Healy and Palepu, 2001), and is also consistent with previous research (Lang and Lundholm, 1993). The positive coefficient on CAPEX indicates that faster-growing firms are more prone to disclose information. Presumably this reflects the perceived need of these companies to finance their growth in the capital markets and thus release more information. Several studies have linked higher levels of disclosure with an increase in financing needs (e.g. Frankel, McNichols, and Wilson, 1995). DIVERSIFIED is positively related to disclosure, consistent with the notion that these firms are more complex, requiring more disclosure to counteract information asymmetries.

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[3] The disclosure indexes can be argued to be count variables in that the sum a finite number of binary indicators (the subcriteria in the ranking), suggesting a poisson or negative binomial estimation. However, sometimes half a point is given for a given criterion, and these estimation methods only deal with positive integers.

For QDISC the model is able to explain much less of the variance. CAPEX is again significant with a positive sign. Surprisingly neither SIZE nor ANALYST achieves significance. BLOCKOWN is marginally insignificant with the negative sign, further indication that a problem might exist that the owners of closely held companies obtain benefits from private information. In the model with WDISC as dependent only SIZE is significant.

Altogether, investment growth, and the presumed financing needs that accompany this growth, is an important determinant of disclosure activities. This suggests that future research should incorporate this variable in models explaining disclosure scores (for example, neither Lang and Lundholm, 1993, nor Nagar, Nanda and Wysocki, 2003, include growth indicators in their regressions).

Somewhat surprisingly, ANALYST fails to achieve significance in any of the specifications. Once SIZE is partialled out, the number of analysts does not seem to drive disclosure activities. However, as will be further discussed in section 4.4, if we use the transformed variable LOG(ANALYST + 1) it does turn our to be significant in the WDISC equation.

4.3 Does derivative disclosure impact the derivative premium?

In this section we report the results from a multivariate analysis in which the dependent variable is Tobins Q. The purpose is to test if firm value is influenced by disclosure rankings, holding other factors that impact firm value constant. Reflecting our hypothesis that there is an interior optimum of disclosure, the general model we are interested in is as follows:

$$\text{Tobins Q} \quad = \quad b_0 + b_1\text{Disclosure} + b_2\text{Disclosure}^2 + b_3\text{Controls} + e \qquad (1)$$

According to our hypothesis, the coefficient b_1 should be positive, reflecting the benefits of lowering information asymmetries, whereas b_2 should be negative, reflecting diminishing returns (and increasing costs) to more information. To preserve space in the tables we merge QDISC and WDISC into a single variable labeled *CDISC,* which can be said to represent the flow of information made available to investors in between two annual reports. This sum is also how Aktiespararna/Kanton present this information, suggesting that it is appropriate to view them together.

Table 6 reports the results. Specification 1 (S1) contains YDISC without any squared terms. If the cost of capital-hypothesis holds, we would expect this coefficient to be positive and significant. In S2 we add YDISC^2, which is the squared variable. If the optimal disclosure-hypothesis holds, we would expect these two variables to be jointly significant. In S3 we add QDISC, thus asking the question: "for any given level of disclosure in annual reports, does Tobins Q increase in the level of continuous disclosure (quarterly reports and web page)?" In S4 we add the square of QDISC to investigate the optimal disclosure-hypothesis concerning this variable. All specifications contain industry fixed effects.

[INSERT TABLE 6 ABOUT HERE]

We see in Table 6 that, standing on its own, YDISC is not significant. When YDISC^2 is added, none of the variables reach conventional levels of significance individually. However, by definition these variables will be highly correlated and therefore suffer from multicollinearity, which will decrease the t-statistic of individual coefficients. Therefore we should look at the F-test for joint significance. Such a test with 2 nominator degrees of

freedom and 157 (181 – 22 – 2) denominator degrees of freedom returns an F-statistic of about 9.8, which is significant at the 1%-level. We therefore have evidence in support of the optimal disclosure-hypothesis. Graph 2 shows the relationship between YDISC and Tobins Q. The maximum value is obtained at 28.

[INSERT GRAPH 2 ABOUT HERE]

CDISC on its own is statistically significant, but not jointly significant with CDISC^2. This suggests that investors take a more unambiguously positive view of information releases as made available through quarterly reports and firms' web. Possibly, annual reports suffer more from the costs identified with disclosure, such as the 'clutter' mentioned in the introduction, whereas the flow of information at regular intervals is key to investors' ability to assess a firm's prospects. However, this finding is sensitive to the definition of ANALYST as we will return to in Section 4.5.

It is noteworthy that ANALYST is consistently significant across model specifications. While analyst coverage is known to carry several benefits for firms, such as improving the liquidity of a firm's share, increasing the share's visibility, and reducing mispricing (Bhushan, 1989) we should be careful not to infer causality too fast. One issue that analysts have an incentive to pick successful firms whose shares have broad appeal to investors because they can earn more in brokerage fees (Chung and Lo, 1996). Another reason is that companies, in recognition of the benefits of analyst coverage, will be pro-active in attracting an analyst following (Bhushan, 1989). While these arguments do suggest an endogenous relationship between TOBINS Q and ANALYST, we will not further pursue this issue here, as it lies outside the scope of this paper.

