Chapter Five

Empirical Studies

The three empirical studies are presented in this chapter, and they are interviews with financial market participants, studies of analysts' reports, and statistical studies. The chapter is focused on how the empirical studies were actually carried out, involving the actual data collection performed, as well as a description of the data collected. Most methodological issues are discussed in Chapter Three. Analysis of the data is done in Chapters Six through Nine, where the findings of the studies are also given.

5.1. Interviews with Financial Market Participants

As noted in Section 3.2.1, the interviews actually carried out can be divided into three separate studies. These are:

- Interviews with non-Swedish financial analysts (the primary receiver study)
- Interviews with non-Swedish financial market participants that are not financial analysts (the secondary receiver study)
- Interviews with Swedish company representatives (the sender study)

Selection criteria for interviewees in each of the three studies are discussed below. This is followed by a depiction of the structure of the interview situation, which is similar for all three studies. Data on interviewees selected is given in Tables 5.1 and 5.2.

In the discussion of the selection of interviewees it should be noted that there may be different requirements when the interviews are analyzed according to pre-defined categories versus when categories are generated in the analysis. In the first type of analysis, it is often important that the selected sample is representative of the entire population, in order to allow for generalization of results. In the second type the emphasis is often more on a theoretically interesting selection, so as to enable the generation of categories. Since the interviews are analyzed according to both methodologies, the relevance of the sample selected will be discussed for both.

In the primary receiver study, selection is made from three countries, namely the United States, the United Kingdom, and Germany[51]. All interviewees selected are sell-side analysts (see Section 4.2 for a definition). The reason behind focusing on analysts are covered in Section 3.2.1. Sell-side analysts are used because their reports are made public, and therefore can be assumed to have a more general impact than reports and recommendations of buy-side analysts.

Using Nelson's Directory of Investment Research (1993) a population was identified that met all of the following criteria:

- Listed as sell-side financial analyst.
- Based in the US, the UK, or Germany.
- Listed as following a Swedish industrial company (financial services were excluded).
- Analyst or the employer of the analyst is not of Swedish origin (based on name).

Swedish banks and insurance companies were excluded as analysis objects due to the different accounting environment affecting these companies when compared to industrial companies. The resulting population of analysts consists of 105 analysts. Of these, 30 are based in the US, one in Germany, and 74 in the UK (the population is further discussed in Section 4.2).

Nelson's Directory is a US publication. It appears to have a more comprehensive coverage of US and UK analysts, than of German ones, which is one explanation for the fact that only one German analyst is included. An additional explanation is that most analysts located in Germany follow German companies. Most of the international company analysis done in Europe is done from London. It should also be noted that many of the large US brokerage houses base their analysis of Swedish companies in London.

For US and UK analysts, one analyst from each brokerage house included was contacted[52]. This resulted in 43 analysts being contacted. For each of these, a letter was sent with a request for an interview. In case of no response, the letter was followed up by a telephone call approximately one week later. Five analysts were no longer working at the firm they were listed at, resulting in a selected sample of 38 interviewees. Of these, ten were willing to be interviewed. Thus, the response rate is 26.3% (10/38). One additional (buy-side) analyst was contacted based on personal contacts.

[51] See Section 3.1.3 for a justification for choosing these three countries.

[52] This selection was done in order to avoid a repeat of firm-specific views from analysts. It should be noted that many of the analysts within firms, especially in London, share responsibility for Swedish companies. Including more than one analyst from the same firm following the same Swedish companies may not add much of interest to the interview studies.

