



Are Investors Sensitive to the Quality and the Disclosure of Financial Statements?

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Abstract. This paper investigates the influence of Swiss firms' disclosure policy and of their financial analysts' coverage on stock price abnormal reactions to the publication of the annual reports. It first shows that, after controlling for the number of analysts, the absolute abnormal returns are significantly and positively affected by the rating measure used as a proxy of the informational quality of annual reports. It furthermore emphasises asymmetry in the relationship between stock price abnormal reactions and two informational variables, namely the quality of the firm's disclosure policy and its financial analysts' coverage. It appears that while positive abnormal returns are significantly and positively related to the rating variable, negative abnormal returns are only affected by the number of financial analysts. The inverse relationship between abnormal negative returns and the financial analysts' coverage supports the fact that competition among analysts reduces investors' adverse selection problem. Finally, the study evidences a non-linear relationship between rating and positive abnormal returns which is meaningful for the "good" and "very good type" firms and thus emphasises the signaling role played by a firm's financial disclosure policy.

1. Introduction

The information disclosure policy of listed firms has been the subject of an increasing stream of literature focusing on the economic function and valuation of public information on one side and on the role of financial analysts as information suppliers and/or intermediaries on the other side. In a market with frictions, it is important to determine whether the information released by financial analysts can act as a substitute for the deficiency of the quality of the firm's own disclosure policy. In the same vein, it is important to assess if neglected firms can, by improving their disclosure policy, supplement a lack of analysts follow-up. The latter feature is meaningful in many small and concentrated European stock markets where there is a clear distinction between the analysts lack of coverage of small and medium size firms and their "enthusiasm" for a few blue chips. In light of the above considerations, this study examines whether the quality of firms' financial reports and the number of financial analysts following a given firm do explain

abnormal stock returns around the period surrounding the release of the annual reports. More importantly, it examines whether the influence of transparency and of analysts follow-up is symmetric and thus independent of the content of the information being released. Since it relies on data from the Swiss stock market, this study is a representative of a small and opaque European stock market.

Focusing on the role played by the quality of the public information disclosed by the firms, the literature casts several explanations for firms willingness to voluntarily disclose complete and timely information. In particular, such a policy can be aimed at reducing transaction costs on the stock market by lowering moral hazard and adverse selection problems thus leading to more active stock trading. While these factors can reduce the cost of capital, there nevertheless remain several impediments towards firms' willingness to fully disclose. Among them, one can cite the threat of product-market competition as emphasised by Verrechia (1990), Darrough and Stoughton (1990) or Chen (1994), tax avoidance considerations, conflicts of interest between various classes of shareholders and the firms' managers as well as the fear of losing the confidence of a diffused ownership by displaying more volatile marked-to-market profits. In addition to the firm's own trade-off between strategic and financial transparency, the limitation of accounting standards per se will also influence the quality of information released in the financial reports. As a consequence, firms can adopt disclosure policies which are incomplete, lagged and which may imply additional costly reinterpretation on behalf of the investors. These caveats should become even more relevant if it turns out that the quality of a corporate disclosure policy cannot be substituted for by a large number of financial analysts following a firm's stock. This question seems relevant according to the results acknowledged by Lang and Lundholm (1996) for the US stock market where they found that corporate disclosure and the degree of financial analysts follow-up are complementary informational variables. Moreover, they evidenced a weak causality which seems to run from the former variable to the latter.

As far as the role played by financial analysts' coverage is concerned, one may first cite several studies examining the analysts forecasting skills, the degree of accuracy and the value of their buy and sell recommendations (see, for instance, Desai and Jain (1995) or Rajan and Servaes (1997)).¹ More closely associated to the topic of this study, one finds articles focusing on the economic function of financial analysts (as information providers and/or intermediaries, Bushan, 1989) or showing that a more elaborated disclosure policy enhances the analysts' EPS forecasts accuracy (Lang and Lundholm (1996)). Abstracting from potential herding among financial analysts (see Olsen (1996) or Welch (1996)), the latter result

¹ In parallel to this line of research, a study by Brown and Han (1992) examines more specifically the relationship between the annual earnings announcements and the convergence of analysts' beliefs. They find that the cross-sectional variance of analysts' earnings forecasts decreases with the information contained in the earnings. In the same vein, studies by Baginski and Hassell (1990) or by Jennings (1987) suggest that financial analysts revise their forecasts subsequently to management earnings forecasts.

corroborates the conjecture raised by Strong and Walker (1987) and by Ohlson (1987), namely that public information has value since it completes the market and facilitates the convergence of beliefs which in turn leads to improved risk-sharing. Finally, one should also mention the stream of literature examining the adverse selection problem faced by the financial analyst, in particular, when the latter belongs to an investment bank which maintains business relationships with the firm under review (see Hirst, Koonce and Simko (1995)). From the investors' perspective, these adverse selection costs are shown to be reduced as the number of analysts and the degree of competition for information released increase (see Brennan and Subrahmanyam (1996)).

In order to empirically assess the role played by the firm's disclosure policy and its degree of financial analysts coverage, this study is nested within the Swiss stock market which for that purpose is particularly suited. First, Swiss listed firms provide a very heterogeneous experimental ground since they had a high degree of freedom in choosing their disclosure policy given the absence of any mandatory accounting standards. Thus, even though the sample is limited to thirty-seven firms, it displays a high level of dispersion in terms of the quantity and the quality of information disclosed in the annual reports. Secondly, the Swiss stock market is also segmented with respect to its financial analysts coverage which in turn shapes the structure of this stock exchange trading activity. Thirdly, the sample period, ranging from 1986 to 1993, is interesting in itself since it is characterised by the fact that many firms started to use internationally accepted financial statements presentation norms (such as IAS, US GAAP). Finally, this study relies on a rating measure computed by the Swiss Financial Analyst Federation (hereafter SAFAIM). This measure is used as a proxy of the transparency, or, in other words, of the quality of the disclosure policy of firms' annual report. The fact that SAFAIM changed its rating methodology in 1991 in order to improve the assessment of the information content of Swiss firms annual reports makes the sample period even more interesting.

Let us briefly summarise the main empirical results of the paper: First, we observe a significant and positive relationship between the absolute abnormal stock returns and SAFAIM rating only after controlling for the number of financial analysts. Contrarily, the degree of analysts coverage is always significant and negatively related to the abnormal returns. Secondly, the results clearly reject the null hypothesis according to which the effect of each informational variable is perfectly symmetric, that is, independent of the sign of the abnormal returns. Indeed, rating does significantly and positively affect the stock price response in the case of positive abnormal returns while the number of financial analysts variable is irrelevant for this sub-sample. Yet, the reverse relationship holds for the negative events: a wider analysts coverage significantly reduces the stock price reaction while rating becomes insignificant in this abnormal returns sub-sample. These asymmetric relationships are then explained. First, as far as the informational variable rating is concerned, the results are consistent with a signaling hypothesis by which "good"

firms use the high quality of their disclosure policy to signal their type to the market. Second, the role of financial analysts coverage is explained in light of the adverse selection problems in the relationship between the firm and the financial analysts whose incentive to diffuse timely and accurate negative information on the firms is reduced unless he is forced to do so by the threat of a competitive market for information.

The structure of the paper is as follows: in section 2, the Swiss stock market is briefly described together with the accounting rules and rating procedure used by SAFAIM. Section 3 presents the econometric procedure specifically designed to measure abnormal returns under unknown event dates. It also provides summary statistics on the abnormal returns and the informational variables. In Section 4, the empirical results on the impact of the rating score and on the number of financial analysts are first investigated irrespective of the sign of the stock abnormal returns. The asymmetric price responses are then tested after decomposing the initial sample into positive and negative abnormal returns. Section 5 concludes and examines possible research extensions on the role and origins of asymmetric stock price responses to firms' transparency policy and their financial analysts' coverage.

