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Major Determinants of Interim Disclosures in an Emerging Market

Hannu J. Schadewitz and Dallas R. Blevins

INTRODUCTION

Through time, as corporations grow in size and complexity, the legal separation of ownership from management becomes an operational separation, as well (Coase, 1986). When ownership and management are distinct, the possibility of managerial incompetence and insubordination exists. In the U.S. and in many other countries, financial accounting consists of well developed ways to reduce information asymmetries between managers and owners.

Managers owe their absentee owners periodic reports of their stewardship. Yet, the managers construct the very reports upon which the quality of their work is judged. The markets are learning from the past and they can therefore adjust to long term insufficient reporting. For firms with severely reduced disclosures, even very fundamental analysis can be hindered. Thus, rational investors, realizing the possible risks, avoid ownership in firms whose quantity and quality of disclosures are consistently below expectations.

In the short run, however, the markets cannot distinguish those reports which contain biased numbers from those which do not. Thus, even transparent reporting can be suspect (Healy & Palepu, 1995). This may be especially true in stock exchanges that are small volume or are undergoing developmental changes.

Theoretically, the single most important accounting item that measures profitability is earnings. However, empirical studies report low explanatory power for returns/earnings models (Lev, 1989). Thus, prices cannot be fully explained by earnings. Therefore, researchers must search for additional explanations of price behavior

from disclosed evidence other than earnings.

The knowledge of what influences share prices is especially valuable in a thin market. In a large volume, semi-strong efficient market, fundamental analysis is not so crucial. This is mainly because, in such markets, investors can have confidence that prices are quickly and correctly updated by the voluminous and continuous trading of many buyers and many sellers. Contrary to that, in an exchange dominated by low volume trading, fundamental analysis may even be critical. Low volume sales may cause wide swings in prices, which are exacerbated by a dearth of information.

This research contributes to the search for an explanation of prices from other-than-earnings information by attacking a more basic question. This study searches for the answer to the following research question: *What are the major determinants of interim disclosures in a low volume, emerging market?* This is performed by examining the relationship of disclosure to characteristics of the reporting firms, and the exchange in which they trade.

It is important to pay attention to any differences in the smaller, more fluid markets. Worldwide, there are 76 developing markets, each is designated as an emerging market (International Finance Corporation, 1993). There exist many more that are already developed, but possess the growth and regulatory dynamics that are characteristic of an emerging market. The Helsinki Stock Exchange (HSE) is one of the already developed markets that is undergoing the changes associated with an emerging market. Thus, findings in Finland may reflect relationships occurring in numerous other emerging markets.

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METHODOLOGY

This section is introduced by a brief discussion of four terms stated in the research question: (1) interim disclosures, (2) low volume, (3) emerging market, and (4) major determinants. The Major Determinants section, being the longest and most technical, is discussed last.

Interim Disclosures

Among the different kinds of accounting statements that can be examined, interim reports are selected for observation in this study. There are several reasons for this. One, Finnish corporations typically announce preliminary annual results (Troberg, 1992). Therefore, much of the information content of the final annual report is anticipated before its announcement. With interim reports, however, there is virtually no formal pre-announcement (Schadewitz & Vieru, 1993). This does not preclude the existence of ongoing news other than that provided by formal annual or interim reports. In spite of the existence of tailored, non-formal information, the lack of firm-generated preliminary announcements of interim results gives Finnish interim reports the potential of containing new, previously unpublished, information. Due to this, such reports are excellent material for the study of the impact of new information presented to the market.

Two, there are special features in Finnish interim reporting that advance the study of the research question, stated in italics above. For example, in Finland, dividends and taxes are computed and paid on a firm's annual earnings. Therefore, managers can quite openly report actual operating results in interim reports without direct dividend or tax consequences (Kanniainen & Kurikka, 1984). Thus, Finnish interim reports are relatively free of artificial distortions.

Three, Finnish firms are allowed great latitude in the type and amount of information they may disclose in interim statements. This flexibility in disclosure promotes the analysis of the impact of interim report items that disclose various qualities and quantities of information.

Low Volume

This research investigates a modern, but small volume, exchange. The search is conducted in the context of the HSE over the period 1985 to 1993. An appreciation of the limited size of the Finnish market can be gained from the following: (1) there are about 70 firms listed on the HSE, (2) around 90 individual share series are listed, and (3) daily trading volume is normally below 4,000,000 shares (Markkinakatsaus, 1995, pp. 6, 10). In spite of its low turnover, the HSE is a highly technologically advanced exchange.

Emerging Market

The International Finance Corporation (IFC) currently defines an emerging market as one located in a developing country (IFC, 1995, p. 2). An earlier definition, however,

provides a more useful model for the purposes of this research. In addition to its low volume, the HSE possesses ten of the thirteen characteristics that identify an emerging market (IFC, 1993, pp. 3-4). The ten characteristics of emerging markets that are associated with the HSE are: (1) the underlying economy is rebounding from the international debt crisis of the 1980s, (2) the underlying financial system is undergoing broad reforms, (3) sectors that had been closed to foreign investment are newly opened, (4) an already wide range of investment instruments is expanding, (5) exchanges are undergoing wide-ranging institutional reforms, (6) liberalized exchange rules promote its listed stocks to find their way into foreign investment portfolios, (7) listed firms possess characteristics of long term business and financial strength, (8) listed firms are globally competitive, (9) listed stocks offer significant diversification for global portfolios, and (10) listed stocks tend to be undervalued. There are but three other characteristics given for a typical emerging market. These are: (1) the host country, itself, is undergoing development, (2) recent privatization of state-owned enterprises, and (3) the stock exchange is newly created. Finland is a fully developed, stable economy, with a history of private ownership and a modern, well functioning stock exchange. Thus, Finland offers an excellent forum to investigate the impact of disclosure in an emerging market, because it possesses the essential characteristics without the data collection and country risk problems associated with a developing country.

