

***THE REPORTS ISSUED BY THE FINANCIAL ANALYSTS WITH REGARD
TO COMPANIES LISTED ON THE ITALIAN STOCK EXCHANGE.
AN EMPIRICAL ANALYSIS OF THEIR CONTENT.***

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ABSTRACT

The paper presents an empirical study on the content of reports on Italian stocks. I collected 4,603 reports regarding 28 blue chips listed in Italian stock market and released during years 2000 – 2003 by important brokers and investment firms. I carefully examined each report to find out the evaluation method used to get the final recommendation.

I found that the market of the reports is quite differentiated with regard both to the information provided and the level of investigation of the analyses. The first puzzling finding is that for most of reports (about 70%) it is not possible to understand clearly the evaluation method used. This behaviour is coherent only with a very strong “reputation effect”. This effect seems to be confirmed even by the inferential analysis showing that neither the evaluation methods nor other parameters used for the company evaluation (such as the discounting rates, the equity risk premia or the time horizon) affects both the size of the analysts’ forecasts and the success of the forecasts.

Only the broker identity seems to be relevant for a successful prevision. Furthermore, in order to have a successful evaluation, issuing a target price that is opportunistically close to the current price is not sufficient. On the contrary, it could be assumed that there is an “ability effect” affecting the forecast accuracy.

1. INTRODUCTION

The capital market plays an important role in our society as it facilitates the distribution of capital between investors and companies. Within the capital market, information play a central role because of agency costs or asymmetries in the information between company management and investors. According to Barker [1997], the capital market incorporates three main groups of actors:

- 1) Company management
- 2) Investors
- 3) Analysts

And it is based on two kinds of information markets basically: a) the market for financial reporting and b) the market for financial analysis.

Financial analysts play a key role in the process of producing and releasing economic and financial disclosure. These professionals “filter” the information released by the firms and insert it in their own evaluation process. In particular, the elaboration and the diffusion of the information represent the output of the specific activity of an analyst that is the production of the reports. Due to the key role of the financial analysts, their behaviour should be transparent and correct as much as possible, even if to date this objective has only been partially achieved.

There is an abundant literature concerning analysts, their behaviour and their recommendations. Traditionally, a large part of literature has mainly focused on the role of the financial analysts, defined as “information brokers”. It has studied the impact on the capital market of the disclosure of the analysts’ reports information. Which type of specific information do I refer to? Reviewing the literature, mainly to the forecasts on earnings and/or their updating, to investment recommendations and to the target prices suggested by the financial analysts.

Furthermore, investors’ reactions to the forecast revisions seem to be related to factors dependent on either the analysts or their own forecasts, such as: forecast timeliness, analysts experience, broker size and analysts coverage.

These surveys are usually based on the final content of the reports (recommendations and target prices) or on the forecasts of different aggregations (for example, the earnings), extracted for example from I/B/E/S or First Call or even from the financial analysts’ reports themselves (see Belcredi, Bozzi Rigamonti’s study

[2003]), but they seldom look at the ground where these “synthesis results” come from (see, for example Barker [1999], Block [1999] or Rogers, Rodney, Grant [1997]). Barker [1999], and the prior research he revised, or Block [1999], look at the valuation models used by professional investors or financial analysts, but they adopt an interview-based-research. As far as I know, only two studies examining the valuation methods that analysts adopt in practice and using the content analysis of financial analysts’ reports (see, Asquith, Mikhail, Au [2005] and Demirakos, Strong, Walker [2004]).

This study starts from a careful reading of each report. So, one of the main features of this study is to look at the way a report is made, assuming that this is the best way to better understand the background logic, the evaluation process from which the report issues, mainly recommendations and target prices. Furthermore, this research tries to analyze the connection, if any, between the evaluation methods and the final recommendation and the accuracy of the target prices. In particular, it examines if there are some elements, which the target price is theoretically relied on, that have an impact on the success of the analyst’s forecasts. I did not find any significant relation between the evaluation methods and the final recommendations: it doesn’t matter if the report is based mainly on supposed original estimates, which is the typical feature of fundamental analysis, or on well known market data. Then, using the same definition of the accuracy employed in the analysis of Asquith et al. [2005], but performing a different analysis of the data, that is, performing a logit pooled regression, I obtained similar results concerning the irrelevance of the evaluation methods to get accurate forecasts. Differently from the Asquith’s work, and from the expectation firstly derived from the descriptive analysis, performing the inferential analysis, I don’t find any significant relation between the probability to achieve the target price and the size of projected price change. I do not even find any evident “industry effect”.

This paper is structured as follows: first, in the section 2, I perform a review of the literature of the principal topics related to the financial analysts’ work. Next, in the section 3, I set the theoretical framework of this work. In the section 4, I describe the sample I used and I report some summary descriptive statistics of it. In the section 5, I show the empirical framework. Then, I discuss my empirical results in section 6 and finally, I finish with the conclusions and implications of the results.

2. LITERATURE REVIEW

In the past, security analysts' reports have been subject to several empirical and experimental works. A large part of literature has mainly focused on the role of the financial analysts, defined as "information brokers". It has been studied the impact on the capital market of the disclosure of the analysts' reports information, focusing basically on the impact of the forecasts on earnings and/or their updating, of the investment recommendations and the target prices suggested by the financial analysts.

It has been documented that, historically, the financial analysts forecasts have to be considered "price informative": for example, Givoly and Lakonishok [1980] or Griffin [1976] have documented relevant abnormal returns at the same time as earning forecast revisions were released.

So more recent studies have mainly focused on the analysis of a possible link between the forecast revisions and the short-term abnormal returns (see for example, Lys e Sohn [1990], Stickel [1992], Gleason and Lee [2000]).

Furthermore, investors' reactions to the forecast revisions seem to be related to factors dependent on either the analysts or their own forecasts, such as: forecast accuracy [Abarbanell et al. 1995], forecast timeliness, analysts experience, broker size and analysts coverage (Mikhail et al. [1997], Clement [1999], Jacob et al [1999] o Clement e Tse [2003]). Gleason and Lee [2003] demonstrate, for example, that the analyst's reputation influences the speed of the price adjustments to the new forecasts. Athanassakos e Kalimipalli [2004], instead, examine the relation between the dispersion of earning forecast and the future volatility of the stock return, once documented the existence of a positive relation between these two factors. More precisely, as opposed to other studies mainly focused on specific events (earnings release, for example), Athanassakos and Kalimipalli assume that there is a continuous flow of information resulting in a constant influence on market pricing from analysts' monthly forecasts.

According to Francis and Soffer [1997], investors' reactions to earnings forecast changes also depend on the recommendations released by the analysts on the related stock. Jurgens [2000] focuses his own analysis only on the value of the stock recommendations and finds they have some impact on the intra-day stock returns (within 15 minutes from the recommendations release) and the daily ones (3 days returns are calculated).

Frankel, Kothari and Weber [2002] argue that financial analysts' reports are "price informative".

Womack [1996] is particularly focused on the investment recommendations. Examining the time immediately before and after the recommendation changes, extra returns are registered after the recommendations. Barber, Lehavy, McNichols and Trueman [2001] measure the returns arising from the strategies built on the basis of analysts' recommendations. Elgers and al [2001] find a delayed prices reaction in the capital markets if the information disclosure is in the analysts' earnings forecasts or about the value. Jegadeesh and al [2004] study the recommendations (and their revision) value. They find that the consensus recommendations, if considered jointly to other public information, do not have more informative value for all the stocks. Belcredi, Bozzi and Rigamonti [2003] focus instead on the Italian market and measure the short term impact on the market (15 days) caused by changes of the analysts recommendations taken directly from the reports published on the Borsa Italiana S.p.A. website. The impact is measured through the calculation of the cumulative excess returns. Brav and Lehavy [2003] observe that the target prices are informative both when considered alone and when linked to the forecasts and the recommendations, as substantial and abnormal returns occur immediately after the target revisions.