2. General Characteristics of the Swiss Stock Market, Accounting Rules and Rating Procedures

2.1. SWISS STOCK MARKET AND FIRMS

The Swiss stock market can be described as a highly concentrated and thus illiquid stock market. For instance, in 1992 the twenty largest corporations accounted for more than 75% of the Swiss stock market capitalization. There are several reasons behind the low trading activity characterizing this market. First, most of the firms in numbers, approximately 85%, are still not genuinely public firms and only recently has a shareholder culture emerged primarily through foreign and institutional investors. A second explanation lies in the Swiss firms' practice of issuing multiple classes of shares, that is, bearer and registered voting stocks as well as non-voting shares. This measure protected firms against hostile foreign take-overs and therefore maintained corporate control in Swiss hands. Recent changes of practice, such as the abolition of the transferability restrictions of the registered shares by public firms – starting with Nestle in 1988 – and the legally authorized lowering of the minimum stock face value from CHF 100 to CHF 10 have been motivated by the concern of boosting liquidity on the Swiss stock market. The latter measure led to a series of stock splits (see Russi (1995)) and to a simplification of firms' equity structure since the introduction of the new Corporate Law in July 1992.

A third impediment to the liquidity of the Swiss stock market lies in the fact that firms had a high degree of freedom in choosing their accounting standards and thus the level of transparency characterising the content of their annual financial reports. The lack of standardization in the presentation of their annual reports led to well-known phenomena such as the smoothening of their earnings per share. Practices

such as building and writing back hidden reserves coupled with large managerial flexibility in deciding which subsidiaries to include – and to what extent – in the consolidated annual statements served the former purpose. As a result, the Swiss stock market was not very attractive from an international investment standpoint.

2.2. EVOLUTION IN THE TRANSPARENCY OF THE SWISS FIRMS' ANNUAL REPORTS

2.2.1. *Swiss Accounting Procedures*

Before 1992, the Corporate Law only imposed a minimal basic structure to the establishment and the publication of the annual and consolidated accounts and furthermore it only applied to limited liability corporations. Swiss firms were invited to establish their annual reports with a *sufficient degree of cautiousness*, among the generally accepted accounting principles. However, the latter were not restrictive. For example, firms were allowed to create *hidden reserves* by underestimating assets in their balance sheet (art. 663 of the old Corporate Law). Recently, major changes have influenced the information policy of Swiss firms. First, many firms started to voluntarily adopt internationally accepted accounting standards such as International Accounting Standards (IAS), US and UK Generally Accepted Accounting Principles (US GAAP, UK GAAP) or the European Community's Accounting Directives (EC-Directives).² This shift was particularly noticeable among multinational firms as well as corporations that were seeking to raise money on the international capital markets. Secondly, a commission called *Foundation for Accounting and Reporting Recommendations* (FARR hereafter) was founded in February 1984 in order to develop a "Swiss solution" to the discretionary characteristic of the accounting and reporting practices of the listed firms. These recommendations are considered by the financial analysts as defining a minimum level of transparency of the Swiss firms' annual reports.

With the introduction of the new Corporate Law, the minimum legal restrictions on the annual reports have been tightened. In particular, group accounts must be established if corporations are listed on the Swiss stock market, if they issue public debt, if shareholders who represent at least 10% of the equity capital require it or if the group accounts are necessary to state as accurately as possible their business results and wealth. In addition, the true and fair view of the ongoing business and the regular establishment of the company reports according to accounting principles of continuity, cautiousness, clarity, completeness and prohibition of compensation between assets and liabilities or profits and loss are now legally binding. A minimum structure for the presentation of financial statements (balance

² The voluntary adoption of internationally accepted accounting standards is sometimes interpreted as the change in the direction of investment flows. For instance, The Financial Times, 1/20/1994, comments that German companies shift from local accounting standards to the Anglo-Saxon standards when this country became an importer of capital.

sheet, profit and loss statement, and an annex containing additional meaningful information)³ has also been enforced.

2.2.2. SAFAIM's Ratings

A shift towards greater transparency in the publication of the financial statements was also initiated by SAFAIM. This association created the so-called *Shareholder Information Committee* which has published, since 1967, ratings that assesses the quality and quantity of financial information provided in Swiss firms' annual reports. The aim of the committee is twofold: to publish an annual rating of the information content of Swiss firms' annual reports and to actively contribute to the improvement of the disclosure policy of Swiss firms towards their shareholders.

The rating procedure has been modified twice, first in 1979 and again in 1991. Before 1979, the rating was based on quantitative information about the consolidated or group accounts. Financial analysts particularly focused on the following information: information on management (executive members and their duties, information about the identity and importance of shareholder concentration, etc.), on the company's business (evolution of products and markets, geographic repartition of production and sales, new products, R&D, information about employees, etc.), on the balance sheet and profit and loss statement, on investments (description and financing of investment projects), and on additional information (such as summary balance sheet and profit and loss statement over the last five years, comments on statements).

Since 1979, the major change introduced by the SAFAIM in its rating procedure was to account for the "perceived" qualitative importance of the released information in addition to its quantitative evaluation. A weighting factor for each required information was estimated by financial analysts after having sounded out the sample companies themselves. It thus represented their *subjective* perception of the quality of a given information. The attributed individual ratings to each company thereafter thus reflected both the quantitative and qualitative features of their disclosure policy.

The fact that transparency became a more important investment selection criterion on behalf of foreign and institutional investors motivated a second change in the SAFAIM's rating procedure in 1991. The change was facilitated by three considerations.⁴ First, many Swiss blue chips adopted one of the internationally accepted accounting standards (for instance, Nestle in 1989). Second, the Committee realised that its former rating practices heavily relied on the quantity of information per se and not on its quality. Finally, Swiss firms increasingly pub-

³ In particular the annex should contain additional information about hidden reserves, accuracy on the non-consolidated part of flow of funds (such as the amount of sale and lease back) and on the accounting standards used to consolidate the financial statements.

⁴ The SAFAIM did not publish any rating in 1991 for non-financial companies for the fiscal year 1990. For a description of the SAFAIM procedure, see Appendix A. Appendix B provides the ratings of the 37 sample firms followed by the SAFAIM.

lished their financial information on a consolidated basis either voluntarily (by adopting international accounting principles) or through the recommendations of the FARR.⁵

One important feature of the post-1991 rating is that it assesses the quality of a company's accounts on the basis of the auditing firm certification regarding the fulfillment degree of the "true and fair view" principle. In particular, the latter principle prohibits the arbitrary setting up and write-back of hidden reserves and is thus, in many ways, conflicting with the cautiousness principle which served as a basis to their prior setting up. The "true and fair view" principle also requires the complete coverage of all group companies in the consolidated account, the disclosure of extraordinary items and of related-party transactions.

To summarize, the distinguishing feature of the new and currently prevailing rating procedure lies in the fact that its rubric "the quality and scope of group accounting", which represents half of the overall rating, now captures the degree of quality in the Swiss firms' disclosure policies, according in particular to the fulfillment degree of the "true and fair view" principle and its certification by the auditing firms.⁶ Moreover, additional qualitative information about investor relationships, structure and involvement of the board of directors, management and employees starts to become increasingly important in the attribution of the yearly rating.⁷

3. Event Study Methodology and Data Description

3.1. THE EVENT STUDY METHODOLOGY

First of all, notice that the exact event leading to the abnormal return is voluntarily left unspecified since it is not related to a specific information released by the firm (such as, for instance, earnings per share or spin-offs announcements). The annual report itself summarises the result of a large set of economic and financial information and the purpose of this study is to assess if the quality of the disclosure of this global set of events, as measured by the SAFAIM rating, explains firms' abnormal performance. This issue then raises two problems: first, the market reaction to this aggregate set of information is unlikely to be instantaneous. Second, the precise publication date of Swiss firms' annual reports remains unknown. For the above reasons, we need an econometric procedure which allows us to capture abnormal stock price reactions that may last over an unspecified time horizon. Thus, we

⁵ The new Corporate Law project was also conceiving, for a few years, to make mandatory the publication of consolidated accounts which came into force in 1992 (art. 663e).