4.4 Are Tobins Q and disclosure endogenous?

As noted previously, one might suspect an endogenous relationship between our disclosure indexes and Tobins Q. If this is true, the error term is correlated with the disclosure variable, so our estimate of the returns to disclosure will be biased. Since the literature has pointed out endogeneity as a potential problem when measuring the impact of disclosure (see Nikolaev and Van Lent, 2005, for an overview) we address this question in this section.

Several arguments give reason to think that endogeneity is not a major concern in this study. First of all, the coefficient on ADISC on its own (without the squared term) is not significant in explaining Tobins Q when other factors are controlled for. Second, our model of Tobins Q includes a large number of relevant control variables identified in the literature. Notably, we control for profitability and investment growth (PROFITABILITY and CAPEX), which we showed in section 4.2 to be significant determinants of disclosure. If these had been excluded they would have been leading candidates for causing the omitted variable bias, insofar we think the potential endogenous relationship is caused by 'better' or 'more successful' firms being more prone to disclose information.

With PROFITABILITY and CAPEX included in the model, the leading source of unobserved firm heterogeneity would be that we have not controlled for that elusive component 'quality of investment opportunities'. That is, firms with exciting investment opportunities may both show higher disclosure and enjoy a higher Tobins Q, in which case higher disclosure per se is not causing the positive impact on Tobins Q. First of all, we would expect the variable CAPEX to capture this dimension too. Second, the tendency for firms with good investment opportunities to pursue a high-growth disclosure strategy would normally be mitigated by the potential for a loss of competitiveness from such disclosure.

For the reasons given above, we should not expect endogeneity issues to be a major concern in interpreting our results. Nonetheless, we do create an instrument for ADISC and apply a 2SLS-procedure. We argue that the number of pages, denoted PAGES, in a firm's annual report will be correlated with disclosure, but there are no strong reasons to believe it is correlated with our suspected firm heterogeneity, which is the 'quality' of future investment opportunities. While this variable does exhibit the desired correlation with YDISC, using the predicted values of YDISC in the Tobins Q-regression does not alter any of the conclusions. Causality should still be inferred with some caution, however. It cannot be ruled out that the endogenous relationship is more complex, e.g. non-linear, than the one addressed in this section.

4.5 Robustness

As noted earlier, the variable ANALYST exhibits a positive skew (the skewness measure is about 1.6). Given its high correlation with other variables this could influence the estimated coefficients. To explore this possibility, we take the log transformation LOG(ANALYST+1) and re-estimate all model specifications.[4] Our result with regard to the non-linear relationship between YDISC and Tobins Q is unaffected (in fact, the F-statistic increases somewhat). However, using the transformed measure causes CDISC to lose its significance. At the same time, the transformed variable becomes significant in explaining the level of disclosure for the variable WDISC. So the results in Table 5 need to be viewed in light of this sensitivity to the definition of the ANALYST-variable.

We also note that the literature has identified that non-linear relations might be appropriate both for MGTOWN and BLOCKOWN (e.g. Chen and Steiner, 2000). Defining MGTOWN^2

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[4] The use of the log-transformation for analyst following is mixed in the literature. For example, Lang and Lundholm (1996) use the raw variable, whereas Nagar, Nanda, and Wysocki (2003) use the transformed variable.

and BLOCKOWN^2 as the squares of these variables and adding them to the model, we find that the results reported in Table 5 are unaffected.

Botosan (1997) reports that the conclusion with regard to the benefits of disclosure is highly conditional on a firm being classified as having either a 'high' or 'low' analyst following. Specifically, the benefits of disclosure seem to accrue mainly to firms with a low number of analysts. While we do control for analyst coverage in the model, we now split the sample according to which side of the median value of ANALYST a company finds itself. In the high-analyst sample, we find that the result with regard to CDISC holds (significant at the 5%-level) but that YDISC and YDISC^2 are no longer jointly significant. In the low-analyst sample we have the opposite: YDISC and YDISC^2 are significant, but CDISC fails to be so. This suggests that analysts place higher relevance on the flow of information at regular intervals throughout the year as opposed to the annual report. It is also suggesting that costs of disclosure may be more pronounced for low-analyst firms (who are also likely to be small). The fixed costs of information production is likely to be higher in these firms, and they may also be more exposed to the risk the full disclosure represents a threat to their competitive position (Singhvi and Desai, 1971).

5. Conclusions

Post-Enron and other corporate scandals, regulators and policy makers have made loud calls for increased corporate transparency . Companies have responded to these calls with ever more extensive financial reporting, to the point that there are growing concerns that there is too much information produced. Our findings in this paper suggest some of these concerns about "clutter" in annual reports may be warranted. There is no relation between Tobins Q and the disclosure index based on annual reports, but when the squared term is added they are

jointly significant at the 1%-level. The squared term is negative, consistent with the idea of the existence of an optimal disclosure at which the costs related to disclosure overtake the benefits. This suggests that, in an important sense, the winners in the so-called 'beauty contests' may not be winners after all.

When it comes to disclosure between two annual reports (quarterly reports and financial information on web pages) the picture looks different. Here we have evidence of a disclosure premium, especially when a firm has a large analyst following. In this model the squared term is not significant, suggesting that quarterly reports suffer to a much lesser extent of the clutter-problem and other costs to disclosure, and that investors are less spoilt with information on this dimension and therefore value it more. Indeed, we find that a handful of companies fail to even score a single point in these indexes. We conclude that managers may do well to reconsider a high-disclosure strategy for their annual report, and instead redirect these resources to the production of quarterly reports and to making relevant financial information available on an ongoing basis.