It is difficult to say whether the response rate should be seen as low or not, and whether there is a bias in the sample included in the study. One can assume two main reason for analysts being unwilling to participate in the study. First, sell-side financial analysts tend to be relatively busy. This could give a bias, in that those that are not as busy are more likely to agree to an interview. Such a bias is not apparent in the sample, even though it could not be ruled out either. Second, analysts not willing to participate may not be as heavily involved in the analysis of Swedish companies as those who did participate. Some indication of this fact was given by participating analysts themselves. If this is true, the population is overstated, and the response rate in this study is understated. It also highlights the issue that the analysts' following of a company cannot be measured on a binary scale, but that a continuous scale is more appropriate. In other words, it is difficult to answer yes or no to whether a specific analyst follows a company, but he or she may be more or less actively involved in covering that company. Some evidence of this issue is given in the report studies, see Section 5.2.

In Germany, interviews were arranged with the help of Professor Dieter Ordelheide, who has contacts among financial analysts in Frankfurt. As noted, Nelson's Directory was not useful for selecting German analysts. Four interviews were performed in Germany. Since very few German analysts follow Swedish companies, two of the interviewees follow only German companies.

It is, of course, difficult to argue that the German interviewees are randomly selected. On the other hand, the German sample appears to be comprehensive. The only brokerage house identified in Nelson's Directory as following Swedish companies from Germany, is represented in the study. This conclusion is supported in the interviews conducted in Germany.

The secondary receiver study, involving non-Swedish financial market participants, was carried out as a pilot study, i.e. it was the first of the three interview studies. The purpose of the study was to provide an overview of the financial services sector, in order to facilitate identification of interviewees in the primary receiver study. These interviews are used where relevant in Chapters Four, and Six through Nine.

All interviews in the secondary receiver study were done in London. The selection of interviewees was based on personal contacts. Interviews were carried out with portfolio managers, stock brokers, and financial analysts.

The third interview study, which we call the sender study, involves Swedish company representatives. Five industrial companies were selected, based on the following criteria:

- Size of market capitalization.
- Level of sales outside Sweden.
- Level of adaptation of the annual report to non-Swedish accounting frameworks.
- Level of non-Swedish stock ownership.

The selection criteria are assumed to be correlated with companies' need for and experience with communication with non-Swedish stock market receivers of accounting. Of the non-Swedish analysts that are listed in Nelson's Directory as following Swedish companies, 47% followed one or more of these five selected companies. Thus, the Swedish interview study is rather comprehensive, in that it covers a large share of the Swedish side of the interaction between Swedish companies and non-Swedish analysts.

For each company contacted, interviews were requested with both the person responsible for financial reporting, and with the head of investor relations. Five interviews were conducted with the former category, and three with the latter.

Table 5.1 presents a summary of interviews carried out for the three studies. A code is assigned to each interview. In the analysis chapters of the dissertation (Chapters Six through Nine) the codes are used to identify interview protocol quotes used. The letters in the codes indicate whether it is a receiver or sender interview ('R' is for receiver, and 'S' is for sender). Table 5.2 lists firms where interviewees work.

Once the sample of interviewees is selected, the next issue is whether the sample is useful for analysis. As noted previously, the criteria for usefulness may vary between analysis with pre-defined categories and analysis involving the generation of categories. For both, however, it is important to select interviewees that are knowledgeable about the subject matter studied (Holme and Solvang, 1991, p. 114). In this dissertation, the study matter revolves around the relationship between Swedish companies and non-Swedish financial analysts. In both the primary receiver study and the sender study interviewees are directly involved in this relationship. The secondary receiver study is geared towards giving the researcher a contextual pre-understanding, and the interviewees in that study are knowledgeable on a more general level.

Table 5.1. Summary of Sample for Interview Studies

Interview Study	Codes	Sample Characteristics
The Primary Receiver Study	R1 - R15	• 15 interviewees selected in total • 5 are in New York, 6 in London, and 4 in Frankfurt • 14 are sell-side analysts, and 1 buy-side • 2 country specialists (Scandinavia), 3 follow Ericsson, 4 Astra, 1 Volvo, 1 Electrolux, 1 AGA, and 2 follow German companies • 5 are members of the Institutional Investor All-Star Team[53]
The Secondary Receiver Study	R16 - R22	• 7 interviewees selected • All are in London • 3 are portfolio managers, 2 are stock brokers, and 2 are analysts
The Sender Study	S1 - S8	• 8 interviewees selected • 5 are responsible for financial reporting, and 3 are heads of investor relations