⁶ For example, in part 1 of the evaluation (see Appendix A), the subsection "reference to *true and fair view*" receives a maximum point of 2 while the one titled "confirmation of the accounting principles" gets a maximum point of 0.5. In part 2 of the evaluation, the subsection "funds flow statement" receives a maximum of 70 while "balance sheet and valuation principles" gets a maximum of 90 points.

⁷ This subsection accounts for 20% of the overall rating for a company.

Table I. Frequency of the auditing firm approval date, and of the shareholders' general meeting dates (SGM) for a sample of 37 Swiss firms over the period 1986 to 1993 (for the fiscal years 1985–1992)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Approval dates	4	22	60	70	19	5	7	13	5	5	3	2	215
SGM dates	3	1	9	26	67	68	10	1	9	16	5	0	215

define a new procedure to compute simultaneously the length and the magnitude of the “global” abnormal returns around the publication of the annual reports. Indeed, the study objective is not to analyse the speed of prices temporary reactions but rather it attempts to measure the structural abnormal returns around annual report releases. The returns are then used as the dependent variables when assessing the role of the quality of the information, such as the SAFAIM's rating or the number of financial analysts. The exact procedure is now defined.

First, recall that the event dates are unknown. Indeed, each event is linked to the quality and timing of the set of information which is reported in the annual report whose release date is publicly not available in Switzerland. The only meaningful information consists of a well identified time window which is given as follows: the public release of information contained in the annual report must occur after the approval date of the financial statements by the auditing firm and before the shareholders' general meeting (SGM, hereafter). Hence, the window defined by those two dates must bound the occurrence of abnormal return (if any) we are seeking to capture. Table I shows the frequency distribution of these two dates for a sample of 37 firms over the period 1986 to 1993.

Table I clearly shows that 60.5% of the auditing firms' financial statement approvals (130/215) occur between March and April, that is, one to two months before the SGM which generally takes place between May and June. The latter pattern tends to be fairly constant for a given firm over time.

The specific event study procedure should handle simultaneously the publication date uncertainty as well as the unknown duration of the global event. In order to eliminate any market or systematic shifts during the event period, we use the market model to characterise the stocks “normal” returns. The data set contains a lot of missing observations – particularly for small and medium size firms – which induce strong auto-correlations when computing the daily returns. This raises a problem when trying to compute abnormal returns since the proposed technique will then detect long missing value periods instead of abnormal returns. However, if one defines the market model in terms of logarithm of prices rather than rates of return,⁸ the missing observations do not affect the regression. This insures us

⁸ Notice that $R_t = a + b R_t^m$ implies by integration that $P_t = c + a + b P_t^m$. Thus, no bias appears when we perform the latter regression only with available data. Hence, there is therefore no need to replace missing observations by proxies.

that the detected price shifts are not triggered by thinly traded stocks. Obviously, this redefinition of the market model introduces auto-correlation in the error terms, and a misspecification of the market model used to compute the price abnormal reaction. However, this is not harmful in this context. Indeed, the estimator of the price level shift is not biased by the auto-correlation, and the likelihood of the unconstrained and constrained estimations will include the same bias. When computing the likelihood ratio test, the bias will cancel out. It is still worth noting that the event estimator could have been improved, had we formally taken into account the auto-correlation in the market model. Such a correction is however quite heavy to implement in samples including a lot of missing observations, and could imply a reduction in the model's robustness.

Technically, a multiple regression is performed over a sample starting 40 days before the auditing firm approval date and ending at the SGM date. The 40 days length before the approval date ensures that the market model is correctly estimated.⁹ This regression provides the constrained likelihood since it does not include any event.

By definition, the abnormal return occurs between two dates from here on denoted by (*i*) for the first day and (*j*) for the last one satisfying the following three constraints:

1. *i* lies after the approval date of the auditing company,
2. *j* is strictly greater than *i*,
3. *j* lies before the SGM date.

We define the global event dummy as follows:

$$E_{i,j} = \begin{cases} 0 & \text{if } t < i \\ 1 & \text{if } t > j \\ (t - i)/(j - i) & \text{if } i < t < j \end{cases}$$

where $E_{i,j}$ is a linearly increasing time dummy variable used to capture the potential abnormal price response subsequent to the publication of the annual report, later on called the global event. The constrained model will be defined as the one in which the coefficient of this dummy variable is set equal to 0. We then perform all the multiple variable regressions over the sample beginning 40 days before the approval date and ending at the SGM date introducing each time one dummy for a new feasible $\{i, j\}$ pair. The abnormal return is defined as the coefficient of the dummy maximising the likelihood. Formally:

$$i, j \in \underset{i,j}{\operatorname{argmax}} L[P_k(c_k, P_m, \text{Time}, E_{i,j})],$$

⁹ In order to prevent any bias in the coefficient estimation, we used TRAMO (Time Series Regression with ARIMA Noise, Missing Observations and Outliers) to check for potential "true" outliers before the auditing firm approval date. More specifically, we applied an ARIMA(2,0,1) associated with a weekly ARIMA(1,0,0) time series procedure. 17 outliers were detected and those events were removed from the initial sample.

where L is the likelihood of a linear multiple regression, P_k is the log price series for stock k , C_k is the intercept, P_m is the log of the Swiss Bank Corporation index level,¹⁰ Time is a trend variable, $E_{i,j}$ is the dummy variable previously defined. The log price process is thus specified by a market model with an intercept shift. Indeed, the coefficient associated to $E_{i,j}$ estimated by the above maximum likelihood method is equal to the difference between prices before and after the reaction period since $E_{i,j}$ is set to zero before the event and to one after the $\{i, j\}$ interval.

3.2. DESCRIPTION AND SIGNIFICANCE OF THE DETECTED EVENTS

The initial sample contains 37 stocks issued by listed Swiss firms and extends over the fiscal years 1985–1992.¹¹ All firms for which ratings data was available at least once during the period studied were included in the initial sample. The main characteristics of these firms are displayed in Table II.

Table II displays the main characteristics of the firms, that is, their name, economic sector, market value (mio CHF), sales (mio CHF) and number of employees.

Furthermore, firms' bearer shares were preferably chosen to compute abnormal returns when they were outstanding (27 firms) given their higher degree of liquidity and the registered shares were chosen by default (10) when the former were not outstanding. From the initial set of 293 detected abnormal returns, we only retain those lasting up to 30 days since, for longer horizons, the number of observations after the event and before the SGM date is too small to be sure that the stock price returned to its steady market model level. This leads us to withdraw 61 observations. Furthermore, as already mentioned, 17 observations (related to 13 different stocks) were eliminated due to outliers detected over the 40 days before the auditing firm approval date. The final sample thus reduces 215 abnormal stock returns observations which last between 1 and 30 days.

Table III provides summary statistics on the abnormal returns. Their frequency distribution is fairly symmetric with 108 positive and 107 negative returns. However, negative abnormal returns are more clustered around 0 than the positive ones and their absolute mean is therefore slightly lower with 0.0902 and 0.0925 respectively.

Since the primary objective of this study is to relate the abnormal returns subsequent to the release of the firms' annual reports to the informational explanatory variables, we now proceed in defining the former significance level. For example, to check the significance of the abnormal returns over a potential event length of 30 days, we thus have to select the highest of the 465 likelihood ratios calculated.

¹⁰ The SBC market index is a value weighted stock index which contains all listed Swiss stocks.

¹¹ Stock prices are collected from Datastream available at the *Centre de Documentation et d'Initiation Financière* (CEDIF), University of Lausanne and Banque Cantonale Vaudoise.