Major Determinants

Disclosure studies can be classified into two groups, according to their use of stock market data in the research design. These are: (1) direct and (2) indirect relationship studies. In the direct relationship orientation, the *reflection* of various disclosures *on share prices* is studied. In contrast, indirect studies examine the *causes of observed disclosures*. The paper at hand investigates the determinants of interim disclosures. It belongs, therefore, to the indirect relationships category of research.

The literature indicates that many classes of variables are related to annual disclosure (Schadewitz & Blevins, 1997). Cooke (1989b), for example, finds 224 such variables. This is far too many to be of practical value. Accordingly, Wallace (1988) prepares a list of 41 common elements from nine annual disclosure studies, which are, themselves summaries. Wallace (1988) statistically clusters the 41 items into quarterlies, the most dominant of which contains fifteen elements. Thirteen of Wallace's dominant quartile elements form the basis of the variables selected for this interim report study. The two Wallace variables that are excluded from this study are: (1) taxation and (2) dividends. These items are excluded because, in Finland, dividends and taxes are determined by annual results only.

Wallace's thirteen dominant quartile items, together with thirteen similar variables, are classified under eight

headings, detailed in appendix 1. These, and the reasons for them, are explained below.

Governance—Cerf (1961) finds a positive relation between annual disclosures and the number of stockholders. This research assumes a positive relationship between the natural logarithm of the number of shareholders [$\ln Shs$] and interim disclosure.

Priebjrivat (1992) finds that annual disclosure is directly related to the firm's ownership structure. Accordingly, this research hypothesis is that interim disclosure is positively related to the percentage of a firm's ownership that is held by households [Hseholds]. It is further hypothesized that disclosure is inversely related to the percentage of a firm's ownership by: (1) foundations and associations [F&A], (2) corporations [Firms], (3) banks [Banks], and (4) insurance companies [InsCos].

Business Risk—Risk is often measured *via* use of the standard deviation. Baker & Haslem (1973) use this measure to discover a direct relationship between disclosure and changes in profitability. Continuing this line of thought, Chenhall & Juchau (1977) find a positive relation between risk and disclosure. This research hypothesizes a positive relation between disclosure and the standard deviation of: (1) the profit/net sales ratio [$\sigma(P/NS)$] and (2) net investment in long-term assets, [$\sigma\delta(FA/A)$]. A positive relation is also hypothesized between disclosure and the standard deviation of the percentage change in: (1) net sales [$\sigma\delta NS$], (2) the profit/net sales ratio [$\sigma\delta(P/NS)$], (3) annual net sales [$\sigma\delta ANS$], and (4) profit [$\sigma\delta P$].

Market Risk—For many years, systematic risk has been measured by β . Dhaliwal, Spicer, & Vickrey (1979) provide annual evidence that leads this research to hypothesize a positive relationship between interim disclosure and market risk, as measured by β .

Capital Structure—Chandra (1974) finds that the value of equity investment information differs among user groups. Later, Chenhall & Juchau (1977) argue that investors who are willing to accept higher levels of risk rely on information about the degree of leverage. This research hypothesizes that disclosure is related to leverage. The direction of the relationship, however, should be context specific. Those firms that are expanding equity, when the firm is relatively heavily indebted, should experience a positive relation between disclosure and both the existing debt/equity ratio [L/E] and by the change in equity/equity before the change in equity ratio [$\delta E/EB\delta E$].

Stock Price Adjustment—Singhvi & Desai (1971) find that firms with volatile stock prices, tend to disclose less in their annual reporting than do firms whose stock prices are more stable. This study hypothesizes a relationship between interim disclosure and stock pricing before [PreCAR] and after [PostCAR] the release of an interim statement. These relationships, however, are considered too complex to state *a priori* direction of that relation. Schadewitz & Blevins (1996, 1997, forthcoming) find that

window length and degree of disclosure both exercise an influence over the sign of the relation between share prices and disclosure.

Growth—Imhoff (1992) discovers that changes in both size and earnings are directly related to annual disclosure. This leads this research to predict that three changes might be expected to have a positive influence over interim disclosures: (1) the change in net fixed assets [$\delta(FA/A)$], (2) the percentage change in net sales [δNS], and (3) the percentage change in annual net sales [δANS].

Growth Potential—Lang & Lundholm (1993) find that annual disclosure scores are higher for firms that perform well than for firms that do not. This research hypothesizes a direct relationship between interim disclosures and four measures of growth potential: (1) book/market value ratio [BV/MV], (2) profit/net sales ratio [P/NS], (3) the percentage change in profit [δP], and (4) the percentage change in the profit/net sales ratio [$\delta(P/NS)$].