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APPENDIX A: TABLES AND FIGURES

TABLE I
Summary of variables and data sources
This table shows the variables included in the empirical analysis. The 'Definition'-column explains how the variable has been computed and 'Data source''-column indicates from where the data was obtained.
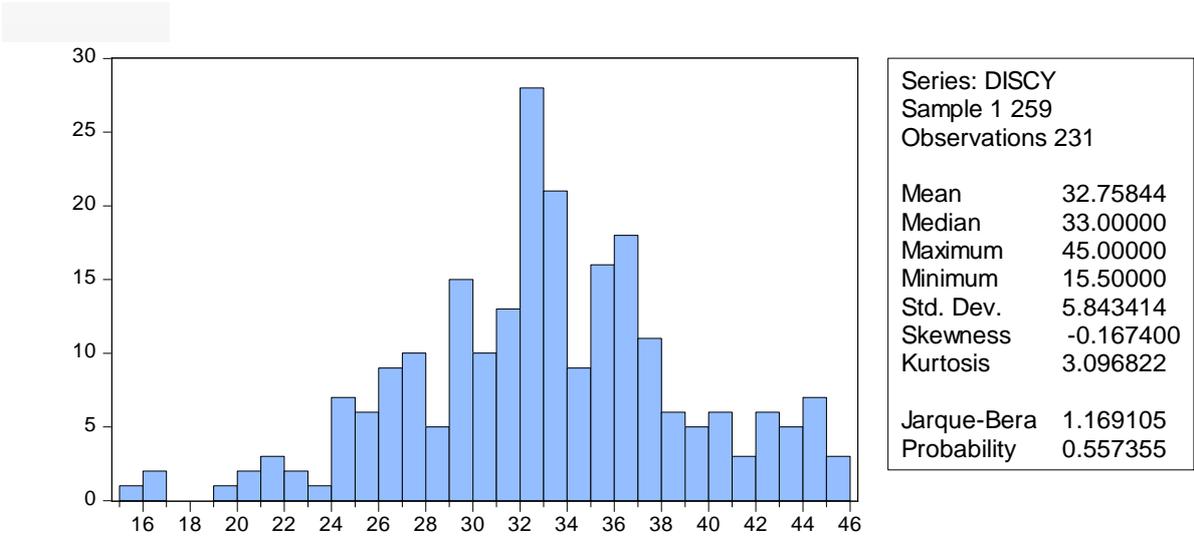
	Definition	Data source
Dependent variable		
TOBINSQ	(Total book value of assets less Book value of equity plus Market value of equity) / Total book value of assets	Datastream
Independent variables		
YDISC	Disclosure index concerning Swedish listed firms' annual reports	Aktiespararna, Kanton
QDISC	Disclosure index concerning Swedish listed firms' quarterly reports	Aktiespararna, Kanton
WDISC	Disclosure index concerning Swedish listed firms' financial information on the www	Kanton
ANALYST	The number of stock market analysts following the firm	Bloombergs, Reuters
LEVERAGE	Total book value of debt / Total book value of assets	Datastream
CAPEX	Additions to fixed assets / Total sales	Datastream
PROFITABILITY	Net income / Total assets	Datastream
MGTOWN	Number of shares held by CEO and CFO / Total number of shares	Annual reports
BLOCKOWN	A dummy with value = 1 if the firm has an non-executive shareholder holding more than 10% of the firm's shares	Börsguiden
SIZE	The log of the firms total assets	Datastream
DIVIDEND	A dummy with value = 1 if the firm has paid a dividend in the year	Datastream
FOREIGN	Foreign sales / Total sales	Datastream
DIVERSIFIED	A dummy with value = 1 if the company operates in two or more product segments	Datastream
MATURITY	Retained earnings / Total equity	Datastream

TABLE 2
Descriptive statistics

In this table summary statistics for the variables included in the study are reported. For definitions, see Table 1.

	Number	Mean	Median	Max	Min	Standard deviation
TOBINSQ	181	33,19	33,00	45,00	16,00	5,73
YDISC	181	10,68	10,50	17,00	3,50	2,57
QDISC	181	12,62	12,00	31,50	-	6,10
WDISC	181	6,60	4,00	35,00	-	7,86
ANALYST	181	0,21	0,17	0,74	-	0,19
LEVERAGE	181	0,08	0,02	1,55	-	0,21
CAPEX	181	0,01	0,02	0,38	-0,41	0,10
PROFITABILITY	181	0,04	0,00	0,85	-	0,10
MGTOWN	181	0,27	0,23	0,81	-	0,21
BLOCKOWN	181	6,38	6,23	8,50	4,48	0,88
SIZE	181	0,64	1,00	1,00	-	0,48
DIVIDEND	181	0,51	0,53	1,00	-	0,33
FOREIGN	181	0,56	1,00	1,00	-	0,50
DIVERSIFIED	181	0,60	1,00	1,00	-	0,49
MATURITY	181	-0,33	0,53	0,99	-28,38	3,65

Graph 1 Histogram for YDISC

Series: DISCY	
Sample 1 259	
Observations 231	
Mean	32.75844
Median	33.00000
Maximum	45.00000
Minimum	15.50000
Std. Dev.	5.843414
Skewness	-0.167400
Kurtosis	3.096822
Jarque-Bera	1.169105
Probability	0.557355

TABLE 3
Pearson correlations

The table shows pairwise Pearson correlation-coefficients. Statistical significance at the 10%-level is denoted by *, while ** and *** denote the 5- and 1%-levels respectively.