Table II. Description of the sample firms

Name	Economic sector	Market Value in CHF	Sales in CHF	No. of employees
Alusuisse	Aluminium	2046	6332	25122
Ascom	Telecommunic.	825	3086	18215
BBC	Engineering	7055	28883	214399
Bobst	Machinery	979	1129	5419
Ciba-Geigy	Chemicals	20682	21077	91665
Electrowatt	Utility	1941	4534	17421
EMS	Chemicals	1193	759	2505
Forbo	Building industry	713	1792	8372
Galenica	Chemicals	242	1287	1787
Gavazzi	Electromech. Eng.	48	384	2400
Georg Fisher	Machinery	616	2468	14249
Globus	Department store	436	1643	6145
Holderbank	Cement	2400	5968	32161
Interdiscount	Electronics	639	1369	3543
Jelmoli	Department store	459	1511	5739
KVZ	Retail trade	248	489	1285
Landis & Gyr	Engineering	887	2674	18190
Lindt Sprüngli	Food	440	1090	4245
Merck	Chemicals	1880	2176	11109
Merkur	Food	1054	2320	10225
Mikron	Machinery	88	283	1653
Motor Columbus	Energy	488	1911	3910
Nestlé	Food	36582	50486	201139
Oerlikon Bührle	Machinery	906	3623	19138
Roche	Chemicals	30301	11451	55134
Sandoz	Chemicals	20640	13444	53400
Schindler	Lifts, escalators	995	4005	32268
Sibra	Beverages	216	447	1351
Sika	Building chemicals	595	1216	6458
SMH	Microelectronics	3565	2373	14246
Sulzer	Machinery	1921	6505	32767
Surveillance	Product control	2769	2240	27591
Swissair	Aeronautics	1582	4256	24962
Von Roll	Machinery	370	2295	8677
Walter Rentsch	Office automation	216	324	1191
WMH	Manufacturing tech.	150	691	3127
Zellweger	Electronics	224	745	4983

Table III. Descriptive statistics of abnormal returns for absolute, positive and negative events

	No. of obs.	Mean	Median	Min.	Max.	St. dev.
Absolute	215	0.0909	0.07	0.01	0.35	0.061
Positive	108	0.0925	0.08	0.01	0.24	0.057
Negative	107	-0.0902	-0.07	-0.35	-0.01	0.065

Since the relevant critical value is unknown¹², we perform a Monte-Carlo simulation with 10,000 replication for event window lengths from 20 to 60 days with a 95% critical value. Not surprisingly, the critical value increases with the length of the window, but simulations showed that a threshold of 10 is fairly conservative to reject the null hypothesis of no significant price reaction. At this level, 87% of the detected empirical abnormal returns are significantly different from zero.¹³ In order to be cautious, that is, not to favour the alternative hypothesis of an existing relationship between the excessive stock price reactions and the informational variable, all the 215 estimated abnormal returns are retained as dependent variables in the subsequent empirical study.

3.3. CHARACTERISTICS OF THE INFORMATIONAL VARIABLES

As a next step, we turn to the definition of the informational variables used in the study. First, the rating taken from SAFAIM's annual publications as described in Section 2, is used as a proxy for the quality of the information released in firm's financial statements. More precisely, it should quantify SAFAIM's assessment of a quality firm's disclosure policy. Notice that the SAFAIM's rating collection, generally released at the end of a calendar year scores the firms' annual report published the same year and is thus based on their accounting figures of the previous fiscal year. Secondly, the number of financial analysts following a given firm is used to measure the intensity of interim information gathering and transmission. The latter variable is provided by I/B/E/S (Institutional Brokers Estimate System) data base

¹² $(n(n+1))/2 = (30*30/2) + 15 = 465$. If all these tests were independent, the 95% confidence level of the maximum would be equal to the 99.99% of a Chi-square (around 150). These tests are fortunately highly correlated.

¹³ In an ideal market setting, matched control firms could have been used to check the robustness and idiosyncratic properties of the reported abnormal returns. However, such a control test cannot be performed on the Swiss market due to the limited sample size of listed firms and furthermore to the clustering of their Shareholder General Meeting dates already reported in Table I. We thus run a time series rather than a cross-sectional verification of the significance of the detected global events. We therefore applied the event identification procedure outside of the previously defined global event window and found no significant shift except, not surprisingly, for a few one day "abnormal returns". Finally, the significance of the informational variables in explaining the detected abnormal returns, as reported in Section 4, is an additional proof of their idiosyncratic property.

Table IV. Descriptive statistics of ratings, number of analysts who forecast Swiss firms' EPS and P/E ratios over the calendar years 1986–1993 (for the fiscal years 1985–1992)

	No. of obs.	Mean	Median	Minimum	Maximum	Standard deviation
Rating	143	0.659	0.69	0.12	0.98	0.19
Rating before 1991	115	0.663	0.69	0.12	0.98	0.18
Rating after 1991	28	0.644	0.695	0.156	0.939	0.22
No. of analysts	142	12.55	11	1	35	7.67

which reports the number of analysts who usually provide monthly forecasts on variables, such as EPS and P/E ratios, for a company. For each abnormal return detected in year t , the relevant variable is defined as the number of analysts following a given firm at the end of the fiscal year $t - 1$.¹⁴

Table IV provides summary statistics on the set of explanatory variables¹⁵. The average rating for the whole period is equal to 65.9% while the median is equal to 69.0%. Both statistics thus suggest a negative bias which may stem either from the scoring procedure or/and from a selection bias in the choice of firms retained by SAFAIM. In parallel, we observe a slight decrease in the estimated mean and tightening of the range before and after 1991 due to the new scoring and more exhaustive rating procedure adopted by SAFAIM. As far as the analyst coverage is concerned, we observe that their average number is 12 with a minimum of one and a maximum of 35 analysts per firm. It is interesting to observe that for both explanatory variables, the distribution observed in Switzerland is similar to the one previously reported by Lang and Lundholm (1996) in the case of the US even though their sample encompasses a larger number of firms. The correlation between rating and the number of analysts is equal to 0.173, which is consistent with the results obtained by Lang and Lundholm (1996) when they test whether financial analysts and firm's disclosure policy are complementary or substitutable information channeling vehicles. The positive sign of the correlation coefficient

¹⁴ Finally, firm's size as proxied by the market value of its shares can be a potential explanatory variable. Even though firm size is not an informational variable, its choice can be motivated by the fact that it can proxy for the firm's degree of "openness" towards its shareholders and thus may conjecture that larger size firms communicate more frequently and exhaustively than small closely held ones. Furthermore, empirical evidence has already acknowledged a segmentation of the Swiss stock market according to firms' size in terms of different trade-offs between the valuation of corporate control and the liquidity across large and small firms' stocks (see Gardiol et al., 1997). However, preliminary tests have shown that size has no explanatory power on the firms' abnormal returns and thus we ignore it from the subsequent analysis.

¹⁵ Unfortunately, some explanatory variables were not available for specific "global" event observations which thus lead to a reduced final sample of 143 observations for which the analysis could be conducted.

– although weaker than in their study - also seems to favor the complementarity hypothesis in the case of Switzerland.

4. Do Rating and Financial Analysts Matter?

The objectives of this empirical study are threefold. First, we wish to assess if the quality of firms' disclosure and the intensity of their financial analyst coverage explain the magnitude of abnormal returns around the annual reports release dates. Second, we examine if these relationships are symmetric, that is, invariant to the sign of the abnormal returns – positive or negative – associated with each report release. Thirdly, the empirical findings, regarding the observed relationships between abnormal returns and the informational variables will be related to theoretical explanations on the role of information disclosure quality and analysts' coverage. Indeed, once the perfect and costless information hypothesis is relaxed, one can think of several factors justifying why investors would value the quality of the firms' financial statements and/or the degree of analysts' coverage as they influence the accuracy and timeliness of information channeling across bear and bull markets.

Formally, we test the following two null hypotheses:

HYPOTHESIS 1. None of the informational variables – such as rating or the number of financial analysts – influences the magnitude of abnormal returns.

HYPOTHESIS 2. The impact of the informational variables on the abnormal returns is the same in the positive and negative abnormal return sub-samples.