Size—Size is first discovered to exercise an influence over annual disclosure as early as 1961 by Cerf and as recently as 1994 by Raffournier. This research predicts that interim disclosure, too, is influenced by size. A positive relation is expected between interim disclosure and (1) annual net sales [ANS] and (2) the natural logarithm of the number of personnel in the firm [$\ln Worker$].

Market Maturity—Differences in disclosure among participants of various stock exchanges are found early (Choi, 1973) and often (Barrett, 1975, 1977; Firth, 1979; Spero, 1979; Amernic & Maiocco, 1981; McNally, Eng, & Hasseldine, 1982; Cooke, 1989a, 1989b; Tuominen, 1991; Susanto, 1992; Giner Inchausti, 1993; Gray, Meek, & Roberts, 1994 and Raffournier, 1994). This research hypothesizes that what is found on an annual basis is also true on an interim basis. There is an expected *increasingly* positive relationship of interim disclosure and the dummy variable *time* as time moves from calendar year 1985 through 1992 [CY_{85}, \dots, CY_{92}]. The expected positive relationships of interim disclosure and market maturity is perhaps, the most important distinction of disclosures among emerging markets from those of their larger, more stable, mature counterparts. Appendix 1 summarizes.

DATA

Sources for each of the 34 independent variables and for the dependent variable are referenced below.

Independent Variables

There are five general sources of data for the independent variables: (1) interim statements, (2) the financial press, (3) annual statements, (4) stock prices, and (5) a dichotomous variable, representing calendar year changes in market maturity. Detailed sources of the first three major classes of data are found in appendix 2, while stock price data sources are listed in appendix 3.

Interim Statements—Interim reports provide the basis

for measuring: (1) all six of the governance variables, (2) five of the six business risk variables, (3) both of the capital structure variables, (4) two of the three growth variables, (5) all four of the growth potential variables, and (6) one of the two size variables. All interim reports published by firms listed on the HSE during that period are used, with the exception of firms from the finance and insurance sectors. These are excluded due to their variability: (1) cross-sectionally and (2) intertemporally. A similar exclusion practice is followed by Niskanen (1990, p. 48). This procedure yields 573 interim reports.

Financial Press—Precise definition of the interim announcement date is critical to this study, because misspecification of an event day may give biased results (Brown & Warner, 1985). Identification of the event day is controlled by applying multiple, independent data sources. In the normal cases, the following procedure is used. Some interim reports, or their cover letters, state the date the firm officially announces the report. In those cases, the official announcement day is used as an event day. Failing that, the primary source of event times is the date that interim financial statements are registered as received at the HSE. The HSE has some interim reporting material on file for the year 1985. This information is, however, so limited that *Kaupparehti* newspapers are systematically used to supplement the files. *Kaupparehti* is the principal Finnish financial newspaper performing a similar function to that provided by the *Wall Street Journal*.

Annual Statements—The sample firm's annual reports are used to measure: (1) one of the six business risk variables, (2) one of the three growth variables, and (3) one of the two size variables.

Stock Prices—Three of the independent variables require stock price measurements: (1) market risk and (2) both stock price adjustment measures.

For the pre- and post-CAR measures, the abnormal returns, AR_{it} s, are market model, risk-adjusted returns. Both daily share-specific indices and the value-weighted market index are used in the computation of market- and risk-adjusted returns. These daily stock market data are adjusted for stock dividends and stock splits. Detailed sources of stock market data and their handling are disclosed in appendix 3.

Where more than one share series is traded, the more actively traded share series is applied. This series is very often also the main share series of the company and has the longest trading history in the firm.

The estimation period begins 250 trading days before the event and ends 30 business days before the event. An estimation period of 250 trading days is used, because a longer estimation period would lead to the inclusion of more data based on post-event observations from earlier interim announcements. The estimation periods are modeled after those presented by Mendenhall & Nichols (1988, p. 72).

If there are other interim report announcements for the firm during the estimation period, those announcements are excluded from estimation period. The excluded

period is always (-30, 30) business days relative to the announcement day of the extra event in question. Because there is no absolute theoretical basis for selecting an appropriate length for the excluded period, the decision to use 61 business days is based on previous research findings. Schadewitz (1992, pp. 61-66) finds no clearly discernible difference in abnormal return behavior between positive and negative earnings portfolios earlier than 30 business days before the event. The same study also shows that it would pay to lengthen the window to cover more days after the event than ten business days. This conclusion is based on the observation that, after the event, abnormal performance indices for positive and negative earnings portfolios are still fairly far from each other.

Dichotomies—Since all changes in Finnish market regulation over the sample period occur on 1 January, the final eight independent variables are the yearly dichotomies. This allows observation of changes in the context of market operations.

Before including an independent variable in the model, it is checked for correlation with the other variables in that particular group (Rawlings, 1988, pp. 244-245). Five of the original variables are eliminated: (1) $\sigma\% \Delta P$, (2) $\sigma\% \Delta ANS$, (3) $\% \Delta ANS$, (4) $\% \Delta (P/NS)$, and (5) ANS . This leaves 29 independent variables to enter the regressions.