Many studies highlight and detect, at the same time, some biased behaviours of the financial analysts. The researchers often discuss and analyze some typical anomalies, i.e.:

- a) too many favourable recommendations (for example buy or strong buy), compared to those unfavourable (sell or strong sell, for example);
- b) a too high optimism in the published analyses;
- c) evaluations systematically inefficient or biased.

There can be many possible reasons for this evidence. A first stream of researchers states that anomalies in the financial analyst's behaviour occur because of the conflicts of interest (see for example, Michaely and Womack [1999], Darrough and Russel [2002], Richardson, Teoh and Wysocki [1999], while a second stream tries to give a reasonable explanation of such events, referring to human psychology (for instance, De Bondt and Thaler [1990], Abarbanell and Bernard [1992], Amir and Gonzac [1998]).

As said in the introduction, an important common feature of all these different researches is that they are usually based on the final content of the reports (recommendations and target prices) or on the forecasts of different aggregations (for example, the earnings), usually extracted for example from I/B/E/S or First Call or even from the financial analysts' reports themselves (see Belcredi, Bozzi Rigamonti's study [2003]), but they seldom look at the ground where these "synthesis results" come from.

As it has been pointed out at the beginning of the work, one of the objective of this study is to look at the way a report is made, assuming that this is the best way to better understand the background logic, the foundations from which the report emanates, mainly recommendations and target prices, (specifically, evaluation methods). To date there are few studies adopting a focus similar to this one.

Previtz et al. [1994], for example, perform a content analysis of 479 sell-side analyst reports, but they investigate the information needs of analysts. Their study shows that analyst information needs extend beyond that contained in the financial reports, including softer, more subjective information.

Another study using the same methodology is that by Rogers et al [1997] who perform a content analysis of 187 sell-side analyst reports to investigate the sources of information in the reports. They find that an income statement is the most relied upon financial statement, even if balance sheets and cash flow statements are rarely mentioned. In addition, the authors find that over half of the financial and operating data cited by analysts are not found in financial statements and that the narrative part of the annual report is the most important source of information cited in the analyst reports. In yet another study, Breton and Tafler [2001] present content analysis of 105 analyst reports in order to assess the information used by the analysts. Non-financial information seem to be equally important as financial information. According to the authors, the financial analysts are particularly interested in the non-financial information of management and strategy, as well as the trading environment of the firm.

Actually, the past literature is far from giving a complete and accurate analysis regarding the evaluation procedures used by the financial analysts in their reports. One of the studies more related to this topic is that one of Barker [1999], for example. He explores the role of the dividends in equity evaluation by means of examining directly the evaluation practises of the analysts and the fund managers and he finds important

differences between valuation theory and valuation practice. He use three complementary research methods: participants' observations, questionnaires and semi-structured interviews. The sample of analysts is selected following the "Financial Times Extel survey" (Extel, 1994) and composed by the nine firms of more importance in the determination of the shares prices¹. The author performs a descriptive analysis of these data and finds a preference for "unsophisticated" valuation methods (for example, the dividend yield rather than the dividend discount model)². According to Barker this result, in contrast with the evaluation theory, depends on the practical difficulty of the financial analysts of using current information to forecast future cash flows. As a summary of the various empirical evidence found, Barker gets the general conclusion that the evaluation practices are used as "point of departure", a sort of first screen. Other information is then used, but not incorporated into the models.

Another study of this kind is that one of Block [1999], which focuses on determining what analytical methods financial analysts use. Also this research is based on an interview approach and a sample of 297 responses by analysts memberships of AMIR (Association for Investment management and Research). The questions covered some topics such as the use of the present value analysis, the input used in stock evaluation, the use of three specific evaluation methods (the dividend discounted model, the capital assets pricing model and the economic value added) and so on. The main findings relevant for this work can be summarized as follows: a) despite the theoretical relevance of the present value technique, a very small percentage of the sample answered to use it regularly, b) earnings and cash flows seem to be considered more important than book value and dividends c) among the three methods asked in the questionnaire, the EVA method is the most used one.

To this day, to my knowledge, only two recent studies have examined the valuation methods that analysts adopt in practice and used the content analysis of financial analysts' reports: one by Demirakos, Strong, Walker [2004] and the other one by Asquith, Mikhail, Au [2005].

¹ Actually, the sample size is 42 analysis for the questionnaire approach while it is of 32 analysts for the interview approach. 70 analysts for both the questionnaire and the interview approach.

²The evaluation methods chosen for the survey are that ones: a) actually used and collected during the participant observations, b) selected in other comparable studies or usually referred in standard finance texts.

The first of these studies (Demirakos, Strong, Walker [2004]) is basically a descriptive analysis of the use of the evaluation models that focuses on the value relevant attributes that analysts seek to forecast and the methodology that analysts use to convert the forecasts into estimates of firm value. It is based on a very small sample of 104 reports covering 26 companies over a period of 5 years. The authors test specific hypotheses about the valuation model choices of analysts. In particular they test hypotheses about how valuation methodologies vary across industrial sectors. The main general “descriptive findings” are: a widespread use of PE models, varying systematically across sectors, a considerable use of DCF models. Using a chi-squared test the authors tests some hypothesis. They find that the “multi-period” evaluation methods rather than market ratios approach are preferred by the analysts in the more unstable sectors. The analysts seem to choose as the “prevalent” model the Price/Earnings approach or the Discounted Cash Flows, but not the market ratio Price/Cash Flows. Furthermore, even though the analyst uses a DCF model, then he sometimes prefers a market ratio method as the “prevalent” one.

The study by Asquith et al [2005] provides a first catalogue of the elements of the financial analysts’ reports and it is based on a bigger database. Basically, first it replicates prior research analyzing the association between market returns and the recommendations, target prices and their revisions. Then, the authors investigate the justifications of the financial analysts provided in the reports and the informative content of the analysis. The main issue of this research that I am interested in is about the examination of the importance of the valuation methodology in the determination of the target price. The authors don’t observe any systematic association between the method used by the analyst and neither the market’s reaction nor the accuracy of price targets issued. The authors use a sample of 1,126 reports collected by the Investext database, written by 56 sell-side analysts, from 11 investment banks and covering 46 industries, over a period of 3 years (1997-1999). As I will explain later, my analysis gives a contribute to this research issue adopting a different and more sophisticated approach.

3. THEORETICAL FRAMEWORK

Reports can be classified looking at:

- a) the evaluation methods used (for example, market ratios, discounted cash flow and so on);
- b) the parameters used (forecasts and evaluations, discount rates, market risk premium, etc.);
- c) the final output thesis (basically recommendations and target prices).

Basically the analyst's work can be represented as a "step by step" procedure: from the collection and the elaboration of the information, to the conversion of the forecasts into the estimation of the firm value and the formulation of target prices and stocks recommendations that can influence, as I discussed earlier, the market behaviour.

As I showed before, the financial analysts are used to issue more favourable target prices for a lot of reasons, either related to the conflict of interests and to the analysts' irrationality.

Theoretically the target prices can be considered as the combination of several forecasts related to the economy, to the firm specific variables and depending on the method specific characteristics.