In this context, the conjectured role of each informational variable is mentioned below:

- the SAFAIM annual rating measures the qualitative appreciation of the informational content of a firm's annual report. Under Hypothesis 1, the quality of a firm disclosure policy should be orthogonal to its "abnormal" performance. If however transparency matters, its influence should be symmetric under the null hypothesis Hypothesis 2. Yet, there are reasons which could potentially explain why we may reject Hypothesis 2 in favour of a stronger relationship between rating and a positive abnormal return. First, asymmetry may be attributed to the conservatism principle which was prevalent in Swiss firms' accounting practices at least until the end of the eighties. According to this principle, a "transparent" firm should incorporate anticipated losses whereas it should delay to report anticipated gains until they are realised. Hence, conservatism could at least partially justify a positive relationship between favourable unanticipated events and the firms' rating. Secondly, one should recognise that the rating score actually reflects the SAFAIM "subjective" measurement of a firm's quality of disclosure. Moreover, for each firm the

rating score results from a limited (to two) number of analysts who are tracking the same firm and may thus develop a "positive" ranking bias over time according to which they would be more inclined to upgrade than to downgrade them¹⁶. Finally, managers or existing shareholders can use financial disclosure to "signal" the firm's quality to the market. As a corollary, one may expect to find a positive relationship between the rating score and the positive abnormal returns only. In other words, well-performing or healthy firms should be more inclined – and find it less costly – to adopt higher disclosure standards when they release their annual reports while firms would be better off staying opaque when they have no good news to reveal. For all these reasons, one may expect an asymmetric relationship between abnormal returns and the rating measure.

- Under the null hypothesis, the number of financial analysts following a given company should be irrelevant to explain abnormal returns. However, in an imperfect market for information gathering, the financial analysts' coverage may increase the velocity and precision of information embedded in stock prices. In other words, for actively followed firms, very little surprises will be left non revealed by the analysts up to the event window. Moreover, there are several conceptual and empirical findings that support a negative relationship between the number of analysts and abnormal returns subsequent to the annual report release. First, the adverse selection costs of trading with an informed counterpart decreases with a larger number of analysts following a given firm. This, in turn, should encourage investors to trade on favourable or unfavourable news and thus make prices more informative (see, e.g., Brennan and Subrahmanyam (1995)). Second, the latter statement is even more relevant for financial analysts belonging to investment banks since they may face conflicts of interest when releasing sell recommendations on behalf of a firm which otherwise entertains business relationships with the investment bank. As a result, these financial analysts have a tendency to issue more favourable than unfavourable reports and investors should in turn judge analysts with investment banking relationships with the firm they follow as being more favourably inclined than those without such links to the firm (see Lin and McNichols (1993), Dugar and Nathan (1993) and Hirst, Koonce and Simko (1995)). But, abstracting from a potential herding behavior, these adverse selection problems are obviously reduced as the number of, and thus, the competition among analysts increases.¹⁷

¹⁶ For instance, the number of upgrading in the rating scores is 87 with a mean of 0.185 while the number of downgradings is 12 with a mean of -0.042, that is the former is 7.25 times higher than the latter for the time series of ratings on our sample firms.

¹⁷ Recall that the latter explanatory variable has been provided by IBES data base for the Swiss stock market. In this data base, the number of financial analysts following a given listed stock depends upon the number of financial firms which have subscribed to IBES services and which provide estimates on those companies forecasted earnings and growth rates. It reflects the average number

Table V. OLS univariate and multivariate results for the absolute returns

No. of obs.	Intercept	Rating	Analy	R-sq.	F-st.
143	0.068	0.036		0.010	1.754
	0.00	0.19			0.19
142	0.111	0.060	-0.025	0.070	5.484
	0.00	0.03	0.00		0.01
214	0.128		-0.016	0.030	6.585
	0.00		0.01		0.01

Dependent variable is the absolute value of abnormal stock returns adjusted for the market that occur between the auditing firm approval dates and the shareholders' general meeting dates from 1986 to 1993 (for the fiscal years 1985–1992). RATING is the percentage scoring by SAFAIM of the quality of information disclosed by Swiss firms from 1986 to 1990 and 1992 to 1993 (see footnote 3). ANALY is the natural logarithm of the number of analysts who follow each of the sample firms. P-values are provided below each estimated coefficient.

5. Information Variables and Absolute Abnormal Stock Returns

The first set of results focuses on the impact of the above defined explanatory variables on the absolute abnormal returns, that is, we attempt to capture the aggregate impact of the quality and channeling of information on stock abnormal returns irrespective of its economic content. In Table V, the results of OLS estimates of univariate and multivariate regressions lead to the following comments:

- The number of financial analysts is significant and negatively influences the magnitude of the abnormal returns.
- Secondly, the relationship between the absolute abnormal returns and the rating score of the firm alone is positive but insignificant. According to this result, even if the disclosure of public information reduces the heterogeneity of investors' beliefs and facilitates market completion (e.g., Strong and Walker (1987) or Ohlson (1987)), the returns in excess of the market return do not appear to be determined by the "quality" of firms' disclosure as assessed by the SAFAIM rating. The conclusion however changes in the bivariate regression in which rating becomes both positive and significant. This result clearly evidences the complementarity between information disclosure quality and the degree of investors' recognition as captured by the number of analysts.

of analysts on the Swiss stock market following a given firm. In other words, large firms such as Nestle or Roche would have up to 35 analysts following their stocks and subscribing to IBES while small firms such as Fotolabo could have a single subscriber. Therefore, the sample might suffer from a selection bias since some firms ranked by SAFAIM may not belong to the IBES follow – up list and thus would not enter the sample. We conjecture that this bias remains quite small since all but a single sample firm scored by SAFAIM did indeed belong to the IBES list.

Table VI. OLS results for absolute abnormal returns across event durations

No. of obs.	Intercept	R1	R30	Analy	R-sq.	F-st.
143	0.072	-0.004	0.036		0.034	2.460
	0.00	0.91	0.19			0.09
142	0.120	0.012	0.061	-0.027	0.110	5.454
	0.00	0.74	0.03		0.00	

Dependent variable is the absolute abnormal stock return that occurs between the auditing firm approval date and the shareholders' general meeting date from 1986 to 1993. RATING is the percentage scoring by SAFIAM from 1986 to 1990 and 1992 to 1993 (see footnote 3). R1 and R30 are the percentage scorings multiplied by a dummy variable which equals to 1 for one-day events (29 obs.) and 0 otherwise and to 1 for 2- to 30-event days and 0 otherwise, respectively. ANALY is the natural logarithm of the number of analysts who follow each of the sample firms. P-values are provided below each estimated coefficient.

However, the significance of the informational variables detected should be interpreted with caution since the explanatory power of this first set of regressions remains fairly low (between 1 and 7 percent).¹⁸ This should come at no surprise if we take into account the fact that the analysis is conducted on the magnitude of the absolute abnormal returns without controlling neither for their length nor for the change of regime in the rating procedure in 1991. The first issue is important since we would also like to test whether a positive relationship between the magnitude of the event and the firm's quality of information is more easily detected for longer duration events.

For that purpose, we first modify the former set of regressions by splitting the rating variable in two: the rating of abnormal returns lasting only one day (R1) and between two and thirty days (R30) respectively. For instance, the rating dummy R1 is set equal to the rating variable for all events lasting one day and is set equal to zero otherwise. We perform this regression in order to verify whether the one-day events really capture the same informational shocks as the longer duration events. Indeed, given the thinly traded feature of the Swiss stock market, one-day events can easily arise from a bid-ask spread effect or any market price impact due to a low degree of trading activity. The results provided in Table VI show that the effect of rating on the one day events is always insignificant, while the other coefficients remain unchanged by the splitting. Clearly, the one-day events do not belong to the same family as longer lasting events. This suggests that short-term price reactions do not capture structural changes in the fundamental value of the firm.