	TobQ	Ydisc	Qdisc	Wdisc	Analyst	Levg.	Capex	Prof.	Mgt Own	Block Own	Size	Divd.	Foreign	Divers.	Mat
TOBINSQ	1														
YDISC	-0,236***	1													
QDISC	0,046	0,141**	1												
WEB	-0,088	0,485***	0,253***	1											
ANALYST	0,042	0,315***	0,135*	0,438***	1										
LEVERAGE	-0,314***	0,279***	-0,050	0,265***	0,230***	1									
CAPEX	-0,151**	0,249***	0,049	0,161**	0,035	0,444***	1								
PROFIT.	0,010	0,220***	0,132*	0,076	0,131*	-0,014	-0,028	1							
MGTOWN	-0,126*	-0,109	0,029	-0,072	-0,157**	0,133*	0,035	0,034	1						
BLOCKOWN	-0,168*	0,008	-0,130*	-0,072	-0,165**	0,130*	0,050	0,042	0,030	1					
SIZE	-0,324***	0,473	0,037	0,501***	0,767***	0,443***	0,209***	0,139*	-0,114	0,047	11				
DIVIDEND	-0,066	0,119***	0,008	0,056	0,243***	0,059	0,056	0,422***	-0,087	0,142*	0,335***	1			
FOREIGN	0,099	0,142*	0,084	0,059	0,217***	-0,208**	-0,178**	0,085	-0,194***	-0,067	0,117	0,000	1		
DIVERSIFIED	-0,113	0,232***	0,073	0,131*	0,237***	0,049	0,005	0,067	-0,046	-0,007	0,215***	0,019	0,140*	1	
MATURITY	-0,311***	0,213***	0,133*	0,157**	0,168**	0,026	0,066	0,390***	0,063	0,085	0,316***	0,225***	0,103	0,018	1

TABLE 4

Mean Tobins Q at different deciles of analysts' ranking of disclosure in annual reports

This table reports the average Tobins Q for different deciles of the disclosure index YDISC, which is based on the yearly ranking of the informativeness of annual reports by Aktiespararna and Kanton. Aktiespararna is an association representing small shareholders in Sweden. Kanton is a Swedish financial advisory firm.

Percentile of YDISC	Tobins Q Mean
0-10	1,353
10-20	2,584
20-30	1,484
30-40	1,468
40-50	1,893
50-60	1,231
60-70	1,383
70-80	1,059
80-90	1,452
90-100	1,035

TABLE 5

An OLS model of the determinants of disclosure

This table reports the results from an OLS-model in which the dependent variables are three different disclosure indexes: YDISC (annual reports), QDISC (Quarterly reports) and WDISC (Webpage). These disclosure rankings are carried out each year since 1992 by the Swedish association for small shareholder (Aktiespararna), since 2008 in cooperation with Swedish financial advisory firm Kanton. The sample consists of 181Swedish listed firms in 2009. The slope and p-value for each independent variable in these three regressions are reported together with the model summary statistics. For definitions of variables, see Table 1. Statistical significance at the 10%-level is denoted by *, while ** and *** denote the 5- and 1%-levels respectively. All specifications contain industry fixed effects.

	YDISC (n=181)		QDISC (n=181)		WEB (n=181)	
	Slope	**P-value**	**Slope**	**P-value**	**Slope**	**P-value**
C	11,580	0,011	9,610	0,000	-5,928	0,208
ANALYST	-0,080	0,317	10,826	0,000	-4,341	0,385
LEVERAGE	1,571	0,542	0,034	0,415	0,070	0,429
CAPEX	**7,354**	**0,005***	-1,054	0,439	1,234	0,664
PROFITABILITY	**9,524**	**0,016**	**3,672**	**0,009***	4,585	0,115
MGTOWN	-4,792	0,189	2,474	0,235	1,618	0,709
BLOCKOWN	-0,855	0,634	0,170	0,930	-2,409	0,553
SIZE	**3,110**	**0,000***	-1,263	0,187	-2,311	0,248
DIVIDEND	-12,293	0,379	0,012	0,977	**2,719**	**0,002***
FOREIGN	1,434	0,281	-10,895	0,143	-12,967	0,403
DIVERSIFIED	**1,614**	**0,033**	-0,922	0,192	-1,997	0,176
MATURITY	0,041	0,718	0,447	0,261	0,418	0,615
Prob(F-Statistic)	0,329		0,122		0,263	
Adjusted R-SQR	0,000		0,002		0,000	

TABLE 6

An OLS model of firm value

This table reports the results from an OLS-model in which the dependent variable is the log of Tobins Q, defined as (Total book value of assets less book value of equity plus market value of equity)/Total book value of assets. Key independent variables are two disclosure indexes: YDISC (annual reports) and CDISC. CDISC is the sum of two disclosure indexes, QDISC (quarterly reports) and WDISC (Webpage). In specification 1 (S1) Tobins Q is a linear function of YDISC to test the information asymmetry hypothesis of corporate disclosure. In S2 we add the quadratic term of YDISC to test the optimal transparency hypothesis. In S3 we include the CDISC variable to check if investors place a value on 'continuous disclosure', given a certain level of informativeness in annual reports. In S4 we add the quadratic term to test the optimal transparency hypothesis for continuous disclosure. These disclosure rankings are carried out each year since 1992 by the Swedish association for small shareholder (Aktiesparana), since 2008 in cooperation with Swedish financial advisory firm Kanton. The sample consists of 181Swedish listed firms in 2009. The slope and p-value for each independent variable in these three regressions are reported together with the model summary statistics. For definitions of variables, see Table 1. Statistical significance at the 10%-level is denoted by *, while ** and *** denote the 5- and 1%-levels respectively. All specifications contain industry fixed effects.