Regarding the evaluation methods, this paper provides a more in depth comprehension on the practices used in the reports and on how they are combined in order to achieve the final output thesis. In particular, it tries to verify if there is a link between the nature and the hierarchy of evaluation methods and the goodness of the final output and tests if there are some elements a successful prediction depends on.

The conceptual framework considers two main groups of evaluation methods:

- a) Fundamental methods: net asset methods (algebraic sum of assets' and liabilities' market values), financial methods, income methods and blended (composed) methods³;
- b) Market ratios.

This classification depends on the "working logic" of the method. Different from fundamental analysis, the market ratios methods require an active market making fair

³ In the empirical analysis, this category is divided into three parts: 1. net assets-based methods 2. "flows"-based methods including the financial methods and the income ones 3. "composed" methods. See also section 5.

prices (market is always right). On the contrary, a fundamental evaluation could be done without a market.⁴

In practice, in this study, fundamental analysis is defined as a five-step process (Penman, [2001]):

1. Knowing the business (strategic analysis).
2. Analyzing the information (accounting and non-accounting information).
3. Specifying, measuring and forecasting the value relevant payoffs.
4. Converting the forecast to a valuation.
5. Trading on the evaluation.

Given these issues, I wonder whether a link between the evaluation method and the final output thesis exists. If a relation exists, this will be of great interest because it would show that the target prices are linked to specific criteria used for the analysis. Even if there is only a partial relation or no relation at all, nevertheless, it would be an interesting result. There could be several explanations for the latter result.

On one side, for example, one could argue that the missing relation means that every method employed by the analyst, being rational, should get the same result, expressed by the recommendation or by the target price. So, the accuracy of the prevision doesn't change if the analyst prefers one method rather than another one.

On the other side one could think that the evaluation methods should be regarded as a "tool" for achieving a predetermined result. Bradshaw [2002], for example, finds that valuations based on price earnings ratios and expected growth are more likely to be used to support favourable recommendations, while qualitative analysis of a firm is more likely associated to less favourable recommendations. In other words, on the basis of this last hypothesis, the analyst would evaluate the firm regardless of the best criteria to be used and only afterwards, ex post, he would select the method that better supports to the expected result.

Regarding the appreciation/depreciation estimated by the analyst⁵, the possible dependency between the probability to hit the target price and this variable could give interesting results.

⁴Actually the discount rate and the market risk premium, basic fundamental methods elements, require an active market.

⁵ Later this variable will be measured as the ratio between the difference (target price-current price) and the current price. It will be labelled as delta.

On one side, if such a relation exists, I'm expecting it is negative, because it's quite probable that if the target price is close to the current price (a small delta), it's also likely that the target is achieved, while when the delta is very big, it's more difficult the target to get the objective⁶. For example, Asquith et al [2005] found that the probability of achieving a target is dependent on the level of the analysts' optimism⁷. The relation they found seems to be inverse so: less optimism and bigger probability to achieve the target⁸.

On the other side, if the dependency is missing, it implies that the goodness of the forecast does not depend on the price change "size" estimated in the report (the delta), but it's really linked to the superior analyst's ability. The latter case could mean that the analysts are rational and fix all the target prices with the same probability to be achieved⁹.

4. DATA

In this section I describe accurately the way the dataset has been composed because this is one of the original features of this work compared to the most part of the previous analysis.

This study is based on some elements characterising the reports. Unlike most of the works available in the literature, such data have been taken directly from the reports written by financial analysts, with a careful and in depth reading. Up to the present, there are financial databases collecting earnings forecasts and analysts recommendations (e.g., I/B/E/S, First Call), but no one provides the typical information included in analysts' reports, such as valuation methodologies or other justifications for the recommendations. A typical analyst report is usually composed at least by:

- a) a stock recommendation (such as strong buy, buy, hold, sell);
- b) a target price;

⁶ For example, if the current price is 100 and the target price is 101, it's likely the target price to be achieved. Differently, if the target price is 200, it's hard for the current price to double in 1 year.

⁷ As said in the introduction it is measured as the projected change in the prices, that is, the difference between the current price and the target one.

⁸ Actually, this part of analysis is not very well explained. The authors report only the final results without showing the method used. In correspondence to a range of 0-10% appreciation/ depreciation, the target prices are achieved 74.4%, while if the range is very high, 70% for example, the target are achieved in fewer than 25% of the cases observed.

⁹ In this case the delta could be considered a sort of VaR.

c) a earnings forecasts' summary table.

Then, the report can be more exhaustive and include other additional information supporting the evaluation procedure (such as accounting forecasts, evaluation methods, qualitative analysis, actualization rates or market risk premium used, other justifications). The only way to find these information is to read the text of the reports and to code the contents by hand. Following this “explorative” procedure of the analyses, I built a unique database based on a rich set of different information elements that have been analyzed and classified.

The complete database contains data such as: the report type (for instance, update vs new analysis) and size, the issuer's name, the investment recommendation, the target price, the risk premium, the actualization rates, the time horizon of the forecasts and the evaluation methods used. The variables singled out can be classified and summarised as in Table 1 below.

Some of the data were easy to find, while the identification and classification of others have been more difficult. This is particularly important when considering both the overall evaluation methods used in the reports and the identification of the main one. Sometimes analysts use at the same time two or more methods to evaluate a firm. Wherever possible, I tried to identify the main evaluation method, that is, the one which the final recommendation relies on more deeply.

With regard to the evaluation method, as shown in table 1 (panel D) in appendix, I used a particular logic not to loose information through the classification. I started from the traditional and theoretical ranking proposed for the evaluation methods¹⁰, but I personalized it and catalogued also some additional specifications about each kind of method. For example, I classified as “income method”: the Discounted Shareholder Profit (DSP), the Discounted Earnings (DE), but also two heuristic method named Warranty Equity Valuation (WEV) and Required ROE (RR)¹¹, while I called “financial method”: the Dividend Discounted Model (DDM) and the Discounted Cash Flows (DCF). Instead, I named as “composed models” the EVA and the patrimonial-income method. With regard to the market ratio methods, I considered differently two

¹⁰ I'm referring to the traditional evaluation models classification: net asset methods, financial methods, market ratios methods and so on (see Damodaran [2001] or Copeland et al. [1996]).

¹¹ Warranty equity evaluation method establishes that the value of equity (E) is given by this formula: $E = (ROE - g) / (COE - g) \cdot P/BV$, where ROE is return on equity, g is long term growth rate, COE is the cost of equity and P/BV is price to book value. ROE required is the same of IV, but g is equal to zero.

approaches: a “naïve” approach when the analyst compares the companies’ average ratios “one by one” and a “sophisticated” one if the financial analyst compares two market ratios at the same time, using a simple linear regression. In both cases I wrote down the kind of ratios used for the valuation¹². I catalogued also the qualitative methods, that is, the SWOT (Strength, Weakness, Opportunities and Threats) analysis.

It must be underlined that in this way, I set up an original and unique analysts’ reports’ classification criterion based on a set of rules minimizing the subjectiveness¹³.

The selection of the reports has been conducted on the basis of the definition of a specific “observation range”. More precisely, this research is based on all the actual reports produced in relation to firms listed and included in the Italian MIB30 index¹⁴, during a four-year period, from 2000 to 2003 and published in the Italian Stock Exchange website (www.borsaitalia.it).

The complete sample is composed by 4,603 reports written by 50 different investment banks or brokerage houses and covering 4 industries. The reports’ sample is quite heterogeneous since I collected all the available reports in the selected period, without any other particular inclusion criteria.