Secondly, we split the entire sample period according to the pre- and post-revision in 1991 of the rating rules by SAFIAM. For the longer duration events, we find that the same relationship holds within the two sub-periods ranging from 1986

¹⁸ However, these results are quite encouraging given the fact that the events themselves can only be measured with noise.

to 1990 and from 1992 to 1993 respectively. The main difference between the two sub-sample period results – which are not displayed here for brevity reasons – lies in the fact that the significance of the rating coefficient for events lasting more than one day increases during the second sub-period. This result may be supportive of SAFAIM success in revising the scoring technique in order to increase the weight attributed to the quality of information in the consolidated accounts.

At first sight, these results suggest that a more active information gathering process, as proxied by the number of analysts following a firm, explains the abnormal stock returns subsequent to the annual report release to a greater extent than the rating variable. This statement should be contrasted in light of the following reasons. First, the number of financial analysts is easily defined and quantifiable whereas rating is a more abstract and subjective measure of the level of disclosure quality. The rating variable will thus remain an imprecise or noisy estimate of the quality of the disclosure policy of a given firm. Second, the results are so far conducted without discriminating between positive and negative abnormal returns in which case the conditional significance of each explanatory variable with respect to the subsequently prevailing state of nature may still be hidden.

5.1. DIRECTIONAL ASYMMETRY IN ABNORMAL STOCK RETURNS

Several institutional and behavioural reasons may be invoked in order to explain why investors', managers', and financial analysts' incentives and decisions are not symmetric with respect to the positive or negative impact of an informational event. Furthermore, asymmetric responses have already been documented in several empirical studies showing for instance that stock returns tend to display asymmetric autocorrelation patterns as well as volatility persistence – as captured by an asymmetric GARCH model – that differs in bear and bull markets. More recently, the distribution of large and small firms' stock prices has also been shown to display directional asymmetry along the business cycle (see, in particular McQueen et al. (1996)).

However, as far as the stock price reaction to the quality and the diffusion of information is concerned, a similar investigation has not yet been conducted. To be more precise, and given the rejection of the first null hypothesis, the following section aims at assessing whether the relationship between the abnormal stock price reactions and each informational variable is invariant with respect to the nature of information released, that is, the same for positive and negative abnormal returns. In light of the almost perfect symmetry in the number and average magnitude of positive and negative abnormal returns, we can reliably proceed with the analysis of the impact of information disclosure and transparency across two almost homogenous sub-samples (see Table III).

Under the usual assumption that information is "complete" and thus symmetric, the null hypothesis (Hypothesis 2) implies a perfectly homogeneous relationship between the stock price reaction and each informational variable in both the pos-

Table VII. OLS results for positive and negative abnormal returns

Panel A: Positive abnormal returns					
No. of obs.	Intercept	Rating	Analy	R-sq.	F-st.
72	0.035	0.083		0.070	5.577
	0.16	0.02			0.02
72	0.076	0.093	-0.020	0.110	4.420
	0.03	0.01	0.08		0.02
108	0.129		-0.016	0.030	3.561
	0.00		0.06		0.06
Panel B: Negative abnormal returns					
No. of obs.	Intercept	Rating	Analy	R-sq.	F-st.
71	-0.099	0.010		0.000	0.053
	0.00	0.82			0.82
70	-0.136	-0.026	0.026	0.060	2.302
	0.00	0.56	0.04		0.11
106	-0.127		0.016	0.030	3.043
	0.00		0.08		0.08

Dependent variables are positive (Panel A) and negative (Panel B) abnormal stock returns that occur between the auditing firm approval date and the shareholders' general meeting date from 1986 to 1993. RATING is the percentage scoring by SAFIAM from 1986 to 1990 and 1992 to 1993 (see footnote 3). ANALY is the natural logarithm of the number of analysts who follow each of sample firms. P-values are provided below each estimated coefficient.

itive and negative abnormal stock return sub-samples. The results in Table VII examine whether the latter hypothesis can be accepted.

- First, as far as the rating variable is concerned, we observe that it significantly and positively explains the positive abnormal returns while it remains persistently insignificant in the negative returns sub-sample. This statement holds both across the set of univariate and bivariate regressions.
- Second, we observe that a larger number of analysts reduces the stock price abnormal reaction in the univariate regressions for both sub-samples, yet failing to be significant at the 5% level. Furthermore, it is interesting to observe that, in the bivariate regressions, when rating and the number of analysts variables are jointly considered, their respective degree of significance is reversed across the two sub-samples. Indeed, rating is highly significant in the positive abnormal returns sub-sample, while the coefficient associated with the number of financial analysts becomes significant for the negative abnormal return sub-sample. Hence, if the role of the number of analysts variable is to capture the intensity of their information production and intermediation

activities, the above results suggest that the analysts are mainly successful in fully incorporating positive events more rapidly and accurately in stock prices. Indeed, we detect no significant relationship in the positive returns sub-sample while we observe that the higher the number of financial analysts following a given firm and the smaller the magnitude of the abnormal negative return. This, in turn, suggests that the adverse selection problem faced by the analysts when incorporating bad news can be mitigated when they act in a competitive market for information. We should mention however that the almost insignificant relationship between the number of analysts and the positive stock price reaction cannot clearly be used to discriminate between two alternative hypotheses regarding their economic function (with a *p*-value of 8% in the univariate regression): i.e., their ability to produce and to disseminate valuable information or their role of "pure" information providers.

Overall, these results suggest that the market's response to the quality of information disclosure as proxied by the SAFAIM rating is asymmetric. A first explanation for the latter result is that firms may have strong incentives and the ability to exploit the loopholes in the accounting standards in order to stay silent or delay the reporting of unfavourable outcomes. In order to test this hypothesis, we follow a similar procedure as already described in Section 4.1 to run the same regressions across sub-samples constructed according to the event length (using the two response parameters, R1, and R30) and the change of rating procedure adopted by the SAFAIM (using the response parameters R90 and R92, respectively). The main results can be summarised as follows:¹⁹ first, the rating variable is highly significant for the longer duration positive abnormal returns prior to 1991 with a slight reduction in its explanatory power after the change of regime, probably attributable to a smaller sample size. Second, and most importantly, the asymmetric role of the rating variable in explaining longer term duration events is substantially reduced after the revision of the rating procedure. However, the latter convergence – in terms of coefficients significance and levels – is true across positive and negative stock price reactions only after controlling for the number of financial analysts. Thus, the results do not show a noticeable modification of the relationship between stock price reactions and the rating measure after 1991.

Since the measurement technique behind the rating procedure does not appear to be the only factor driving the asymmetry in the stock price reaction, we can think of at least two theoretical explanations which support the observed relationship between abnormal positive stock returns and the rating variable. A first explanation can be found in the conservatism principle prevailing in accounting standards which has been shown in a previous study by Basu (1994) to be consistent with the relationship between the distribution of earnings and their relation to stock returns. If conservatism prevails in the accounting principles adopted by Swiss firms, then a "transparent" firm would be required to incorporate anticipated losses whereas it should delay to report anticipated gains until they are realized. Hence, conservat-

¹⁹ The results, not displayed here for brevity reason, are available from the authors upon request.

ism may have contributed to the positive relationship between good unanticipated events and the firms' rating. Such a causality is also supported in the study of Imhoff and Thomas (1989) who find that firms with high rating scores tend to be more conservative and furthermore that firm's profitability is positively related to conservatism and disclosure scoring.

Secondly, the positive relationship between the level of transparency and positive stock price reactions – even though its significance decreases after 1991 – may also reflect a signaling policy followed by good firms. If this hypothesis holds and we further believe that firms' managers have incentives to be overconfident thus over-emphasising good performance while delaying or failing to report accurately "bad" news, then managers behaviour should influence investors' responses. More precisely, it should lead them to only trust good type firms, i.e., positioned above a "subjective" threshold level of transparency. If the latter conjecture is correct and we believe that firms' managers have incentives to be overconfident thus over-emphasising good performance while delaying or failing to report accurately "bad" news, then the latter behaviour should influence investors' response and thus lead them to only trust good type firms, i.e., positioned above a "subjective" threshold level of transparency. This assertion is further reinforced in the presence of disclosure costs which should make it unprofitable for most firms with average performance to willingly improve the quality of their disclosure policy.