Table 5.2. Listing of the Employers of Interviewees

• Arnold & Bleichroeder	• Electrolux	• Prudential-Bache
• Astra	• Ericsson	• Sal Oppenheim
• Barington	• Goldman Sachs	• Salomon Brothers
• Capital Group	• Kleinwort Benson	• SKF
• Carlson Investment	• Lehman Brothers	• Société Générale
• Commerzbank	• Mehta & Isaly	• Volvo
• Deutsche Bank	• Morgan Stanley	
• DLJ Corporation	• Natwest Securities	

When pre-defined categories are used in the analysis, the emphasis tends to be on the testing of deductively derived structures, which in turn indicates the importance of generalizability of results. This is related to whether the sample selected is representative of the entire population. We do not really have a randomly selected sample in any of the three interview studies, but what is at issue is whether possible biases in the samples create artificial results. Regarding the primary receiver study the low response rate is weighed against the fact that the population may be overstated (see above). Thus, the sample represents a relatively large share of the entire population. In addition, as discussed below, the interviewees selected have a diverse background within the relevant population. For the secondary receiver study, the ability to make generalizations is not relevant, since it is used mostly for giving the researcher a pre-understanding of the empirical field investigated in the other studies. The

[53] Institutional Investor, a monthly magazine published in the US, ranks analysts worldwide. Top analysts are included in the ”All Star Team”. Inclusion in this team can be used as a likely proxy for a high influence on the market.

sample in the sender study is not randomly selected, but encompasses the main actors in the field. The sample represents a large share of the Swedish side of the relation between Swedish companies and non-Swedish analysts. Thus, in this way, it is representative of a large part of the potential population.

In the analysis where categories are generated, one criterion for usefulness of the sample is that interviewees exhibit some variation in characteristics (see Section 3.2.1 and Holme and Solvang, 1991, p. 114). In the primary receiver study, there is variation in the following ways:

- Analysts are from different countries, with different accounting traditions.
- One buy-side analyst is included in addition to the sell-side analysts.
- Different industry and country specializations are represented.
- Analysts come from both large and small firms.
- Both brokerage houses and specialized research firms are represented in the sample.
- Some analysts are members of the Institutional Investor All Star Team, while others are not.

Additional variation is achieved through the secondary receiver study, which involved selection from a wider population. In the sender study, variation is more limited. This is because the population consists almost entirely of large, industrial companies. There is, however, variation in industries represented. To conclude, no bias that would drive results from the analysis of interviews is apparent, and it appears reasonable that the sample is useful for the analysis.

After discussing the sample selection, it is time to focus on how the interviews were actually carried out. The method was the same in all three interview studies. As depicted in Section 3.2.1, the method used was open-ended interviews, with the help of a questionnaire (see Figures 3.1 and 3.2). In the secondary receiver study, the questionnaire was less detailed, due to the preliminary status of that study.

Where applicable, actual Swedish annual reports were used during the interviews, in order to enable the use of real-life examples. In the sender study this entails discussing the actual considerations that lay behind the production of the annual report in question. In the primary receiver study, the focus was, of course, on the considerations involved in analyzing the relevant Swedish annual report for company valuation purposes.

Before the interviews took place, interviewees were informed about the purpose of the interviews, and that the interviews would become part of a dissertation. Interviewees were given the 3rd research aim as stated in Section 1.2.

All interviews took place in the interviewees' offices. The time used for each interview varied between 30 minutes and two hours. During the interviews, notes were taken by the researcher[54]. Immediately following each interview, the notes were expanded into a more comprehensive transcript. The creation of transcripts was standardized (cf. Section 3.3.3), using the interview questionnaire as a basis.