Table 1-2-Appendices, in the panels A-B-C-D, presents frequencies’ summary of reporting for several of the data I collected from each report. The frequencies reported in panels A-B-C-D are organized by “who” issued the report, “when” it was issued, “what” firm was evaluated and “how” it has been evaluated on the whole. Panel E focuses on the frequencies of the reports with “prevalent method”.

(Insert Table 1 in Appendix)

¹² For the first approach: P/E is price to earnings, P/BV is price to book value, PEG is price/earnings to growth, PBVG is price/book value to growth, EV is embedded value and AV is appraisal value. For the second approach, P/E – ROE is frequent.

¹³ The classification criteria must be:

- a) simple: in other words, the cataloguing is carried out according to a clear and easy to share logic;
- b) demonstrable: i.e. the classification must be based on checkable data;
- c) neutral: i.e. the most impartial as possible;
- d) constant: in other words, the adopted criteria are amended only if the hypotheses of reference vary objectively.

¹⁴ *MIB30* is the index of the first 30 largest caps.

Table 1: Collected data classification

General report features	<ul style="list-style-type: none"> • Report type • Report issuing date • Report size • Analysts' name
Evaluation Methods	<ul style="list-style-type: none"> • Net asset method • Financial method: discounted cash flow, dividend discounted model • Income method: discounted shareholder profit, warranty equity valuation, discounted earnings, ROE required¹⁵ • “Composed method”: EVA, patrimonial-income method • market ratios: traditional (P/E, P/BV...), PEG, PBVG, EV, AV¹⁶
Parameters	<ul style="list-style-type: none"> • market risk premium • actualization rates • time horizon of forecasts
Final output synthesis	<ul style="list-style-type: none"> • investment recommendations • target prices

5. EMPIRICAL FRAMEWORK

As mentioned before, basically the main research issue of this work is to analyze the content of the financial analysts' reports.

The framework of the analysis can be divided in 2 levels:

1. a descriptive analysis of the evaluation methods used in the reports, the input of these methods and the output (target prices and stock recommendations);
2. an inferential analysis of: a) the output of the reports in relation to the input and to the evaluation models, b) the determinants of a successful forecast.

To perform the analysis I used both quantitative and qualitative variables labelled in the following way:

¹⁵ Warranty equity evaluation method establishes that the value of equity (E) is given by this formula: $E = (ROE - g) / (COE - g) \cdot P/BV$, where ROE is return on equity, g is long term growth rate, COE is the cost of equity and P/BV is price to book value. ROE required is the same of WEV, but g is equal to zero.

¹⁶ P/E is price to earnings, P/BV is price to book value, PEG is price/earnings to growth, PBVG is price/book value to growth, EV is embedded value and AV is appraisal value.

1. qualitative variables, such as:
 - a) the evaluation methods;
 - b) the year of the report issuing;
 - c) the industry of the stocks evaluated;
 - d) the broker issuing the report.
2. quantitative variables, such as:
 - a) market risk premia;
 - b) discounting rates;
 - c) forecast time horizon;
 - d) depreciation/appreciation estimated by the analyst (measured by the following expression:

$$\Delta = (\text{Target price} - \text{Current price}) / \text{Current price}$$

The qualitative variables entered in the inferential analysis as some dummy variables following the logic indicated in the table 2 below. The evaluation methods¹⁷ are divided in four classes¹⁸, while the time and the industry are divided in four classes, corresponding respectively to the companies' industry¹⁹ and to the issuing years²⁰.

To analyze the issue a. of the inferential analysis, I run a linear pooled regression where I assumed as dependent variable the delta and as independent ones: the evaluation methods, the market risk premia, the mean discounting rates, the forecasts time horizon, the timing of the reports issue, the stock industry, the broker issuing the report.

To test the issue b., I run a logit model. I chose this procedure because, by definition, it is an econometric model that allows to measure the relationship between the strength of a stimulus and the "proportion" of cases exhibiting a certain response to the stimulus and broadly speaking, this was the aim. In an analytical form, the logit model can be written as:

$$Pr (Y=1/X=x)=F(Xb)$$

¹⁷ "How" the company has been evaluated: DMU is the dummy representing the market ratios methods, DF is related to flows-based methods, DMI is the dummy for composed methods.

¹⁸ See section n. 2.

¹⁹ "What" has been evaluated: DU is the dummy for the utility industry, DB for the banking sector and, finally, DM is the dummy defined for the manufacture sector.

²⁰ "When" the companies have been evaluated: DT1, DT2, DT3 are the dummies for the years 2001, 2002, 2003, respectively.

Where Y is the dependent binary variable, X represents the matrix of k independent variables, b^{21} is the parameter to be estimated, and F is the logistic cumulative distribution function²².

Table 2: The dummy variables in the inferential analysis

DUMMY VARIABLES	HOW			
	Market ratios methods	“Flows”- based methods	“Composed” methods	Ner assets-based methods
$D_{\text{MARKET RATIOS}}$ DMU	1	0	0	0
D_{FLOWS} DF	0	1	0	0
D_{COMPOSED} DMI	0	0	1	0
WHAT				
	Utilities	Banking	Manufacture	Insurance
$D_{\text{UTILITIES}}$ DU	1	0	0	0
D_{BANKING} DB	0	1	0	0
$D_{\text{MANUFACTURE}}$ DM	0	0	1	0
WHEN				
	2003	2002	2001	2000
D_{2003} DT3	1	0	0	0
D_{2002} DT2	0	1	0	0
D_{2001} DT1	0	0	1	0
“WHO”				
	ABN Amro	....	Uniprof sim	Actinvest
$D_{\text{ABN Amro}}$ Dabn	1	...	0	0
...	...	...	0	0
...	...	...	0	0
$D_{\text{Uniprof sim}}$ Dunip	0	0	1	0

In this case, I fixed the target price as dependent variable (Y) and I regressed it on 5 independent variables (X) that is: the evaluation methods, the year of the report

²¹ Typically estimated by maximum likelihood technique.

²² That is: $F(X\beta) = \exp(X\beta) / 1 + \exp(X\beta)$

issuing, the industry of the stocks evaluated, the broker issuing the report; the delta estimated.

The issue can now be represented as a dichotomous event where the two cases are identified as:

$$1) \quad Y=1$$

This is the so-called “success” event occurring if the target price is achieved or outperformed at least once in the 12 months following the report issue. This case includes two sub-cases, depending on the “direction” of the price forecast:

a) The target price is downward compared to the current one (unfavourable prediction and recommendation). In this situation, the target price can be considered achieved if the market price goes down till to be equal or less than the target.

b) The target price is upward compared to the current one (favourable prediction and recommendation). It will be achieved if the market price grows up till to be equal or more than the analyst’s prediction.

$$2) \quad Y=0$$

The target price is never achieved or outperformed in the same window of 12 months.

Similarly to Asquith, Mikhail, Au [2005] that examine if the target prices are achieved and if the kind of the evaluation method improve the accuracy of these prices, I want to figure out, using the logit regression proposed above, if the target price accuracy depends on some of the elements characterizing the forecast process performed by the analysts. The latter approach is completely different by the methodology used by the previous authors. Asquith, Mikhail, Au [2005] perform a simple descriptive analysis of the reports achieving the 12-month target prices, distinguishing by recommendation type, evaluation method²³ and time range²⁴. Then, without reporting the analysis and any result, they conclude that there is a dependency between the probability of achieving the target and only one of the element I’m

²³ The classification of the methods that the authors used is quite different from the mine because it’s based on another logic.