In order to further investigate the "firm signaling" hypothesis, we examine a last feature of the relationship between the firm's stock price reaction to positive and negative events and its disclosure policy, namely, the impact of the firm's rating rank. Under the signaling assumption, rating should be treated as a proxy for the firm's quality type. Thus, its influence should increase with the rating level itself and lead to a quadratic instead of a linear relationship with respect to the positive abnormal returns. Table VIII and Figure 1 provide the results which confirm the "signaling hypothesis". We first observe in Table VIII that the joint coefficient of both rating variables is always significant in the positive abnormal returns sub-sample while we are unable to detect any significant price reaction to the rating variable and its square in the negative returns sub-sample. Second, looking at Figure 1, it clearly appears that the impact of the rating variable remains flat in the negative returns sub-sample, while it is slightly convex until a 65% threshold is reached and sharply increases afterwards in the positive returns sub-sample. Regarding this result, it is interesting to notice that the SAFAIM procedure classifies firms by quality type into five sub-samples, namely, very good firms (with a rating greater than 80%), good firms (between 65% and 79%), average firms (between 50% and 64%) and finally bad and very bad firms (with ratings between 35% and 49% and less than 34% respectively). In this context, a rating level greater than 65% represents a sufficient quality or "reputation asset" in the market to lead investors to credibly react to the information released by such firms.²⁰

²⁰ One should mention that while the results support the signaling hypothesis, one cannot exclude that the significant positive price reaction of the good and very good firms' stocks to the rating

Table VIII. OLS results across rating categories for positive and negative abnormal returns

Panel A: Positive abnormal returns						
No. of obs.	Intercept	Rating	Rating ²	Analy	R-sq.	F-stat.
72	0.097	-0.15	0.20		0.098	3.76
	0.06	0.39	0.17			0.03
72	0.14	-0.14	0.19	-0.02	0.14	3.60
	0.02	0.43	0.18	0.09		0.02
Panel B: Negative abnormal returns						
No. of obs.	Intercept	Rating	Rating ²	Analy	R-sq.	F-stat.
71	-0.106	0.04	-0.02		0.001	0.04
	0.06	0.85	0.88			0.96
70	-0.15	0.03	-0.05	0.03	0.065	1.54
	0.01	0.89	0.78	0.04		0.21

Dependent variables are positive and negative abnormal stock returns that occur between the auditing firm approval date and the shareholders' general meeting date from 1986 to 1993. RATING is the percentage scoring by SAFIAM from 1986 to 1990 and 1992 to 1993 (see footnote 3). RATING² is the coefficient associated with the square of the rating. ANALY is the natural logarithm of the number of analysts who follow each of sample firms. P-values are provided below each estimated coefficient.

Finally, as far as the negative abnormal stock returns sub-sample is concerned, we have already seen that their magnitude is significantly reduced as the number of financial analysts increases. This relationship still holds in Table VIII and thus corroborates the positive impact of competition among information suppliers on the adverse selection problem faced by the analysts. Overall, the dichotomy between rating and the number of financial analysts evidenced in the two sub-samples suggests their lack of substitutability as informational variables.

6. Conclusion

In this study, we investigate the role of the quality of a firm's disclosure policy and of the information channeling process by financial analysts on the stock price reaction around the publication of the annual reports. Relying on a specific event study methodology which accounts for unknown event dates, the empirical results emphasise that the absolute abnormal returns are not significantly affected by the quality of the firm's annual reports alone. The number of analysts negatively affect the stock price reaction, thus suggesting that for firms with a high information

variable is also, at least in part, attributable to the cautiousness principle governing the accounting practices and/or to the "subjective" rating procedure followed by the SAFIAM.

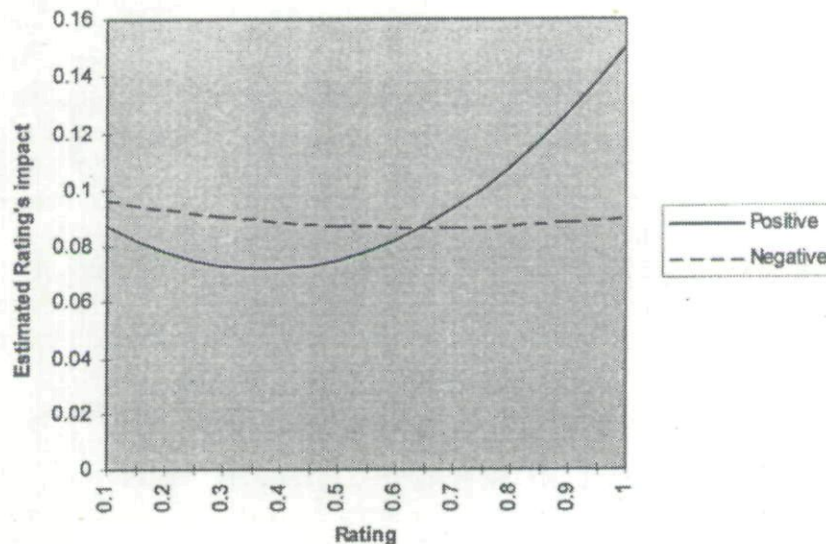


Figure 1. Estimated relationship between abnormal returns and rating (according to the regression model of Table VIII).

diffusion intensity – generated by active and competitive analyst reporting, there is less unexpected price variation to be observed around the publication of annual reports. However, the main focus of the study is to assess and explain the degree of asymmetry in the relationship between the stock price reaction and each informational variable across positive and negative returns. Interestingly enough, in the case of both rating and the number of financial analysts, there is a clear asymmetry in the detected relationships. Only for positive abnormal returns, does rating matter and increase the abnormal stock price responses while the number of financial analysts substantially reduces the negative abnormal returns. The latter however remain independent of the firm's financial disclosure quality. Moreover, following the change of the rating methodology and the adoption of international accounting standards, the explanatory power of the rating variable displays less asymmetry after 1991. Finally, the significant role of rating in the case of positive returns is essentially concentrated across the "good and very good type" firms.

Clearly, both of the detected asymmetric relationships confirm the non-redundancy property of each informational variable when distinguishing between positive and negative abnormal returns. As far as the impact of rating is concerned, the results are consistent with firms signaling their quality type in the presence of disclosure costs (see, for instance, Darrough and Stoughton (1990), or Verrecchia (1990)). However, the results may also be, at least in part, influenced by the conservatism principle that governs firms' accounting rules. Indeed, the latter implies that a higher rating is attributed to a firm which adopts a very cautious policy regarding the announcement of its expected positive performance. Finally, one cannot rule out that this positive relationship between rating and positive abnormal returns is

at least in part due to the adverse selection problem faced by SAFAIM itself when it defines and ranks the informational quality of firms' financial reports. Analysts as a group may support a positive rating bias, in order to maintain for instance a good business relationship with the firm, to generate buy recommendation orders or even to promote overall transparency on the Swiss stock market.

As far as the role played by the financial analyst coverage is concerned, the results show that it is also asymmetric. Indeed, it significantly reduces the negative abnormal stock reaction while leaving positive abnormal returns unaffected. In this sense, the reduction in the stock price reaction may translate the decrease of the total adverse selection costs faced by the investor. As evidenced by Brennan and Subrahmanyam (1995), competition among analysts will positively affect the adverse selection cost supported by an uninformed investor. As a constituent of this adverse selection cost, one can rely on previous findings in the US which tend to show that financial analysts are more inclined to issue buy orders and that their "over-optimism" would be reinforced for those of them who maintain an investment banker relationship with the firm (see, Hirst, Koonce and Shimko (1995)). This conflict of interest will be mitigated in the presence of an increased competition between analysts which thus leads to a more efficient information diffusion process. An interesting policy implication stemming from the asymmetric role of the number of financial analysts, is that a more transparent policy willingly adopted by the firm or legally enforced cannot substitute for analysts' role as competitive information intermediaries especially as far as the channeling of "bad news" is concerned.