Dependent Variable

The dependent variable is an index, derived from the disclosure scoresheet shown in appendix 4. The scoresheet is developed by the systematic listing of the elements found in the interim financial statements submitted to the HSE over the period 1 January 1985 through 31 December 1993 by all but finance and insurance sector firms. The purpose of the index is to provide a relative measure of the interim information available in each interim report observed. The index is computed by first determining the score for each interim report. Next, that total number of points that the sample interim report receives is divided by the maximum points it would have received, had all eligible disclosure items been reported. This makes each ratio an interim report-specific disclosure index.

Some interim statement elements, such as item no. 4, "Figures for employees," that are reported in the interim statements are available from other public sources. Others, such as item no. 6, "Outlook for the remainder of the operating year," are not. This research makes some distinctions *vis-a-vis* the relative worth of the elements comprising appendix 4, however, the objective is to measure the degree to which varying levels of disclosure are available to and are used by the markets. That means that the market's overall appreciation of the level of disclosure is of more importance to this inquiry than is the market's evaluation of any specific element contained in the interim report, as such. Further, there may exist

industry-specific elements at work in any given firm's disclosure policy decisions. The impact of this tends to be reduced by the computation procedure of indices followed in this research.

Disclosed items are scored following the 0.0/1.0 or 0.0/0.5/1.0 procedure applied by Giner Inchausti (1993). There are five exceptions to the 0.0/1.0 or 0.0/0.5/1.0 protocols. Items 13 through 16 and 21 are allowed an X-option, which indicates that the item is not reportable for that particular interim statement.

The total number of interim reports for which scoresheets are completed for this research is 573. This means that there are a total of 573 possible indices available which can serve as the dependent variable for subsequent regressions.

The number of interim report indices finally used in this research is diminished to 256. There are two reasons for this. First, is that at least one of the 29 independent variable observations is unavailable for 314 interim reports. The second reason is that three interim reports are excluded as outliers, due to their extreme values.

RESULTS

Twenty-nine independent variables are used to explain the disclosure index of the 256 sample interim reports. The Regression Specification Error Test suggests the use of a linear model to examine the relationships (Ramsey, 1969). The model leaves a great deal yet to be explained (Adjusted $R^2 = .421$), but the portion that is identified is highly significant [$F(16, 234) = 12.36$]. Further, the backward elimination process of ordinary least squares yields results that are not influenced significantly by multicollinearity. The existence of heteroscedasticity within the error terms is rejected by the White (1980) test. The approximate normality of the residual terms is confirmed by the Jarque-Bera test (Jarque & Bera, 1987).

Ten of the 29 independent variables are significant. The results are listed in Table 1.

The ten statistically significant coefficients are located in the following groups: (1) governance--1, (2) business risk--2, (3) capital structure--1, (4) growth--1, (5) growth potential--1, (6) size--1, and (7) market maturity--3. Most

TABLE 1
Significant Multiple Regression Results

Independent Variable	Dependent Variable: Disclosure Index Score			
	Coefficient	Std Error	t value	Level of Significance
Governance:				
Firms	-.001	.000	-1.805	.100
Business Risk:				
$\sigma\%NS$	.123	.053	2.326	.020
$\sigma\delta(FA/A)$	.003	.001	3.793	.001
Capital Structure:				
$\delta E/EB\delta E$	.026	.018	1.463	.100
Growth:				
$\% \delta NS$	-.049	.028	-1.740	.100
Growth Potential:				
P/NS	-.337	.096	-3.504	.001
Size:				
$\ln Worker$	.038	.006	6.693	.001
Market Maturity:				
CY ₉₀	.090	.051	1.766	.100
CY ₉₁	.084	.049	1.736	.100
CY ₉₂	.087	.052	1.685	.100

Where:

Firms	= the percentage of corporate ownership,
$\sigma\%NS$	= the standard deviation of percentage change in net sales,
$\sigma\delta(FA/A)$	= the standard deviation of the net investments: (change in fixed assets/total assets ratio),
$\delta E/EB\delta E$	= the ratio of change in equity/equity before the change,
$\% \delta NS$	= the percentage change in net sales,
P/NS	= the profit/net sales ratio,
$\ln Worker$	= the natural logarithm of the number of personnel, and
CY ₉₀ , ..., CY ₉₂	= yearly dichotomy variables.

of these findings are consistent with the hypotheses of this study. Some findings are those expected in both mature and in emerging markets. Other findings are more likely to impact small, emerging markets much more than large, mature ones.

The hypothesized relationships of disclosure to: (1) market risk and (2) stock price adjustment are not evidenced. This would suggest that disclosure in an emerging market is not price driven. In an emerging market, disclosures are much more a function of: (1) regulation and (2) management choice.

Governance—Firms, as owners, can be classified as sophisticated institutional investors. They have the ability to require that adequate information from the firms, whose shares they own, be communicated to them. This leads to the conclusion that there are other communication channels applied when other firms constitute a large portion of the ownership. One of these other communication channels can be a seat on the board. From a governance perspective, firms having a large portion of their shares owned by other firms tend to disclose less than do firms that are widely held by private investors. This finding is consistent with the *a priori* hypothesis of the existence of an inverse relationship between disclosure and the percentage of ownership of a firm's shares that are held by other corporations [Firms].