²⁴ Similarly to the descriptive analysis proposed in this work. See table 5.

considering in my analysis, that is, the analysts' optimism level (here measured by delta).

6. RESULTS

In this section I describe the main results of the empirical analysis. The section is divided in the two following sub-sections:

1. the descriptive analysis;
2. the inferential analysis.

6.1. THE CONTENT OF THE REPORTS: A BRIEF DESCRIPTIVE ANALYSIS

6.1.1. THE EVALUATION METHODS AND THEIR INPUTS

The market of the reports is quite differentiated with regard to the information provided and the level of investigation of the analyses. Often the analyst performs his/her analyses without providing any data to support the assessment on the value produced, including the valuation models applied. For example, starting from 4,603 equity reports analyzed, for 3,252 reports it has been not possible to understand which method of evaluation the analyst used or which was the "main" method among the different analysis refers to.²⁵ As many as 3,252 reports are in this position, so that the number of reports we can look at is "only" 1,351.

(Insert Table 1)

It is important to remark that in so many cases the reader of the report is not in a position to know which was the method and which were the parameters the analyst used in order to decide whether it is worth buying a share or not. This behaviour is coherent only with a very strong reputation effect, so that it does not matter why an analyst says something but only what he says and who he is.

When it has been possible to understand the specific evaluation method applied, the following effects seem to occur:

- a. a "sector effect": some methods are preferred by the analysts for the evaluations of specific sectors;

²⁵ Those reports do not provide analytical quantitative analysis, but only general description. So it is not possible to classify them.

- b. a “time effect”: over the years, the analysts have changed their preferences in terms of the evaluation methods applied; those based on the fundamental analysis have started to be used the most in comparison to those based on the market multiples;
- c. an “issuing effect”: some issuing entities have developed their own specific skills, which probably lead them to prefer some methods to the detriments of others.

(Insert Figure 1-2)

Regarding the input of the evaluation methods (such as, discounting rates, market risk premium or the time horizon used by the analysts), the main results obtained can be summarized as follow.

With regard to the discounting rates, most of the time the analyst chooses rates of several kinds and measurements (amongst the reports analysed, there are some with even 11 discounting-back rates):

- a) in order to evaluate several business units, finding their specific risk grade, through the rate;
- b) for different time ranges of reference;
- c) in order to compute an average value in case of high uncertainty.

In relation to the “type” of rate:

- in the majority of the reports no rate is mentioned;
- in a small percentage (3.55%), even if the analyst mentions the value of the rate chosen, he/she does not specify what kind of rate it is;
- other times (6.24%), a hurdle rate is usually mentioned, i.e. the minimum rate required in an investment, but it is impossible to recognise the theoretic model through which said rate has been calculated;
- in the remaining cases, the analyst prefers:
 - a) the cost of equity (44.13% of the cases in which at least one rate has been found); calculated according to the CAPM formula;
 - b) the WACC (39.94%);
 - c) other types of rate have been marginally applied.

In relation to the “measurements” of rates and premiums for the risk:

- at first sight, the analysts seem to deem that the banking sector is riskier than the others, on the average. The average rates are actually higher. Nevertheless, the test on the difference between the averages does not support this evidence;
- the premiums for the risk have quite increased during the years, while the rates, after an increase in 2001, have diminished;
- the average premiums for the market risk, which have been applied in the analyses, differ between each other depending on the sector, even though they do not represent the risk of the specific stock evaluated. The statistic analysis on the differences between the averages confirms this kind of checking.

With regard to the time range of the forecasts, usually the financial analysts prefer to draft their assessments remaining in a time range of two/three years²⁶, probably in consideration of the fact that, in so doing, possible mistakes can be limited. The time range of reference in the forecast of earnings and cash flows does not depend on the evaluation method used by the analyst: the fundamental analysis uses time ranges of previsions that are similar to those applied by the analysts that use market multiples.

6.1.2. THE PRICE TARGET ACCURACY: A DESCRIPTIVE ANALYSIS

The dataset is composed by 3111 target prices issued over the time period 2000-2003. In this sample, 2624 (84.35%) forecasts are for an upward price change, while 487 (15.65%) are for a downward one.

With regards to the successful/un-successful forecasts, the main descriptive features of the dataset are here reported. Considering the overall sample, the target price has been achieved in 48.41% of the cases: the downward forecasts have been achieved in 77.21% of the cases, while in case of upward forecasts, the target has been achieved in 43.06%. Consistently with Asquith et al. [2005] results, the majority of the successful previsions has been achieved within the first three months since the issuing of the reports.

Apparently there is no particular method that stands out in terms of reliability in drafting good previsions, while the empirical evidence shows a sort of link between the probability to achieve the target and the optimism level. As Asquith et al. [2005]

²⁶ the number of reports related to more than 5 year periods is very low.

document, the probability of achieving the target price is higher for small size projected changes in prices than for big ones. Analyzing the absolute value of the variable labelled delta, the probability²⁷ to have a success is around 70% if the delta is included between 0% and 10%, but it falls to the 30% when the delta size is higher than 20%. Obviously the probability to make a mistake has the opposite and complementary trend²⁸.

(Insert Table 2-3)

6.2. THE CONTENT OF THE REPORTS: AN INFERENCE ANALYSIS

In this section I report the main results from the regressions specified above (see section 5).

The results from the initial linear regression are reported in Table 4 in Appendix.

(Insert Table 4)

As we can see, differently from my expectations, only the constant, two brokers and one of the evaluation method are significant. Then, in order to reduce the noise in the analysis, probably affected by a too big number of variables, I run different regressions, using some sub-samples.

(Insert table from 5 to 11)

The empirical results coming from the different regressions show that the assessment of the value carried out by the analyst seems not to take into big consideration the parameters applied, at least as far as the reports here analysed are concerned (rates, premiums and time range of the assessments). It does not exist even an evident relation between the evaluation methods applied and the investment recommendations: no relation is found out between the methodology applied and the prevision made. Therefore, different methods seem to lead to the same results. Either the analyst uses original evaluations (typical of the fundamental analysis) or market data (upon which the logic of the market multiples is based), this does not influence the value of the report.

²⁷ The probability is measured as: number of success/total case observed in each delta category. So for example, the probability of success when the delta category is (0%-10%) is given by 571 (success cases) / [571+ 242] (total cases observed in this category).

²⁸ This negative relationship will be tested by the logit regression in the next sub-section.

The sector to which a stock belongs seems to be irrelevant with regard to the output of the report, while the delta seems to depend on the identity of the subject that has drafted the assessment. Some subjects are in fact apparently more or less optimistic than the average.

With regard to the logit regression, the output of the first regression (including all the variables specified above) and the other “reduced” regressions is reported in Table 12.

(Insert Table 12-14)

The main evidence from the logit regression shows that there is a kind of dependence, though not clear, between the probability of obtaining a successful prevision and the evaluation methodologies applied in the analysis, provided that the subject that has issued the report is included in the regression model. The successful previsions depend on the broker that has issued the analysis (the analyst effect). On the other hand, the impact that the measurement of the appreciation/depreciation assessed has on a successful prevision is not evident

7. CONCLUSIONS

This study examines the content of the reports issued by the financial analysts and the relevance, if any, of some of their elements, such as the evaluation methods, to issue a valuable target price and an investment recommendation. Using a database constructed from security analyst reports issued over the period 2000–2003, I found that the market of the reports is quite differentiated with regard both to the information provided and the level of investigation of the analyses. When it has been possible to understand the specific evaluation method applied, a sector effect, a time effect and a issuing effect seem to occur. From the inferential analysis, I found there is a not evident relation between the evaluation methods applied by the financial analysts and the investment recommendations. The linear regression analysis has not found any relation between the methodology applied and the prevision performed; the logit analysis highlights a kind of dependency, not clear though, between the probability of obtaining a successful prevision and the evaluation methodologies applied in the

analysis, provided that the subject that has issued the report is included in the regression model

The fact that the evaluation method is relevant only when the subject that has issued the analysis is taken into account leads to believe more in a “reputation effect” than in the importance of the evaluation method.