There are both advantages and disadvantages with making transcripts from notes rather than from tape recordings. The main disadvantage is that the researcher does not have access to the exact words used by the interviewees, and that points made may be missed. An advantage, on the other hand, is that the analysis starts already during the actual interviews, and continues when the writing of the extended transcript begins, which is done immediately following the interview. Thus, the researcher has a fresh memory of what the interviewee intended with certain expressions or examples. In addition, the researcher will likely remember contextual details that may be of relevance for the interpretation. To conclude, the interview transcripts are considered useful for the analysis performed in this dissertation.

5.2. Report Studies

Two separate report studies are done, namely a study of analysts' reports, and a study of company annual reports.

Analysts' reports are selected from Investext, a full-text database. Investext contains reports from sell-side financial analysts. From the database, all reports involving analysis of Swedish companies, done by none-Swedish firms, were selected. The database identifies issuing firms, but not individual analysts that authored reports. The selection was done in April of 1994. In August of 1994, additions since April were added to the study. Thus, 67 reports were selected.

An issue with Investext is whether the database is biased, and if so, how. First, there seems to be a geographic bias, in that reports from US and UK firms are over-represented. However, as noted in Section 4.2, most non-Swedish analysis of Swedish companies is conducted from these two countries. Thus, this bias is not seen as very serious. Second, there could be a bias in what type of US and UK financial firms are represented in Investext. Of the firms identified as the population in the primary receiver interview study, 43% are included in the Investext sample. Most of the firms included in Investext are large firms, whereas small firms tend to be excluded. There could be two explanations for

[54] The reason for not taping the interviews was that most interviewees were unwilling to be taped.

this. Either, firms that claim they follow Swedish companies do not really do it, and therefore do not issue reports, or these reports exist but are simply excluded from Investext. The actual explanation is probably a combination of these two.

Whether the somewhat selective nature of Investext is a problem or not is difficult to say. In connection herewith it is important to remember that the reports are only used for the analysis where categories are generated. Thus, generalizability may not a major concern. Mostly, the reports are used to illuminate results from the interview studies. With this in mind, the Investext reports are seen as useful, even though there may be a bias towards large firms.

Apart from Investext reports, nine paper copies of reports were received directly from some interviewees. Thus, including 67 Investext reports, a total of 76 analysts' reports are available for study.

For the actual analysis of reports (discussed in Chapters Eight and Nine) a sub-selection was made. A sub-selection is necessary, since 76 reports are considered too many for an effective analysis involving the generation of categories (Potter and Wetherell, 1987, p. 161). The following three criteria were used for making the sub-selection:

- Matching of reports with interviews with analysts.
- Matching of reports with interviews with Swedish company representatives.
- Selection of full research reports, rather than news briefs.
- Variation in issuing firms.

Matching with interviews is done in order to facilitate the use of reports for illuminating interview results. A preference of reports analyzing the five Swedish companies included in the sender interview study is based on the possibility to see analysts' views of these Swedish companies. Full reports are seen as more relevant for gaining insights into the analysis process than news briefs. The advantages with variation in the sample selected is discussed in Section 3.2.1. Ten reports were selected, and the resulting sample of reports is shown in Table 5.3.

Table 5.3. Summary of Sample of Analysts' Reports

- 10 reports selected in total
- 7 are from US-based firms, 2 from UK-based firms, and 1 from a German-based firm.

As pointed out in Holme and Solvang (1991, p. 142) the relevance of documents must be evaluated when they are used in research studies. The reports used here are considered very relevant, since they constitute the actual end-product of analysts' work. It is by issuing these reports that analysts create value. The problem with the reports is that they do not show the actual analysis process,

which is of interest in this dissertation. The fact that reports are only secondary indicators of the process must be kept in mind in during the analysis.

The selection of company annual reports was matched against interviews done with company representatives from five Swedish companies (see Section 5.1). These reports are considered very relevant, since they were actually being produced by the interviewees during the time frame when the interviews took place.