Business Risk—Two business risk variables [$\sigma\delta NS$] and [$\sigma\delta (FA/A)$] receive statistically significantly positive coefficients. The [$\sigma\delta NS$] variable indicates that, the more a firm's net sales vary, the more the firm will disclose about its operations. This outcome is expected, because large changes in a firm's net sales may have an influence over the operations of the whole firm. Changes in net sales may be due to some development that requires explanation by management. It is likely, therefore, that management decisions in interim reports will increase during volatile net sales periods. The disclosure index applied in this study is constructed to be sensitive to the management analysis part of the interim reports.

While variations in a firm's investment activity [$\sigma\delta (FA/A)$] seem to cause extended disclosure, absolute measures of investment levels, such as the growth class variable [$\delta(FA/A)$], do not. One reason for this might be that some industries have a relatively higher level of investment than do others. Thus, it is the deviations from these levels that provide the best indicators of disclosure policy. Beyond this, large investments are always a big news item. Therefore, firms may wish to make a special announcement when major investments are decided upon. Such investment news would, likely, not follow as a part of an interim reporting cycle. The rapid announcement of investment news, *via* special bulletins and the news media, is a typical way to prevent the illegal use of privileged information after an investment decision has been concluded.

Capital Structure—This research hypothesizes the existence of a relationship between a firm's capital

structure and its level of interim disclosure. It is also hypothesized that the direction of that relation is firm and context specific. The results of this inquiry indicate that increases in relative changes in a firm's equity [$\delta E/EB\delta E$] yield significantly greater interim disclosures. This argues that the sample Finnish firms that are expanding their relative equity positions tend to use interim reports to advertise their need for and justification of new common stock. The need for greater disclosure in the effort to attract new capital is especially important for firms operating in a thin market.

Growth and Growth Potential—A firm's growth [$\% \delta NS$] and its growth potential [P/NS] exercise an influence over a firm's average disclosure. Contrary to predictions, firms with growth and growth potential seem to have lower average disclosure than do firms that are experiencing less pronounced growth expectations. One explanation for this result might be that firms with stable, favorable profit/net sales-ratios [P/NS] might trust to that ratio as an indicator of the firm's present and future performance. Thus, stable, well performing firms may not see any particular reason for expanded disclosure. A second explanation is coupled to the significantly negative relation of disclosure and the share of ownership held by other corporations [Firms]. A greater concentration of corporate ownership provides alternative means of dissemination of value laden information.

Size—As expected, firm size [$\ln Worker$] is directly related to extended disclosure. In addition, the interim reports for large firms are also somewhat more analytical than they are for small ones. The reason for this may simply be that the business processes of large firms are more complex, demanding greater disclosure. The needs of the users of large firms' interim reports may also be more divergent than are the needs of the users of small firms' reports. These characteristics are as true for firms trading in mature markets as they are for firms listed on emerging stock exchanges.

Market Maturity—By their nature, regulation and other factors reflecting the development of the HSE can be characterized as qualitative rather than quantitative. The changes associated with any particular regulatory environment or some other advancements are measured by the use of a yearly dichotomy variable, called *market maturity*. A joint test, where the yearly dichotomy variables are added to the model, yields $F(7, 234)=3.59$, $p=.001$. As predicted, the importance of this variable grows monotonically from an insignificant $t=.055$ in the pre-requirement year of 1985 to its first significant t value of 1.766 in CY 1990. Market maturity remains significant the remaining two years of the study. This strongly demonstrates the impact of regulation and other market maturity factors on the degree of disclosure in Finnish interim reporting. Another indication of this development is the rapid increase in the stock exchange turnover for the HSE listed firms especially in the second half of the 1980s (HSE, 1995, p. 66). A similar pattern would be expected in

emerging markets, worldwide.

In contrast, mature markets would probably not demonstrate significance in a variable measuring market maturity. The stability of regulatory and other environmental elements would likely not change much from year to year. A mature market's measure of maturity would likely be integrated into the regression's intercept, together with many other reasonably constant factors.

The hypothesized relationships of disclosure to: (1) market risk [β] and (2) stock price adjustment [PreCAR] and [PostCAR] are not evidenced. This would suggest that disclosure in an emerging market is not price driven. In an emerging market, disclosures are much more a function of: (1) regulation and (2) management choice.

SUMMARY AND CONCLUSIONS

An interim financial reporting protocol became mandatory in Finland as recently as calendar year 1986. This makes the HSE an excellent forum for the investigation of the determinants of periodic reporting in present day European conditions, as suggested by Burton (1981, p. 83). The data are extracted from interim reports published by the firms listed on the HSE during the calendar years 1985 through 1993. The finance and insurance sectors are excluded, due to their widely varying formats, both intra- and inter-company. It is hypothesized that the level of disclosure should be a function of a firm's: (1) governance structure, (2) business risk, (3) market risk, (4) capital structure, (5) stock price adjustment, (6) growth, (7) growth potential, and (8) size. The maturity of the host stock exchange is also hypothesized to influence interim disclosures. Variables are defined, in so far as possible, consistent with prior research. There are some new variables and some variations in definition made necessary by observing: (1) interim, rather than annual, reports and (2) an emerging, rather than a mature, market.

As predicted, Finnish interim disclosure over the period 1985 to 1993 is directly related to the quantitative measures of: (1) business risk, (2) capital structure, (3) size, and (4) market maturity. One other hypothesis is confirmed. Governance is found to be inversely related to disclosure, suggesting that, the greater the institutional concentration of ownership of Finnish firms by other firms, the lower the degree of interim disclosure.