Another interesting results is about the not significance of the relation between what has been appreciated/depreciated by the analyst and the probability that the price actually achieves the target price. The broker him/herself has a kind of influence on said probability. This implies two considerations. First, that in order to have a successful evaluation, issuing a target price that is opportunistically close to the current price is not sufficient. Second, that we can assume there is an “ability effect” affecting the forecast accuracy.

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Appendices

PANEL A		PANEL B				PANEL C				PANEL D							
WHO		WHEN				WHAT				HOW							
Broker		2000	2001	2002	2003	Insurance	Banking	Manufacturing	Utilities	Net asset method	Income method	Financial method	Composed method	Market ratios "naïve"	Market ratios "sophisticated"	Qualitative analysis	
1	ABN Amro Actinvest	81	2	31	12	36	7	30	20	24	4	9	27	36	54	5	8
2	Group Albertini & C.	112	21	46	41	4	16	51	1	44	3	0	42	42	42	50	53
3	BNP Paribas	50	9	41	0	0	4	23	23	0	0	0	8	8	22	2	1
4	Banca Akros	32	5	3	5	19	0	3	7	22	0	1	10	11	18	0	1
5	Banca Aletti & C.	117	1	23	19	74	8	27	38	44	10	9	26	35	56	0	2
6	Banca Commerciale Italiana	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
7	Banca Finnat	12	5	7	0	0	3	2	7	0	0	0	0	0	0	0	0
8	Euramerica Banca	5	2	0	2	1	0	0	3	2	0	0	0	0	0	0	0
9	Leonardo Banca Popolare di Bari	54	19	15	20	0	1	28	13	12	5	7	10	17	23	0	1
10	Banca Sella	7	0	0	3	4	0	3	3	1	0	0	7	7	0	0	0
11	Banca d'Intermediazione Mobiliare - IMI	6	0	2	4	0	1	1	2	2	2	0	0	0	0	0	0
12		207	7	90	75	35	25	61	56	65	21	7	32	39	105	14	11

13	Bipielle Sim Borsaconsult	3	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0
14	Sim	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
15	Caboto Sim	210	52	47	27	84	33	52	47	78	28	7	70	77	92	6	3
16	Cazenove	10	0	0	0	10	0	1	0	9	0	0	0	0	7	0	0
17	Centrosim	141	4	0	54	83	8	43	34	56	1	2	14	16	28	1	0
18	Cheuvreux	125	24	28	38	35	23	35	36	31	31	7	42	49	113	25	57
19	Citigroup	24	0	0	0	24	0	4	11	9	0	0	9	9	22	1	1
20	Cofiri Sim	17	0	0	7	10	0	5	7	5	0	3	1	4	1	1	0
21	Consors Credit	29	0	0	29	0	3	9	7	10	0	0	0	0	0	0	0
22	Lyonnais	32	0	7	16	9	4	7	11	10	4	1	10	11	28	1	0
23	Credit Suisse Deutsche	76	5	19	16	36	14	15	12	35	15	2	37	39	52	0	2
24	Bank Dresdner Kleinwort	471	99	117	100	155	20	147	125	179	32	1	51	52	134	1	0
25	Benson	120	6	39	24	51	5	42	14	59	6	9	48	57	76	1	3
26	Eptasim Euromobiliar	76	4	17	33	22	8	31	18	19	10	1	35	36	36	4	3
27	e	412	70	90	96	156	52	157	107	96	43	14	76	90	263	31	5
28	Fortis Bank	30	0	17	13	0	0	13	0	17	1	2	4	6	13	1	1
29	Gestnord Goldman	3	0	0	1	2	0	0	2	1	0	0	0	0	0	0	0
30	Sachs	87	2	0	28	57	14	22	14	37	0	2	9	11	40	16	1
31	Idea Global	10	3	7	0	0	0	3	7	0	0	0	0	0	0	0	0
32	Ing Barings Intermonte Securities	31	1	18	7	5	0	0	19	12	0	0	4	4	11	1	0
33	Sim	372	136	124	39	73	54	168	73	77	43	35	74	109	252	12	3
34	IntesaBCI	11	0	11	0	0	2	3	6	0	0	0	0	0	3	0	0
35	JP Morgan	8	0	0	0	8	0	1	1	6	0	1	0	1	0	0	0
36	Julius Baer Lehman	102	21	23	25	33	17	24	25	36	14	18	31	49	85	5	57
37	Brothers	97	0	0	25	72	5	19	29	44	7	6	61	67	73	7	0

Massimo																	
38 Mortari	5	0	3	2	0	0	0	5	0	0	0	4	4	0	0	0	0
39 Mediobanca	173	1	0	55	117	16	46	43	68	30	4	37	41	70	8	3	
Merrill																	
40 Lynch	352	20	92	97	143	38	145	64	105	11	12	50	62	224	16	5	
41 Metzler Italia	10	5	4	1	0	2	2	2	4	0	0	0	0	0	0	0	0
42 Rasbank	9	0	0	1	8	1	3	3	2	0	0	0	0	4	0	0	0
43 Rasfin	80	31	37	12	0	2	20	21	37	6	3	22	25	31	2	0	0
SG Securities																	
44 Milano	24	4	20	0	0	6	9	9	0	2	3	1	4	10	0	0	0
Santander																	
Central																	
45 Hispano	68	0	0	41	27	16	18	11	23	3	2	14	16	42	0	1	1
Société																	
46 Generale	86	0	51	35	0	8	25	23	30	8	6	7	13	31	3	1	1
UBS																	
47 Warburg	229	19	79	40	91	22	65	63	79	17	0	81	81	207	4	2	2
Unicredit																	
Banca																	
48 Mobiliare	363	35	44	93	191	53	145	75	90	13	5	39	44	114	22	1	1
49 Uniprof sim	11	0	4	4	3	0	2	4	5	0	0	0	0	6	0	0	0
50 Websim	11	0	0	11	0	2	9	0	0	0	0	0	0	7	0	0	0
	4603	614	1157	1151	1681	493	1520	1102	1488	380	180	1015	1195	2448	240	234	