5.3. Statistical Studies

The data used for statistical studies is discussed in this section. The models applied to the data are depicted in Section 3.2.3, whereas results from applying the main models are given in Chapter Seven. In addition, results applying to the US GAAP/IAS sub-sample (see below) are provided in Section 4.3.

Based on the models in Section 3.2.3, the data needed is 12- or 15-month stock returns, as well as earnings per share and equity per share data. The first step in the data collection process, however, is to select companies for which this data is to be collected. As suggested in Section 3.2.3, the focal point of the statistical study is to measure effects from the change in accounting treatment of untaxed reserves. In order to achieve this objective, we must have a time period that is sufficiently long, both before and after the change took place. At the same time, it is desirable that the time period used is sufficiently short that major changes have not occurred in the valuation bases used in the Swedish stock market. The time period chosen is 1983-1995. Most companies changed their accounting treatment of untaxed reserves in 1991. 1995 is as far as we can go forward from this point of change, since the study was performed during 1996. 1983 as the starting point was judged as giving enough observations preceding the 1991 change, and at the same time not encompassing time periods with major structural stock market changes.

The initial selection of companies was based on stock listings for the final day of each calendar year for the period 1983-1995. The listings were obtained from Dagens Industri, a Swedish business daily. Companies included are those listed on the A-list (A1 and A2 in years 1983-1990) of the Stockholm Stock Exchange. During the period studied, companies on the A-list tended to be larger, whereas smaller and less liquid companies were listed on the O-list, or were traded over-the-counter (OTC). Some observations were deleted because no stock price was available for the beginning of the year, thus negating the possibility to calculate returns for the year. As the beginning of the year price any stock price was sufficient, that is it could be from the A, O, or OTC listings.

Additional deletions were made for those observations where no stock price was available 3 months after year-end[55].

The resulting number of observations per year are given in Table 5.4. One observation is one company during one year. Thus, a company listed during the entire 1983-1995 period will be counted as a total of 13 observations. The total number of observations for the entire period is 1,587.

Companies are classified into years in the following way. 1990, for example, includes companies with accounting year-ends from July 1, 1990 to June 29, 1991. The classification of companies with June 30 year-ends is based on an attempt to obtain continuous time series of observations, rather than on specific rules.

In the actual statistical studies, certain outlying[56] observations were deleted, so as not to unduly affect results. This issue, as well as its impact on the data structure, is discussed in more detail in Section 7.1.

Accounting information is obtained directly from annual reports, which gives the researcher a high degree of control over exactly what numbers are used. Thus, actual practice is reflected in the study rather than secondary data from a database. Accounting numbers extracted from annual reports include net income, income tax, appropriations to/from untaxed reserves, extraordinary items[57], owners' equity, untaxed reserves, and dividends per share. Additional data include number of shares, fiscal year-end, whether untaxed reserves are used, US GAAP/IAS information, and industry classification. Descriptive summary statistics of the information obtained from annual reports is shown in Table 5.6.

Stock prices are obtained from newspaper stock listings, either from Dagens Industri, or from Svenska Dagbladet (a general Swedish daily paper). There are two choices to be made in picking stock quotes. First, a choice must be made on which stock to use. This is an issue since many Swedish companies have several classes of shares. Here, the most liquid class is used, as evidenced by turnover data in the newspaper stock listings, and by the availability of daily stock quotes. Second, the actual price to use from the stock listing must be

[55] The reason why no stock price was available was that the company had been delisted from the stock exchange.

[56] Outlying observations are defined as those where the independent variables are removed from the mean by at least 3.0 standard deviations, see further Section 7.1.

[57] Extraordinary items are almost non-existent following the issuance in 1993 of Redovisningsrådet's recommendation 4 on extraordinary items. No company showed extraordinary items in 1994 or 1995, for example.

determined. The price used here is the latest paid ("senast betalt"). If that is not available, the average of the day's final quotes ("dagens slutkurser, köp och sälj") is used. However, in no case is a price chosen that exceeds what has actually been paid for the stock historically.