There are four surprises, two of which are sign related. Both a firm's growth and growth potential seem to reduce, rather than increase, the level of disclosure in interim reports. One possible reason for this unexpected finding might be that managers believe that the existence of a firm's good performance provides an adequate signal of growth and growth potential. A second reason may be that growth oriented, firm-specific information may be so valuable that these firms are not willing to disclose it in their interim reports.

The other two surprises are the lack of significance of market risk and stock price adjustment variables. Both are hypothesized to be related to disclosure, but neither is found to be. This would suggest that disclosure in an emerging market is not price driven. In an emerging market, disclosures are much more a function of: (1) regulation and (2) management choice.

More research is needed in order to gain further understanding of how markets, in general, and emerging markets, in particular, use interim statement based information. Currently, regulation and legislation seem to be built on the assumption that similar kinds of disclosure are proper for several kinds of businesses. The validity of that assumption is an empirical question, calling for more research: different industries and business lines may well need different kinds of disclosure. Finally, since this study excludes the finance and the insurance sectors, all the outstanding questions, and the ones answered by this research, need to be addressed in those sectors, as well.

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APPENDIX 1 Independent Variables

Data Class (Number)	Independent Variable	Description of Variable (Hypothesized Relationship to interim disclosure)
GOVERNANCE (6 each)	<i>lnShs</i>	The natural log of the number of shareholders (Indefinite relationship to interim disclosure)
	<i>Hseholds</i>	The percentage of ownership by households (Positive relationship to interim disclosure)
	<i>F&A</i>	The percentage of ownership by foundations and associations Negative relationship to interim disclosure)

APPENDIX 1 (cont.)
Independent Variables

	Firms	The percentage of corporate ownership (Negative relationship to interim disclosure)
	Banks	The percentage of ownership by banks (Negative relationship to interim disclosure)
	InsCos	The percentage of ownership by insurance companies (Negative relationship to interim disclosure)
BUSINESS RISK (6 each)	$\sigma\% \delta (P/NS)$	The standard deviation of the percentage change in the profit/net sales ratio (Positive relationship to interim disclosure)
	$\sigma \delta (FA/A)$	The standard deviation of the net investments: (change in fixed assets/total assets ratio) (Positive relationship to interim disclosure)
	$\sigma\% \delta NS$	The standard deviation of the percentage change in net sales (Positive relationship to interim disclosure)
	$\sigma(P/NS)$	The standard deviation of the profit/net sales ratio (Positive relationship to interim disclosure)
	$\sigma\% \delta ANS$	The standard deviation of the percentage change in annual net sales (Positive relationship to interim disclosure)
	$\sigma\% \delta P$	The standard deviation of the percentage change in profit (Positive relationship to interim disclosure)
MARKET RISK (1 each)	β	Nondiversifiable risk (Positive relationship to interim disclosure)
CAPITAL STRUCTURE (2 each)	L/E	The debt/equity ratio (Positive relationship to interim disclosure)
	$\delta E/EB \delta E$	The change in equity/equity before the change in equity ratio (Positive relationship to interim disclosure)
STOCK PRICE ADJUSTMENT (2 each)	PreCAR	The market model adjusted 125 day pre-event cumulative abnormal return (CAR) ending on business day -15 (Indefinite relationship to interim disclosure)
	PostCAR	The market model adjusted 125 day post-event cumulative abnormal return (CAR) beginning on business day 15 (Indefinite relationship to interim disclosure)
GROWTH (3 each)	$\delta(FA/A)$	The net investments: (change in fixed assets/assets ratio) (Positive relationship to interim disclosure)
	$\% \delta NS$	The percentage change in net sales (Positive relationship to interim disclosure)
	$\% \delta ANS$	The percentage change in annual net sales (Positive relationship to interim disclosure)

APPENDIX 1 (cont.)
Independent Variables

Data Class (Number)	Independent Variable	Description of Variable (Hypothesized Relationship to interim disclosure)
GROWTH POTENTIAL (4 each)	BV/MV	The book value/market value ratio (Positive relationship to interim disclosure)
	P/NS	The profit/net sales ratio (Positive relationship to interim disclosure)
	% δ P	The percentage change in profit (Positive relationship to interim disclosure)
	% δ (P/NS)	The percentage change in the profit /net sales ratio (Positive relationship to interim disclosure)
SIZE (2 each)	ANS	Annual net sales (Positive relationship to interim disclosure)
	\ln Worker	The natural log of the number of personnel in the firm (Positive relationship to interim disclosure)
MARKET MATURITY (1 for each of 8 calendar years)	CY ₈₅ , ..., CY ₉₂	The market maturity dummy for CY 1985 through 1992 (Increasingly positive relationship to interim disclosure)

APPENDIX 2

Detailed Sources of the Accounting Data which are used to Quantify the Independent Variables