	S1 (n=181)		S2 (n=181)		S3 (n=181)		S4 (n=181)	
	Slope	P-value	Slope	P-value	Slope	P-value	Slope	P-value
C	3,090	0,000	1,842	0,049	1,681	0,071	1,618	0,087
YDISC	-0,008	0,269	0,069	0,171	0,070	0,164	0,066	0,200
YDISC^2			-0,001	0,122	-0,001	0,097*	-0,001	0,124
CDISC					0,011	0,061*	0,022	0,374
CDISC^2							0,000	0,648
ANALYST	0,045	0,000***	0,046	0,000***	0,044	0,000***	0,043	0,000***
LEVERAGE	-0,533	0,032**	-0,574	0,021**	-0,579	0,019**	-0,580	0,019**
CAPEX	0,353	0,164	0,454	0,083*	0,398	0,127	0,427	0,112
PROFITABILITY	1,270	0,001***	1,227	0,002***	1,226	0,001***	1,223	0,002***
MGTOWN	-0,476	0,172	-0,480	0,166	-0,469	0,173	-0,465	0,178

BLOCKOWN	0,071	0,676	0,075	0,658	0,111	0,514	0,104	0,544
SIZE	**-0,401**	**0,000***	**-0,394**	**0,000***	**-0,402**	**0,000***	**-0,401**	**0,000***
DIVIDEND	0,029	0,815	-0,001	0,993	0,034	0,790	0,040	0,754
FOREIGN	-2,346	0,086	-2,546	0,063	**-2,257**	**0,098***	**-2,281**	**0,096***
DIVERSIFIED	-0,103	0,157	-0,104	0,154	-0,103	0,153	-0,105	0,149
MATURITY	**-0,032**	**0,003***	**-0,032**	**0,004***	**-0,034**	**0,002***	**-0,034**	**0,002***
Prob(F-Statistic)	0,000		0,000		0,000		0,000	
Adjusted R-SQR	0,429		0,434		0,443		0,440	

Graph 2 Tobins Q as a function of disclosure ranking

This graph shows Tobins Q as a function of YDISC, which is a disclosure index based on the yearly ranking of the informativeness of annual reports by Aktiespararna and Kanton. Aktiespararna is an association representing small shareholders in Sweden. Kanton is a Swedish financial advisory firm. All the other independents are held at their average values.
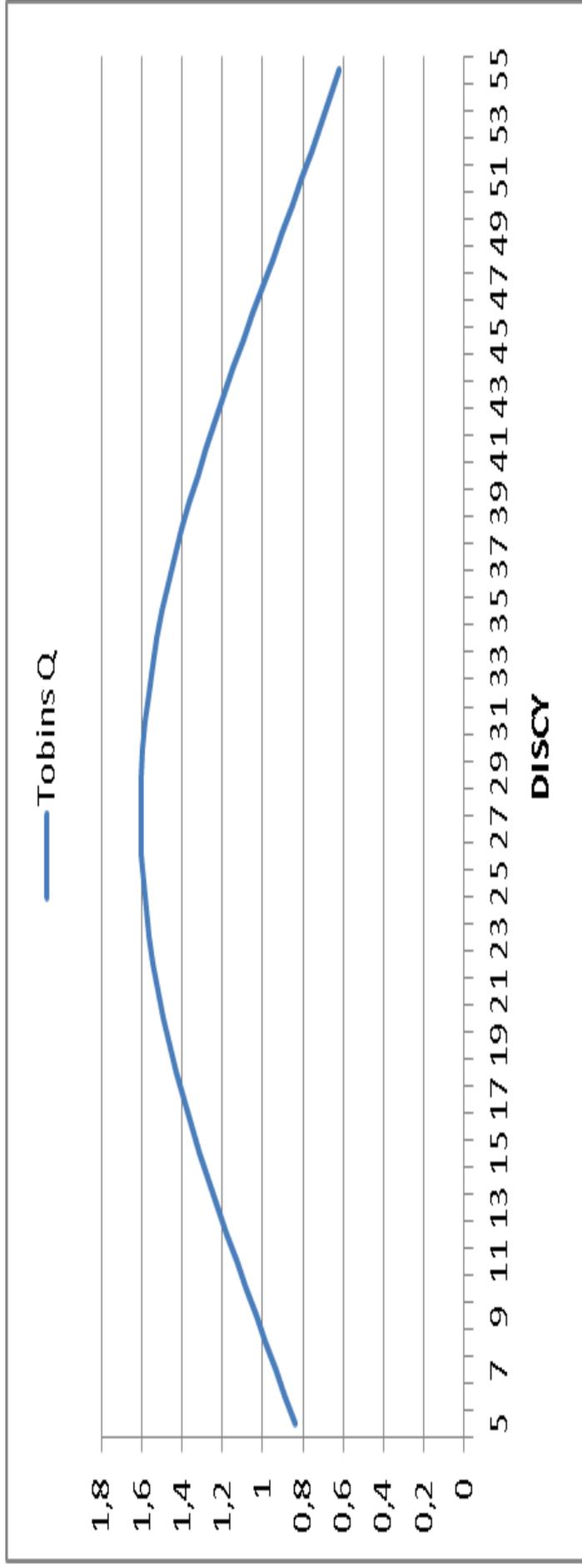
Årets börsbolag 2009 – kriterier för granskning av årsredovisning

Information om samtliga kriterier efterfrågas på svenska.