The dependent variable in the return model shows how stock returns are calculated. The calculation is based on stock price and dividend information. An alternative information source for stock returns is a database obtained from Svensk Samhällsvetenskaplig Datatjänst, Göteborg University[58]. These two sources of stock return information were compared, in order to test for the integrity of the data. Using the two sources of information in the statistical runs gave substantially similar results.

As noted in Section 3.2.3, observations are classified into pre- and post-harmonization, based on whether tax-free reserves are used or not. Tax-free reserves are only used in the pre-harmonization group of companies. The number of observations in each of the two groups is shown by year in Table 5.4 and by industry in Table 5.5.

The industry classification in Table 5.5 is based on the reading of annual reports. Companies that are active in more than one industry are classified by the activity that generates the majority of revenues. The "industrial" category is broadly defined, and includes, for example, manufacturing, publishing, and business services. The reason for the classification by industry is to test whether excluding some industries has a significant impact on results. Results based on the entire sample may be garbled if different industries show different characteristics. Note, however, that in Sweden there is no major difference in accounting pronouncements for different industries.

In Sweden, the income number often referred to (by the business media, for example) is earnings before taxes, and before tax-related appropriations. If Swedish market participants use these adjusted numbers, and this study is based on reported net income, there is a risk of drawing the wrong conclusions from the study. Therefore, tests are done using these adjusted income numbers as well as reported income numbers. Net income adjusted for the effect of taxes and appropriations is presented as adjusted income in Table 5.6. An additional adjustment is made for extraordinary items, and the resulting income is shown as EO adjusted income in Table 5.6.

When untaxed reserves were used in Sweden, it was also common to adjust equity for the existence of such reserves. The adjustment is done here by simply

[58] The Department of Economics at Göteborg University also supports this database.

adding untaxed reserves to equity. The resulting equity is shown as adjusted equity in Table 5.6.

Following this depiction of how numbers used in the statistical studies are obtained, information about the actual sample selected is presented in tables.

Table 5.4. Number of observations per year, stratified into pre- and post-harmonization

Year	N	Of which pre-harmonization	Of which post-harmonization
1995	110	0	110
1994	99	0	99
1993	95	0	95
1992	102	0	102
1991	108	46	62
1990	112	93	19
1989	123	115	8
1988	128	124	4
1987	142	141	1
1986	141	141	0
1985	149	149	0
1984	141	141	0
1983	137	137	0
Total	1587	1087	500

Table 5.4. shows how the number of companies listed on the stock exchange follows a cyclical pattern. The market expanded in the first half of the 1980's, which generated many initial public offerings (IPO's). In the late 1980's, acquisitions reduced the number of listed companies, and a further reduction occurred in the early 1990's due to poor market conditions. When the market went up again in the 1993-95 period, there was a renewed interest in IPO's.

The table further shows the pattern of abolition of the use of untaxed reserves. During 1987-1990 only a few, mostly large and international, companies discontinued use of the reserves. The big change came in 1991 and 1992. Starting in 1992, the use of untaxed reserves were not allowed any more in consolidated financial statements.

Table 5.5. Observations by industry, stratified into pre- and post-harmonization

Industry	N	Of which pre-harmonization	Of which post-harmonization
Banking	97	78	19
Construction	85	52	33
Industrial	883	593	290

Insurance	39	24	15
Investment co's	126	105	21
Real estate	131	94	37
Retail/trading	98	67	31
Transportation	102	56	46
Utilities	26	18	8
Total	1587	1087	500

Table 5.6. Summary statistics of company data

Panel A: Absolute values (in Millions of SEK)

Item	Mean	Std. dev.	Median	Minimum	Maximum
Net income	283.7	939.8	57.3	-5047.0	13230.0
Adj. income	503.2	1307.0	125.3	-8491.0	16013.0
EO adj. inc.	494.3	1264.5	120.1	-5831.0	16013.0
Equity	2309.6	4626.6	592.0	-212.7	51200.0
Adj. equity	3046.0	5464.1	826.1	-179.4	51200.0
Capitaliz.	4520.8	10278.0	1239.3	18.1	163295.4