Further extensions of the latter study could be oriented towards positive as well as normative research areas. First, the above results did not attempt to explain the factors affecting a firm's willingness to be "transparent". In this respect, it would be interesting to assess whether the financial statements rating score can be related to the firms' industry sector and to the degree of informational asymmetry surrounding its production technology. Secondly, the ownership structure of a firm and its existing shareholders valuation of corporate control may also influence the asymmetric response of stock prices to the set of informational variables studied. Thirdly, the relationship between the firm's long term performance and its disclosure policy as well as its degree of follow-up by financial analysts could be investigated in the Swiss as well as in a broader European or international context. Finally, the results evidenced in this study question the relevance of legally imposing minimum standards of transparency through accounting standards if the latter induce asymmetric stock price responses. In parallel, they indicate that quality of the firm's disclosure policy and its financial analysts' coverage are not substitutable. Hence, the role of each of these informational variables for market efficiency policy purposes, for enhancing investors' confidence and for minimising the cost of equity funding deserves a broader scope of analysis. The latter topic is particularly

relevant for the "neglected" firms which represent a substantial segment of many European stock markets.

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Appendix A. SAFAIM's New Rating Procedure Adopted since Fiscal Year 1991

As can be seen from Table A, the new rating procedure of SAFAIM consists of four
parts. Part 1 evaluates the quality of the consolidated accounts by the fulfillment
degree of the "true and fair view" principle. In this part, there are 14 criteria²¹
with respect to which the company's degree of fulfillment of the latter principle is
assessed irrespective of whether the firm adopted international accounting norms
or not. For this set of 14 criteria, a company may reach a maximum of 10 points.
Part 2 evaluates the extent and the degree of details in the group accounting that
is assessing whether and how the company reports its liquid and net liquid as-
sets, short-term, medium and long-term borrowed capital, goodwill, leasing, taxes,
turnover per field of activity, contingent liabilities and so on. A company may
reach a maximum of 500 points for the information set examined in this part. The
product of the first two parts gives the quality and scope of group accounting. Part
3 assesses "additional" information included in company reports about dividends,
hidden reserves, cash-flow, turnover, employees and etc. A company may reach a
maximum of 2000 points in this part. When part three is added to the product of
parts 1 and 2, we get a rating for the quality and scope of the company's annual
reports. Finally, part 4 evaluates the quality of interim reports when published. In
fact, since most firms do not publish interim accounting reports, we restrict the
analysis of the rating procedure to an evaluation of the firm's disclosure policy
based on the three first parts which represent 70% of the overall rating.

²¹ Examples of these criteria include, for instance: publication of consolidated accounts, reference
to "true and fair view" principle, rate of depreciation or provisions building according to sound
business practices. Each of these criteria obtains a maximum score between 0 and 2.

Table A. SAFAIM's new rating procedure adopted since fiscal year 1991

Part 1	Part 2	Part 3	Part 4	Overall results
Quality of consolidated accounts measured by the "true and fair view" principle 0-10 points	Extent and degree of detail in group accounting 0-500 points	Additional information included in company reports	Interim reports	Parts 1*2 + Part 3 + Part 4 =
Part 1* Part 2 = quality and scope of group accounting 0-5000 points 50%		0 -2000 points	0-3000 points	0-10000 points
		20%	30%	100%

Source: Examination of the 1992 annual reports of industrial and commercial companies and banks, SAFAIM.

Appendix B. Sample Ratings of Parts 1–3 From 1986 to 1993 based on the Fiscal Years of 1985–1992

Company	1985	1986	1987	1988	1989	1990	1991	1992
Alusuisse	0.56	0.64	0.68	0.72	0.75	NA	0.898	0.918
Ascom	NA	NA	0.47	0.59	0.63	NA	0.726	0.825
BBC	0.53	0.62	0.66	0.82	0.86	NA	0.805	0.797
Bobst	0.2	0.22	0.27	0.32	0.35	NA	NA	NA
Ciba-Geigy	0.64	0.62	0.68	0.71	0.73	NA	0.435	0.486
Electrowatt	NA	NA	NA	NA	NA	NA	0.662	0.741
EMS	0.12	0.55	0.7	0.77	0.85	NA	NA	0.669
Forbo	0.65	0.71	0.7	0.83	0.85	NA	NA	0.781
Galenica	0.36	0.36	0.48	0.53	0.6	NA	NA	NA
Gavazzi	0.48	0.61	0.59	0.61	0.61	NA	NA	0.864
Georg Fischer	0.71	0.74	0.84	0.88	0.88	NA	0.679	0.687
Globus	0.69	0.7	0.75	0.77	0.78	NA	NA	0.766
Holderbank	0.47	0.68	0.85	0.86	0.81	NA	0.569	0.934
Interdiscount	0.88	0.95	0.98	0.98	0.98	NA	NA	0.196
Jelmoli	0.72	0.75	0.77	0.78	0.88	NA	NA	0.312
KVZ	NA	0.23	0.26	0.23	0.3	NA	NA	NA
Landis & Gyr	0.89	0.91	0.92	0.92	0.92	NA	NA	0.746
Lindt Sprüngli	0.27	0.42	0.49	0.53	0.55	NA	NA	0.675
Merck	NA	NA	NA	0.41	0.56	NA	NA	0.618
Merkur	0.64	0.65	0.68	0.77	0.74	NA	NA	0.663
Mikron	0.63	0.87	0.88	0.9	0.9	NA	NA	0.791
Motor Colombus	NA	NA	NA	NA	NA	NA	NA	0.619
Nestlé	0.53	0.53	0.54	0.56	0.7	NA	0.711	0.733
Oerlikon Bührle	0.54	0.52	0.56	0.78	0.8	NA	0.606	0.939
Roche	0.56	0.64	0.72	0.73	0.77	NA	0.673	0.749
Sandoz	0.55	0.57	0.58	0.64	0.64	NA	0.185	0.807
Schindler	0.44	0.41	0.42	0.42	0.5	NA	0.156	0.188
Sibra	0.77	0.74	0.74	0.76	0.79	NA	NA	NA
Sika	0.51	0.7	0.79	0.89	0.93	NA	NA	0.665
SMH	NA	NA	NA	NA	NA	NA	NA	0.63
Sulzer	0.56	0.63	0.65	0.64	0.69	NA	NA	0.851
Surveillance	NA	NA	NA	NA	NA	NA	0.124	0.167
Swissair	0.72	0.72	0.81	0.9	0.93	NA	0.477	0.64
Von Roll	0.68	0.68	0.69	0.86	0.87	NA	NA	0.658
Walter Rentsch	0.85	0.91	0.94	0.71	0.84	NA	NA	0.479
WMH	NA	NA	0.58	0.73	0.78	NA	NA	0.833
Zellweger	0.28	0.21	0.64	0.75	0.76	NA	NA	NA

Source: SAFAIM. Note that the ratings from 1985 to 1989 are not comparable with those of 1991–1992 due to the procedure change. NA means unavailable information.

Appendix C. List of Some Companies which Have Already Adopted International Accounting Standards Since 1980s

Company	1989	1990	1991	1992	1993
ABB-BBC	IAS	IAS	IAS	IAS	IAS
ALUSUISSE-LONZA	EC	IAS/EC	IAS/EC	IAS/EC	IAS/EC
ASCOM	Swiss	IAS	IAS	IAS	IAS
GEORO FISHER	EC	EC	EC	EC	EC
LANDIS & GYR	IAS	IAS	IAS	IAS	IAS
MERCK	EC	EC	EC	EC	EC
NESTLE	IAS	IAS	IAS	IAS	IAS
ROCHE	IAS	IAS	IAS	IAS	IAS
VON ROLL	EC	EC	EC	EC	EC
WALTER MEIER	EC	EC	EC	EC	EC

Sources: *La Transparence Financière des Sociétés Suisses*, December 1991; *Information Policy of Swiss Public Companies*, 1992, 1993, and Auer (1995).

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