Interim Reports

1. New listings and deletions from the Stock Exchange list are ascertained from the annual reports of the HSE (Helsinki Stock Exchange, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993). For 1993, the changes to the official list are requested directly from the HSE. The exact dates of the above changes are obtained from the HSE. In addition, the listings are cross-checked using *Kauppaliehti*.
2. *Helsingin Sanomat* newspapers. Interim reports for 1985 (database in the Helsinki School of Economics and Business and database in the University of Oulu).
3. HSE files covering register number 30042 = osavuositatsaus [interim report] from 1985, 1986 and 1987.
4. The card files of the HSE for 1985, 1986 and 1987.
5. The HSE filing program lists using osavuositatsaus [interim report] as the entry word. The filing program covers the years 1988 through 1993. The run dates of the lists are: (1) 1988, date: 9 November 1990, (2) 1989, date: 6 June 1990, (3) 1 January through 3 October 1990, date: 3 October 1990, (4) 4 October through 16 November 1990, date: 16 November 1990, (5) 14 November through 31 December 1990, date: 16 January 1991, (6) 1991, date: 23 April 1992, (7) 1992, date: 8 January 1993, (8) 1 January through 31 October 1993, date: 1 November 1993 and (9) 1 November through 31 December 1993, date: 21 January 1994.
6. Firms are requested to send a copy of their interim report when an incomplete statement is given in *Kauppaliehti* during the calendar year 1985.
7. Some details of interim reports are requested by telephone directly from firms. Those calls are documented on the data collection form. In cases where an interim report is published but not available in the HSE, the report is requested directly from the company. The major records for missing data and the follow-up measures are dated: 18 October 1993 (14 pages), 7 November 1993 (four pages) and 23 February 1994 (one page.)

Announcement Dates

1. *Kauppaliehti* newspapers, all issues for the years 1985-87. For 1985 the data are taken from the actual newspapers. For the years 1986 and 1987, the data are on microfilm. For more recent time periods, the KAUPPIS database, which is based on *Kauppaliehti*, is available. The event days are systematically identified by applying an open search with *osavu* as an entry word.

APPENDIX 2 (cont.)
Detailed Sources of the Accounting Data

2. The HSE filing program lists using *ennakkotieto osavuositiedot* [announcement of the event day of an interim report] as the entry word. This search is used to control the information in the *osavuositiedot* list. The run dates of the lists are: (1) 1988, date: 1 November 1993, (2) 1989, date: 1 November 1993, (3) 1990, dates: 11 October 1991 and 1 November 1993, (4) 1991, date: 1 November 1993, (5) 1992, date: 1 November 1993 and (6) 1993, date: 1 November 1993.

Annual Reports

1. Annual reports of the firms.

APPENDIX 3
Stock Market Data and their Preparation

The unexpected returns used in the study are market- and risk-adjusted returns (Fama, 1976, p. 69). Both daily share-specific indices and the value-weighted market index are used in the computation of market- and risk-adjusted returns. Returns on individual stocks are measured by logarithmic price differences adjusted for cash dividends, stock dividends, right issues and other causes of changes in the number of outstanding shares. It is also assumed that all proceeds from a given stock are reinvested in the same stock at zero transaction costs. Market returns are measured against a value-weighted market index, similar to that presented by Berglund, Wahlroos and Grandell (1983). The latest available data in this particular database extend to the end of 1990.

From the beginning of 1991, the Berglund et al. database is merged with stock market data, where the normal adjustments for cash dividends, stock dividends, right issues etc. are made at the University of Tampere. The stock index series in the new database are adjusted with a share-specific scaling factor and then are added to the share-specific indices in the Berglund et al. database. The scaling factor applied is obtained as follows.

First, an overlapping period of four months (September through December) in 1990 is used to make the indices compatible. It is necessary for the bid and ask quotations for a security in the Berglund et al. database to be identical with the respective bid and ask quotations in the database made at the University of Tampere. In the Tampere database, the share-specific index is an arithmetic average of the bid and ask share indices. After this control is conducted, the scaling factor is computed for the stock-specific index. The scaling factor is a ratio between the stock-specific indices in the two databases. The index values for the scaling factor computations are based on a day when the bid and ask quotations match. From the beginning of 1991, the value-weighted market index applied is obtained from the HSE (HSE Cooperative, 1994). This HSE based market index is likewise appropriately calibrated. Then, it is added to the value-weighted market index in the Berglund et al. database. For the database constructed at the University of Tampere the missing bid (ask) share index values are supplemented with the immediately previous available bid (ask) share index values for the computation of the share-specific indices. This procedure is commonly applied in studies of Finnish stock market data (Berglund, Liljeblom and Loflund, 1989; Martikainen, 1990).

The main data sources utilized are: (1) daily stock return index files, (2) market value database, (3) annual reports of the HSE, (4) annual reports of the firms and (5) *Kauppa-lehti*.

APPENDIX 4
Interim Report-Specific Disclosure Scoresheet¹
(Source of the Disclosure Index Score, which is used as the Dependent Variable)

A. MANAGEMENT REPORT

A.1. Management overview	<u>frequency</u>
1. Review of operations for the reporting period	
0.0 review not disclosed	4
0.5 review with few comments	144
1.0 review with an analytical discussion	<u>425</u>
	573