Panel B: Ratios, stratified by year (based on means)

Year	Capitaliz./ equity	Capitalizat./ net income	Adj. inc./net income	EO adj inc./ net income	Adj. equity/ equity
Entire sample	2.77	29.91	3.30	3.31	1.81
1995	1.73	12.20	.59	.59	1.00
1994	1.71	9.60	1.45	1.45	1.00
1993	1.65	12.88	1.20	1.38	1.00
1992	1.10	.92	1.53	1.64	1.00
1991	1.57	1.42	2.81	2.21	1.34
1990	2.37	32.22	4.20	4.12	1.93
1989	4.00	18.70	2.49	2.46	1.92
1988	4.08	30.64	3.11	3.04	2.02
1987	3.53	21.50	2.91	3.00	2.22
1986	3.92	26.87	3.46	3.36	2.30
1985	2.54	73.46	5.27	5.20	2.28
1984	2.60	71.32	6.99	6.13	2.33
1983	3.73	44.06	4.48	5.97	2.20

Panel C: Ratios, stratified into pre- and post-harmonization (based on means)

Item	Capitaliz./ equity	Capitaliz./ net income	Adj. inc./net income	EO adj inc./ net income	Adj. equity/ equity
Pre-harm.	3.33	38.25	4.26	4.26	2.18
Post-harm.	1.53	11.85	1.23	1.27	1.00

The ratios shown in Panels B and C of Table 5.6 are calculated first by each individual observation, and then averages are calculated by the entire sample, or by sub-selections. With this method of calculation it is not possible to reconcile between the numbers in Panels A, and Panels B and C.

Panel B of Table 5.6 indicates whether or not there have been any structural changes in the Swedish stock market in the 1983-1995 period. As discussed in Section 3.2.3, such changes could garble the results of the study. The capitalization/equity ratio shows cyclical variation, in line with market ups and downs. The tendency for somewhat higher ratios in early years is attributable to the existence of untaxed reserves in those years. As shown in the adjusted equity/equity, numbers for the 1983-1987 period should be divided by a little more than 2 in order to be comparable to numbers for the 1992-1995 period. Capitalization/net income[59] does not indicate structural changes over time, apart from effects of removing untaxed reserves. Note that the 1992 number is distorted by the fact that the average net income was negative in that year, due to a strong recession in Sweden. To summarize, the numbers do not indicate a clear pattern of structural changes in the stock market.

The high ratios for adjusted income/net income, EO adjusted income/net income, and adjusted equity/equity in the first few years are driven by the existence of appropriations and untaxed reserves. The low adjusted income/net income ratio in 1995 is explained by the fact that many companies used tax benefits in that year. It is also interesting to note, by comparing adjusted income/net income with EO adjusted income/net income, that the additional adjustment for extraordinary items is not important on average. This reflects the fact that the adjustment is made both for extraordinary income and expense, so the net effect is small.

The observations summarized in Table 5.6, Panel A, are used in the price model, after they are divided by the number of shares outstanding. For the return model, however, the data must be transformed more before it is useful as observations. The calculation of the independent variable (stock returns) is discussed above. As discussed in Section 3.2.3, both 12- and 15-month windows are used. Thus, we have two stock return variables, which we call Return 12 and Return 15. The other two variables in the model we can call the EPS (Earnings Per Share) and the ΔEPS (Change in EPS) variables. These are calculated as shown in the model in Section 3.2.3. Adjustments are made in the calculations for changes in the number of shares outstanding[60]. Descriptive statistics for the variables are shown in Table 5.7. The table also shows variables based on income numbers adjusted for taxes, appropriations, and extraordinary items, as discussed above. EPS pre-tax, and ΔEPS pre-tax are

[59] This ratio is often referred to as the price/earnings (P/E) ratio.