A. INLEDANDE INFORMATION – 3 poäng

1. Viktiga händelser uppdelade per kvartal, 1 p.

2. Ordförandeord, 1 p.

3. VD-ord, 1 p.

B. BOLAGSBESKRIVNING – 20 poäng

1. Affärsidé, strategier och finansiella mål, 6 p.

1.1 Affärsidé. [1 p]

1.2 Konkreta strategier, gärna i punktform. [1 p]

1.3 Finansiella mål. [1 p]

1.4 Utfall av finansiella mål i form av en kvantifierad redogörelse. [1 p]

1.5 Uppföljning av finansiella mål i form av en kvalitativ diskussion kring utfallet. [1 p]

1.6 Kvantifierad utdelningspolitik samt bakomliggande resonemang. [1 p]

2. Verksamhet, 5 p.

2.1 Verksamhetsbeskrivning (konkret redogörelse för bolagets erbjudande till marknaden). [1 p]

2.2 Fördelning av försäljning och resultat, per affärsområde eller del- eller geografiska marknader. [1 p]

2.3 Affärsmodeller, placering i värdekedjan, beskrivning av flödet från leverantör till slutkund. [1 p]

35

2.4 Immateriella tillgångar, såsom patent, varumärke, innovationsgrad samt andra strategiska fördelar. [1 p]

2.5 Mål och uppföljning för kvalitet. [1 p]

3. Marknader per samtliga affärsområden/delverksamheter, 4 p.

3.1 Kvantifierade marknadsandelar (i SEK eller procent). [1 p]

3.2 Totala marknadens storlek i SEK samt tillväxt. [1 p]

3.3 Trender. [1 p]

3.4 Beskrivning av huvudsaklig(a) målgrupp(er). [1 p]

4. Konkurrenter (beskrivningen ska avse hela företag, produkter, marknader eller enligt annan uppdelning), 2 p.

4.1 Namn. [1 p]

4.2 Kvantifierade marknadsandelar (i SEK eller procent). [1 p]

5. Hållbarhetsinformation, 3 p.

5.1 GRI-nivå A ger [3 p], B ger [2 p] och C ger [1 p].

C. AKTIEINFORMATION – 5 poäng

1. Aktier och ägare, 5 p.

1.1 Antal aktieägare. [1 p]

1.2 De största ägarna av aktiekapital och, vid graderad rösträtt, även röstetal. [1 p]

1.3 Antal aktier, före och efter utspädning. [1 p]

1.4 Ägarbild. Olika ägares/ägarkategoriers procentuella innehav. [1 p]

1.5 Börskurs, börskurva samt aktiens årliga omsättningshastighet. [1 p]

(Börskurs i siffror per varje räkenskapsårs slut ska finnas för fem år. Även börskurva ska anges för fem år eller så länge aktien varit noterad.)

D. FEMÅRSÖVERSIKT NYCKELTAL – 8 poäng

(Utgångspunkt: Sveriges Finansanalytikers Förening. För nynoterade bolag: pro forma. Bolag som haft verksamhet kortare tid än fem år måste ange detta.)

1. Avkastning på eget kapital, 1 p.

2. Beroende på verksamhetens art ges poäng för någon av följande, 1 p.

Avkastning på sysselsatt kapital, direktavkastning (fastighetsbolag) eller kapitaltäckningsgrad (banker).

3. Soliditet eller skuldsättningsgrad, 1 p.

4. Substansvärde per aktie, 1 p.

5. Resultat per aktie, 1 p.

6. Kassaflöde från den löpande verksamheten per genomsnittligt antal aktier, 1 p.

7. Utdelning per aktie, 1 p.

Nyckeltalet skall finnas angivet även då ingen utdelning skett.

8. Rörelsemarginal, 1 p.

E. STYRELSE OCH BOLAGSLEDNING – 3 poäng

1. Styrelsens arbete, 2 p.

Beskrivning av styrelsens arbete under verksamhetsåret utifrån uppsatta mål och fastlagda strategier.

2. Organisationsstruktur för bolagsstyrning, 1 p.

F. VINSTPROGNOS, RISK- OCH KÄNSLIGHETSANALYS – 9 poäng

1. Resultatprognos, 4 p.

1.1 Resultatprognos – "bättre eller sämre än i fjol" [1 p], nyckeltalsprognos (såsom organisk tillväxt, finansiell ställning o.s.v.) [2 p], kvantifierad resultatprognos [3 p].

1.2 Förutsättningar som företagets prognos baseras på alternativt förklaring till varför prognos ej kan lämnas. [1 p]

2. Risk- och känslighetsanalys, 5 p.

2.1 Beskrivning av viktiga rörelse- respektive finansiella risker. [2 p]

2.2 Kvantifiering av känsligheten för rörelse- respektive finansiella riskfaktorer. [2 p]

2.3 Redovisning av säsongseffekter. [1 p]

G. DISTRIBUTION – 2 poäng

Riktlinjer för distribution ska anges i årsredovisningen.