Table 1. Reports'frequency in general, among sectors and years

Table 1. Reports'frequency in general, among sectors and year-Panel E

PANEL E							
Companies	Sector	N total reports	N reports with a "prevalent" method	N reports with a "prevalent" method - year 2000	N reports with a "prevalent" method - year 2001	N reports with a "prevalent" method - year 2002	N reports with a "prevalent" method - year 2003
Alleanza Assicurazio	Insurance	150	60	5	22	15	18
Assicurazioni Genera		183	56	9	10	22	15
RAS		160	46	4	11	16	15
TOTAL		493	162	18	43	53	48
B Pop Verona e Novar	Banking	68	17	0	0	6	11
Banca Antonveneta		41	10	0	0	5	5
Banca Fideuram		122	41	7	14	9	11
Banca Intesa BCI		218	51	4	12	16	19
BNL		157	31	5	8	8	10
Capitalia		119	29	4	13	5	7
Fineco		98	14	1	9	0	4
Mediolanum		167	61	8	25	14	14
Monte Pashi di Siena		126	28	5	8	9	6
San Paolo IMI		203	57	13	11	16	17
Unicredito		201	40	8	7	10	15
TOTAL		1520	379	55	107	98	119
ENI	Manufacture	251	89	11	29	15	34
FIAT		209	78	8	18	24	28
FINMECCANICA		119	59	11	16	12	20
PARMALAT		145	54	7	12	18	17
PIRELLI		141	46	9	19	10	8
SAIPEM		128	39	4	8	10	17
STMicroelectronics		109	54	4	13	14	23
TOTAL	1102	419	54	115	103	147	
Enel	Utilities	291	83	9	21	8	45
Mediaset		239	64	7	18	8	31
Olivetti		64	35	11	21	3	0
Seat P. G.		188	43	3	18	11	11
Snam Rete Gas		126	28	0	0	10	18
Telecom Italia		273	48	5	10	9	24
Tim		307	90	8	20	25	37
TOTAL	1488	391	43	108	74	166	
TOTAL		4603	1351	170	373	328	480

Figure 1: The distribution in time of all the evaluation methods applied

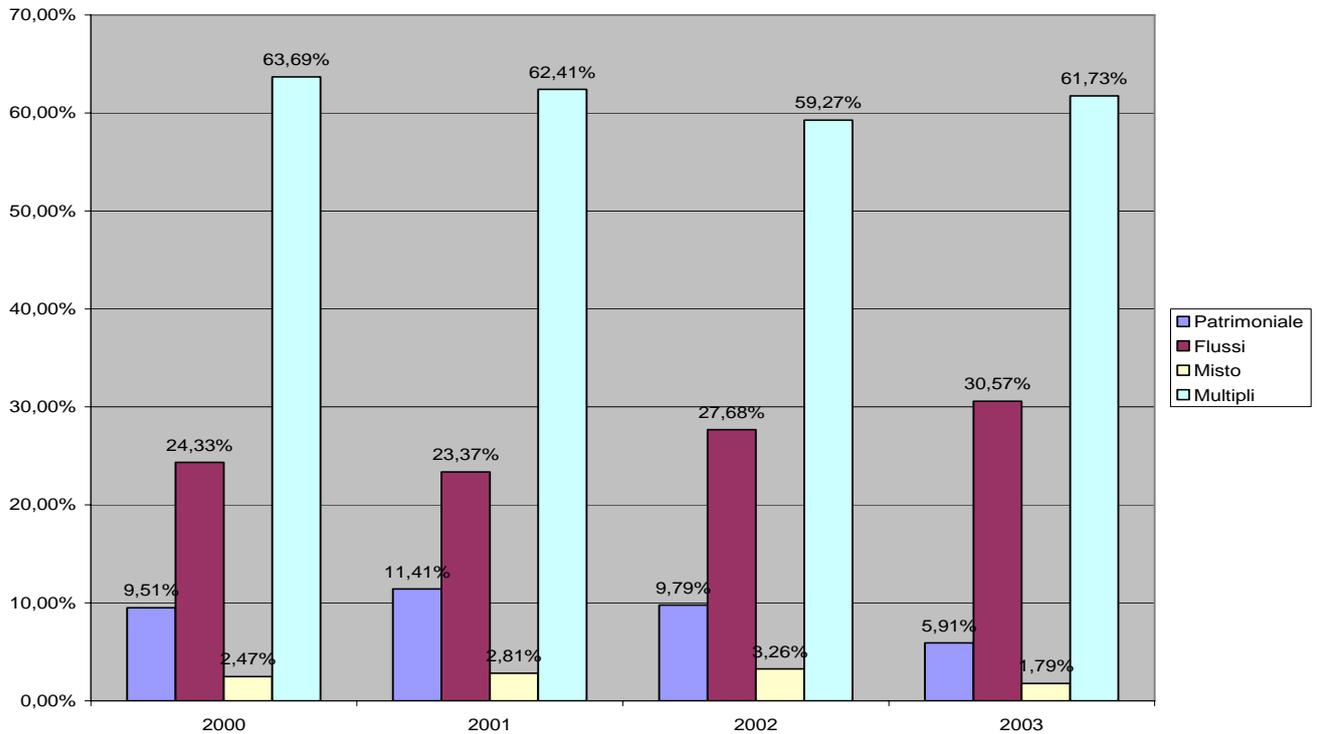


Figure 2: Percentage distribution of the main methods in the sectors, aggregating the methods

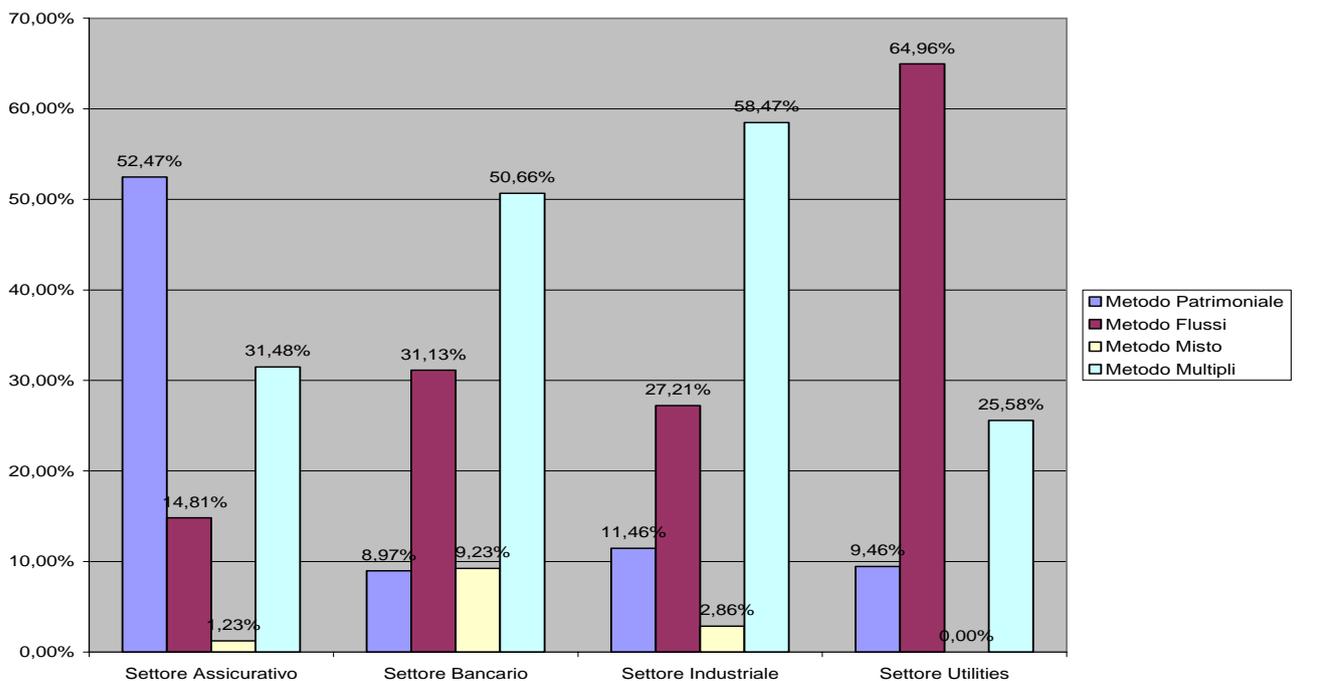


Table 2: Frequency and percentage of success/failure by forecast direction

FORECAST DIRECTION	Target price achieved		Target price missed		TOTAL	
	N	%	N	%	N	%
Downward forecast	376	77,21%	111	22,79%	487	100,00%
Upward forecast	1130	43,06%	1494	56,94%	2624	100,00%
TOTAL	1506	48,41%	1605	51,59%	3111	100,00%