APPENDIX 4 (cont.)
Interim Report-Specific Disclosure Scoresheet

2. Competitive position and market share	<u>frequency</u>
0.0 items not disclosed	113
0.5 items with few comments	249
1.0 items with an analytical discussion	<u>211</u>
	573
3. Earnings per share (EPS)	
0.0 EPS not disclosed	427
0.5 disclosed present value of EPS	137
1.0 disclosed anticipated value of EPS for remainder of the year	<u>9</u>
	573
4. Figures for employees	
0.0 figures not disclosed	180
1.0 figures disclosed	<u>393</u>
	573
5. Subsequent events	
0.0 events not disclosed	310
0.5 events with few comments	201
1.0 events with an analytical presentation	<u>62</u>
	573
6. Outlook for the remainder of the operating year	
0.0 outlook not disclosed	46
0.5 outlook with few comments	403
1.0 outlook with an analytical presentation	<u>124</u>
	573
A.2. Investments and finance	
7. Presentation of anticipated investments	
0.0 no information on anticipated investments	315
0.5 anticipated investments disclosed with few comments	134
1.0 anticipated investments disclosed with a thorough presentation or explicitly stated that anticipated investments will be small in size	<u>124</u>
	573
8. Management discussion of financial position	
0.0 financial position not disclosed	95
0.5 financial position with few comments	277
1.0 financial position with an analytical discussion	<u>201</u>
	573
9. Presentation of anticipated capital structure	
0.0 anticipated capital structure not disclosed	412
0.5 anticipated capital structure with few comments	71
1.0 anticipated capital structure with an analytical discussion	<u>90</u>
	573
B. INFORMATION IN FINANCIAL STATEMENTS	
B.1. Information in general	
10. Applied accounting standards	<u>frequency</u>
0.0 no information about accounting standards	11
0.5 information according to Finnish accounting standards or according to some international accounting standards	501
1.0 information according to both Finnish and some international accounting standards	<u>61</u>
	573

APPENDIX 4 (cont.)
Interim Report-Specific Disclosure Scoresheet

	<u>frequency</u>
11. Income statement	
0.0 only mandatory components disclosed	91
0.5 at least two voluntary income statement components disclosed	280
1.0 all major income statement components disclosed	<u>202</u>
	573
12. Balance sheet	
0.0 balance sheet not disclosed	430
0.5 at least the sum of total assets disclosed	59
1.0 all major balance sheet components disclosed	<u>84</u>
	573
B.2. Business segment information	
13. Breakdown of turnover or net sales by business segment	
X only one business segment	17
0.0 several business segments, segmental components not disclosed	122
1.0 several business segments, segmental components disclosed	<u>434</u>
	573
14. Breakdown of income by business segment	
X only one business segment	17
0.0 several business segments, segmental income not disclosed	515
1.0 several business segments, segmental income disclosed	<u>41</u>
	573
B.3. Geographical information	
15. Breakdown of turnover or net sales by geographical area	
X only domestic area	113
0.0 several areas, not disclosed	290
0.5 several areas, disclosed by domestic and foreign	118
1.0 several areas, disclosed by areas	<u>52</u>
	573
16. Breakdown of income by geographical area	
X only domestic area	113
0.0 several areas, not disclosed	459
0.5 several areas, disclosed by domestic and foreign	1
1.0 several areas, disclosed by areas	<u>0</u>
	573
B.4. Disclosure and analysis of components related to financial statements	
17. Turnover or net sales	
0.0 no information on the component	1
0.5 component disclosed with few comments	212
1.0 component disclosed with an analytical discussion	<u>360</u>
	573
18. Research and development (R&D)	
0.0 no information on R&D	370
0.5 R&D disclosed with few comments	157
1.0 R&D disclosed with a reasonable explanation or explicitly stated that R&D has minor importance	<u>46</u>
	573
19. Depreciations of property, plant and equipment	
0.0 depreciations not disclosed	488
0.5 depreciations disclosed with few comments	69
1.0 depreciations disclosed with a thorough explanation	<u>16</u>
	573

APPENDIX 4 (cont.)

Interim Report-Specific Disclosure Scoresheet

	<u>frequency</u>
20. Result after financing items	
0.0 no information on the component	142
0.5 component disclosed with few comments	306
1.0 component disclosed with an analytical discussion	<u>125</u>
	573
21. Other income and expenses	
X other income and expenses have minor importance	172
0.0 no information on other income and expenses	214
0.5 other income and expenses with few comments	117
1.0 other income and expenses with a thorough explanation	<u>70</u>
	573
22. Result before appropriations and taxes	
0.0 component disclosed without comments	46
0.5 component disclosed with few comments	351
1.0 component disclosed with an analytical discussion	<u>176</u>
	573
23. Inventories and their valuation	
0.0 no information on inventories	433
0.5 inventories with few comments on valuation	135
1.0 inventories with a thorough explanation of valuation or explicitly stated that inventories have minor importance	<u>5</u>
	573
24. Orders logged and the order backlog	
0.0 no information on orders	235
0.5 orders logged with few comments	209
1.0 orders logged and the order backlog with a thorough presentation or explicitly stated that orders have minor importance	<u>129</u>
	573
25. Leasing contracts	
0.0 no information on leasing contracts	498
0.5 leasing contracts with few comments	54
1.0 leasing contracts with a thorough presentation or explicitly stated that leasing contracts have minor importance	<u>21</u>
	573
26. Commitments and contingencies	
0.0 no information on commitments and contingencies	282
0.5 commitments and contingencies with few comments	228
1.0 commitments and contingencies with a thorough explanation or explicitly stated that no commitments and contingencies	<u>63</u>
	573

¹ This scoresheet is developed by the systematic listing of the elements found in the interim financial statements submitted to the HSE over the period 1 January 1985 through 31 December 1993.