1. Tryckt version endast till de aktieägare som uttryckligen begärt en sådan, 2 p.

2. (Tryckt fullständig version till alla registrerade aktieägare som inte aktivt avsagt sig en sådan, 1 p.)

H. ORDLISTA OCH DEFINITIONER – 2 poäng

1. Företagsspecifik/branschspecifik ordlista, 1 p.

2. Definitioner av redovisningsterminologi, 1 p.

TOTALT: 52 POÄNG

Appendix C

Årets börsbolag 2009 – kriterier för granskning av delårsrapport

Information om samtliga kriterier efterfrågas på svenska.

A. INLEDANDE INFORMATION – 5 poäng

1. Information presenterad för kvartalsperioden, jämförbar kvartalsperiod, delårsperioden och jämförbar delårsperiod, 3 p.

1.1 Nettoomsättning (kan för investmentbolag ersättas med aktiens totalavkastning). [1 p]

1.2 Resultat efter skatt. [1 p]

1.3 Resultat per aktie. [1 p]

2. Viktiga händelser under kvartalet, 1 p.

3. VD-ord, 1 p.

B. NYCKELTAL – 7 poäng

(Utgångspunkt: Sveriges Finansanalytikers Förening.)

1. Avkastning på eget kapital, 1 p.

1.1 Delårsperioden. [0,5 p]

1.2 Jämförbar delårsperiod. [0,5 p]

2. Beroende på verksamhetens art ges poäng för någon av följande: avkastning på sysselsatt kapital eller avkastning på riskjusterat kapital (bankverksamhet) eller direktavkastning (fastighetsbolag) eller substansvärdesutveckling (investmentbolag), 1 p.

2.1 Delårsperioden. [0,5 p]

2.2 Jämförbar delårsperiod. [0,5 p]

3. Beroende på verksamhetens art ges poäng för någon av följande: soliditet eller kapitaltäckningsgrad (bankverksamhet) eller skuldsättningsgrad (investmentbolag), 1 p.

3.1 Delårsperioden. [0,5 p]

3.2 Jämförbar delårsperiod. [0,5 p]

4. Substansvärde per aktie, 1 p.

4.1 Delårsperioden. [0,5 p]

4.2 Jämförbar delårsperiod. [0,5 p]

5. Resultat per aktie, 1 p.

5.1 Delårsperioden. [0,5 p]

5.2 Jämförbar delårsperiod. [0,5 p]

6. Kassaflöde per aktie, 1 p.

6.1 Delårsperioden. [0,5 p]

6.2 Jämförbar delårsperiod. [0,5 p] Årets börsbolag 2009 2(2) För mer information: www.kanton.se www.aktiesparrna.se **7. Beroende på verksamhetens art ges poäng för någon av följande: rörelsemarginal eller K/I-tal (bankverksamhet) eller börskurs i procent av substansvärde (investmentbolag), 1 p.**

7.1 Delårsperioden. [0,5 p]

7.2 Jämförbar delårsperiod. [0,5 p]

C. KVARTALSÖVERSIKT – 4 poäng

(Utgångspunkt: Sveriges Finansanalytikers Förening.)

1. Flerårssiffror för senaste kvartalsperioder, 2 år (8 kvartal), 4 p.

1.1 Nettoomsättning (kan för investmentbolag ersättas med aktiens totalavkastning). [0,5 p]

1.2 Avkastning på eget kapital. [0,5 p]

1.3 Beroende på verksamhetens art ges poäng för någon av följande: avkastning på sysselsatt kapital, avkastning på riskjusterat kapital (bankverksamhet), direktavkastning (fastighetsbolag) eller substansvärdesutveckling (investmentbolag). [0,5 p]

1.4 Beroende på verksamhetens art ges poäng för någon av följande: soliditet, kapitaltäckningsgrad (bankverksamhet), skuldsättningsgrad (investmentbolag). [0,5 p]

1.5 Substansvärde per aktie. [0,5 p]

1.6 Resultat per aktie. [0,5 p]

1.7 Kassaflöde per aktie. [0,5 p]

1.8 Beroende på verksamhetens art ges poäng för någon av följande: rörelsemarginal, K/I-tal (bankverksamhet), börskurs i procent av substansvärde (investmentbolag). [0,5 p]

D. ÖVRIGT – 6 poäng

1. Rapport, 2 p.

Inom 3 veckor [2 p], inom 6 veckor [1 p].

2. Separat avsnitt om bolagets marknadsutveckling, (kan för investmentbolag ersättas med beskrivning av portföljbolagens utveckling), 1 p.

3. Beskrivning av säsongseffekter (kan för investmentbolag ersättas med beskrivning av

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bolagets nettoförvärv och nettoförsäljningar), 1 p.
4. Antal aktier per delårsrapportdatum, 1 p.
5. Definitioner, 1 p.
TOTALT: 22 POÄNG

Årets börsbolag 2009 – kriterier för granskning av finansiell information på webbplats

Information om samtliga kriterier efterfrågas på svenska. I de fall bolaget har en webbplats på engelska med information på svenska under fliken "Investor Relations"/Finansiell information är detta accepterat så länge denna flik är tydligt placerad på startsidan.