Table 3: Frequency and percentage of reports achieving the target price by time and recommendation type

	TARGET ACHIEVED IN:									
	1-3 months		4-6 months		7-9 months		10-12 months		TOTAL SUCCESSES	
	N	%	N	%	N	%	N	%	N	%
Negative Recommendation	174	15,37%	13	6,77%	7	5,79%	1	1,64%	195	12,95%
Neutral Recommendation	432	38,16%	46	23,96%	31	25,62%	20	32,79%	529	35,13%
Positive Recommendation	523	46,20%	133	69,27%	83	68,60%	40	65,57%	779	51,73%
Missing Data	3	0,27%	0	0,00%	0	0,00%	0	0,00%	3	0,20%
TOTAL SUCCESSES	1132	100,00%	192	100,00%	121	100,00%	61	100,00%	1506	100,00%

Table 4: Linear regression including all the variables of the model-SPSS Output.

	Standardized coefficients	t-value	Sig.
costant	0.153	8.393	0.000
Dummy Julius Baer	0.327	3.685	0.000
Dummy Deutsche Bank	-0.356	-3.047	0.003
Dummy Misto	0.499	4.265	0.000
R ² adj	21.6%		

**Table 5: Linear regression including all the variables of the model -year 2000-
SPSS Output**

No significant variables

**Table 6: Linear regression including all the variables of the model -year 2001-
SPSS Output**

	Standardized coefficients	t-value	Sig.
costante	0.165	5.380	0.000
Dummy Eptasim	-0.559	-3.897	0.001
Dummy Misto	0.433	3.018	0.006
R ² adj	51.2%		

**Table 7: Linear regression including all the variables of the model -year 2002-
SPSS Output**

	Standardized coefficients	t-value	Sig.
costante	0.143	3.473	0.002
Dummy Euromobiliare	0.594	3.980	0.001
Dummy Multipli	0.374	2.505	0.019
R ² adj	42.3%		

**Table 8: Linear regression including all the variables of the model - year 2003 -
SPSS Output**

	Standardized coefficients	t-value	Sig.
costante	0.173	8.250	0.000
Dummy Julius Baer	0.543	3.662	0.001
R ² adj	27.3% %		

Table 9: Linear regression including all the variables of the model –no years-SPSS Output

	Standardized coefficients	t-value	Sig.
costante	0.153	8.393	0.000
Dummy Julius Baer	0.327	3.685	0.000
Dummy Deutsche Bank	-0.356	-3.047	0.003
Dummy Misto	0.499	4.265	0.000
R ² adj	21.6%		

Table 10: Linear regression including all the variables of the model –no parameters (rates, premium and time horizon)-SPSS Output

	Standardized coefficients	t-value	Sig.
costante	0.179	17.218	0.000
Dummy Euromobiliare	0.183	5.780	0.000
Dummy UBS	-0.164	-5.255	0.000
Dummy Merrill Lynch	0.103	3.311	0.001
Dummy Intermonte	-0.078	-2.492	0.013
Dummy Deutsche Bank	-0.063	-1.969	0.049
Dummy Industriale	--0.09	-3.084	0.002
Dummy Misto	0.112	3.556	0.000
R ² adj	10.7%		

Table 11: Linear regression including only brokers-SPSS Output

	Standardized coefficients	t-value	Sig.
Constant	0.158	32.555	.000
Dummy Euromobiliare	.148	8.023	.000
Dummy UBS	-.110	-6.048	.000
Dummy Intermonte	-.067	-3.665	.000
Dummy Merrill Lynch	.080	4.430	.000
Dummy Centrosim	.067	3.762	.000
Dummy Goldman	-.053	-2.982	.003
Dummy Santander	.054	3.041	.002
Dummy SGSecurities	.052	2.906	.004
Dummy Unicredit	.049	2.750	.006
R ² adj	6%		

Table 12: Logit regression-the starting model

997 unweighted cases accepted.			
354 cases rejected because of missing data.			
20696 cases are in the control group.			
Parameter Estimates (LOGIT model: $(\text{LOG}(p/(1-p))) = \text{Intercept} + \text{BX}$):			
	Regression Coeff.	Standard Error	Coeff./S.E.
D flows	,04506	,00622	7,24211
D composed	-,03310	,01204	-2,74965
D market ratios	,04131	,00600	6,89115
D ABN Amro	,14862	,01451	10,23980
D Banca Akros	-,55987	,01040	-53,81386
D Banca IMI	-,32951	,00955	-34,52080
D Banca Leonardo	-1,20445	,02798	-43,04442
D Caboto	,46672	,00659	70,84163
D Cheuvreux	-,82789	,01148	-72,13451
D Credit Suisse	-,46733	,01483	-31,51974
D Deutsche Bank	,20769	,00657	31,61385
D Eptasim	-,60331	,01228	-49,12807
D Euromobiliare	,02915	,00507	5,75151
D Intermonte	-,10656	,00601	-17,71915
D Lehman	,03260	,00805	4,04859
D Rasfin	,05020	,01030	4,87300
D Santander	,07630	,01555	4,90566
D Unicredit	-,24191	,00970	-24,94411
D Bancario	,51809	,01287	40,25827
D Industriale	,44172	,01224	36,08197
D Utilities	,46906	,01241	37,78442
D 2001	-,02258	,00562	-4,01488
D 2002	-,05467	,00599	-9,13429
D 2003	-,07138	,00584	-12,21424
DELTA	-,34133	,00808	-42,24025
Constant	1,66281	,01346	123,56222
Pearson Goodness-of-Fit Chi Square = 669625,695 DF = 971 P = ,000			

Table 13: Logit regression without methods-SPSS Output

3001 unweighted cases accepted.			
1598 cases rejected because of missing data.			
12751 cases are in the control group.			
4 cases rejected because no. responses is greater than no. subjects.			
Parameter Estimates (LOGIT model: $(\text{LOG}(p/(1-p))) = \text{Intercept} + \text{BX}$):			
	Regression Coeff.	Standard Error	Coeff./S.E.
DELTA	-.01386	.02388	-.58040
Dummy Banking	-.00891	.02964	-.30064
Dummy Manufacture	-.00309	.02811	-.10988
Dummy Utilities	.00029	.02834	.01021
Dummy 2001	.00990	.01658	.59678
Dummy 2002	.05952	.01627	3.65873
Dummy 2003	.04636	.01552	2.98732
Constant	-5.04258	.03025	166.67213
Pearson Goodness-of-Fit Chi Square = 44466.433 DF = 2993 P = .000			

Table 14: Logit regression without methods and years-SPSS Output

3001 unweighted cases accepted.			
1598 cases rejected because of missing data.			
6353 cases are in the control group.			
4 cases rejected because no. responses is greater than no. subjects.			
Parameter Estimates (LOGIT model: $(\text{LOG}(p/(1-p))) = \text{Intercept} + \text{BX}$):			
	Regression Coeff.	Standard Error	Coeff./S.E.
DELTA	-.00088	.04579	-.01915
Dummy Banking	-.08722	.05584	1.56201
Dummy Manufacture	-.05485	.05272	-1.04051
Dummy Utilities	-.02947	.05304	-.55552
Constant	6.27642	.05157	121.69602
Pearson Goodness-of-Fit Chi Square = 12129.628 DF = 2996 P = .000			