[60] Adjustments are made for changes in shares issued and outstanding, such as those caused by new share offerings and redemptions. No adjustments are made for near-equity financial instruments issued, such as stock options. It is only when the options are executed that an adjustment is made.

adjusted for taxes and appropriations. EPS EO and ΔEPS EO are also adjusted for extraordinary items.

Table 5.7. Descriptive statistics of return model variables

Panel A: Entire sample

Variable	Mean	Std. dev.	Median	Minimum	Maximum
Return 12	.276	.663	.162	-.939	9.273
Return 15	.376	.740	.224	-.942	8.636
EPS	.061	.248	.062	-4.283	3.075
ΔEPS	.037	.393	.011	-2.486	11.025
EPS pre-tax	.143	.352	.146	-4.937	4.298
ΔEPS pre-tax	.064	.502	.026	-5.250	12.320
EPS EO	.135	.298	.139	-4.937	4.569
ΔEPS EO	.047	.313	.023	-3.430	4.210

Panel B: Mean of variables, stratified by year

Year	Return 12	Return 15	EPS	ΔEPS
1995	.159	.221	.112	.032
1994	.237	.185	.095	.094
1993	1.204	1.363	-.018	.273
1992	-.117	.025	-.075	.007
1991	-.122	-.060	.013	-.013
1990	-.325	-.225	.047	-.020
1989	.226	.144	.079	.015
1988	.521	.654	.095	.026
1987	.073	.223	.069	.022
1986	.694	.800	.087	.028
1985	.177	.376	.070	.000
1984	-.029	.049	.078	.041
1983	.868	1.160	.085	.034

The ups and downs of the stock market are apparent in Panel B of Table 5.7, such as the effects of the sharp recession in Sweden during 1990-1992. Note that the mean of the Return 12 variable does not equal the stock market index, since the numbers here are not weighted for market capitalization. This is a simple mean of the return variables, where each observation has an equal weight.

An additional classification is done based on whether companies provide US GAAP/IAS information. If they do, net income and equity numbers produced according to US GAAP and IAS are extracted. These numbers are only extracted if they are presented separately from the Swedish accounting numbers. Several companies say their financial statements are materially consistent with IAS's without providing specific IAS numbers, and those are not included here. Summary statistics for the US GAAP/IAS sub-sample are shown in Table 5.8.

Note that data analysis of this sub-sample is done in Section 4.3 rather than in Chapter Seven.

Table 5.8. Summary statistics for US GAAP/IAS sub-sample

Number of observations, by type of information				
US GAAP	106			
IAS	17			
Net income and equity numbers, US GAAP sub-sample				
Item	US GAAP mean	Swedish mean	US/Swedish	N
Net income	1694.0	1372.8	1.234	106
Equity	12302.9	10757.7	1.144	106
Net income and equity numbers, IAS sub-sample				
Item	IAS mean	Swedish mean	IAS/Swedish	N
Net income	553.9	515.9	1.074	17
Equity	6952.9	7176.5	.969	11

Table 5.8. shows that US GAAP on average gave 23% higher earnings and 14% higher equity than the Swedish accounting numbers. For the IAS sub-sample, the differences are smaller with income being 7% higher than Swedish numbers, and equity being 3% lower. Note that some companies provide IAS net income but not equity, which explains the differences in the number of observations.

5.4. Summary

As shown in the preceding sections of this chapter, empirical material is obtained from several different studies in this dissertation. There are three interview studies, of which two (the primary receiver study and the sender study) are analyzed in depth in the following chapters. There are two report studies, involving both analysts' reports, and companies' annual reports. Finally, there are the statistical studies, where tests are done using numbers defined in a variety of ways. Consequently, the research issues given in Chapter One are investigated and analyzed using a diverse collection of empirical data.

Following the presentation of empirical data given in this chapter, the analysis and presentation of results begins. This is accomplished in Chapters Six through Nine.