A. GRUNDLÄGGANDE FUNKTIONER – 3 poäng

1. Webbkarta, 1 p.

2. Sökfunktion, 1 p.

3. Webbplats tillgänglig även på engelska, 1 p.

B. ICKEFINANSIELL INFORMATION – 10 poäng

1. Företagspresentation, 2 p.

2. Hållbarhetsinformation, 3 p.

GRI-nivå A ger [3 p], B ger [2 p] och C ger [1 p].

3. Separat rubrik för bolagsstyrning, 2 p.

Styrelsesammansättning [0,5 p], VD och revisorer [0,5 p], redogörelse för belöningsprogram [0,5 p], årets styrelsearbete [0,5 p].

4. Organisationsstruktur för bolagsstyrning, 1 p.

5. Bildbank, 2 p.

5.1 Styrelse- och ledningsbilder (minimum: VD samt styrelseordförande). [1 p]

5.2 Verksamhetsbilder. [1 p]

C. FINANSIELL INFORMATION – 27 poäng

Denna information skall presenteras i samlad form under en separat flik.

1. Interaktiv årsredovisning, (webbaserad), 1 p.

2. Räkenskapstabeller från årsredovisningar i Excel-format, 5 år tillbaka i tiden eller så länge som bolaget bedrivit verksamhet i nuvarande form, 2 p.

Resultaträkning [0,5 p], balansräkning [0,5 p], kassaflödesanalys [0,5 p], nyckeltal [0,5 p].

3. Räkenskapstabeller från delårsrapporter i Excel-format, 5 år tillbaka i tiden eller så länge som bolaget bedrivit verksamhet i nuvarande form, 2 p.

Resultaträkning [0,5 p], balansräkning [0,5 p], kassaflödesanalys [0,5 p], nyckeltal [0,5 p].

4. Webbsändningar med VD-presentationer av delårsrapporter, 1 p.

5. Engelsk version av senaste kvartalsrapport och årsredovisning, tillgängliga för

nedladdning, 1 p.

6. Möjlighet att beställa tryckta rapporter på svenska från bolagets webbplats, 1 p.

Samtliga årsredovisningar och delårsrapporter 3 år tillbaka i tiden.

7. Kalendarium, 2 p.

Kapitalmarknadsdag [0,5 p], produkt-/servicemöten [0,5 p], analytikermöten [0,5 p] och tysthetsperiod [0,5 p] och tysthetsperiod [0,5 p], analytikermöten [0,5 p], produkt-/servicemöten [0,5 p], Kapitalmarknadsdag [0,5 p].

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För mer information: www.kanton.se Årets börsbolag 2009 2(2)

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8. Risk- och känslighetsanalys, 5 p.

8.1 Beskrivning av viktiga rörelse- och finansiella risker. [2 p]

8.2 Kvantifiering av känsligheten för rörelse- respektive finansiella riskfaktorer. [2 p]

8.3 Redovisning av säsongseffekter (kan för investmentbolag ersättas med beskrivning av bolagets nettoförvärv och nettoförsäljningar). [1 p]

9. Marknads- och konkurrentanalys, 5 p.

9.1 Marknadsbeskrivning. [1 p]

9.2 Kvantifierade marknadsandelar (i SEK eller procent). [1 p]

9.3 Totala marknadens storlek i SEK samt tillväxt. [1 p]

9.4 Namn på konkurrenter. [1 p]

9.5 Konkurrenternas kvantifierade marknadsandelar (i SEK eller procent). [1 p]

(9. För investmentbolag: Företagspresentation för de största innehaven: produkter [1 p], marknader [1 p], kunder [1 p], året i korthet [1 p], resultaträkning [1 p].)

10. Kontaktinformation, 3 p.

10.1 Namn, titel, telefonnummer samt e-postadress till två kontakter inom bolaget, däribland VD, ekonomidirektör, informationsansvarig, IR-ansvarig och presschef. [2 p]

10.2 Besöksadress och telefonnummer till huvudkontor. [1 p]

11. Aktieägarinformation, 4 p.

11.1 Antal aktieägare. [1 p]

11.2 De största ägarna av aktiekapital och, vid graderad rösträtt, även röstetal. [1 p]

11.3 Ägarbild. Olika ägares/ägarkategoriers procentuella innehav. [1 p]

11.4 Uppdaterad börskurva och börskurs. [1 p]

TOTALT: 40 POÄNG

An Empirical Test of the Optimal Disclosure Hypothesis

HÅKAN JANKENSGÅRD

According to the cost-of-capital hypothesis, increased voluntary disclosure should reduce information asymmetries, lower the cost of capital, and increase firm value. The optimal-disclosure hypothesis, however, predicts that costs related to voluntary disclosure lead to the existence of an interior optimum of disclosure that maximizes firm value. These hypotheses are tested using disclosure indexes based on analysts' ratings of firms' financial reports for a sample of 181 Swedish firms. For annual reports, the data supports the optimal disclosure hypothesis, whereas for quarterly reports the findings suggest the existence of a "disclosure premium" in accordance with the cost of capital hypothesis.

THE KNUT WICKSELL CENTRE FOR FINANCIAL STUDIES

The Knut Wicksell Centre for Financial Studies conducts cutting-edge research in financial economics and related academic disciplines. Established in 2011, the Centre is a collaboration between Lund University School of Economics and Management and the Research Institute of Industrial Economics (IFN) in Stockholm. The Centre supports research projects, arranges seminars, and organizes conferences. A key goal of the Centre is to foster interaction between academics, practitioners and students to better understand current topics related to financial markets.

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