

The Reliability of Management Earnings Forecasts in IPO Prospectuses: A Study of Managers' Forecasting Preferences

Maha Hammami, Olfa Benouda Sioud

Abstract—This study investigates the reliability of management earnings forecasts with reference to these two ingredients: verifiability and neutrality. Specifically, we examine the biasedness (or accuracy) of management earnings forecasts and company specific characteristics that can be associated with accuracy. Based on sample of 102 IPO prospectuses published for admission on NYSE Euronext Paris from 2002 to 2010, we found that these forecasts are on average optimistic and two of the five test variables, earnings variability and financial leverage are significant in explaining ex post bias. Acknowledging the possibility that the bias is the result of the managers' forecasting behavior, we then examine whether managers decide to under-predict, over-predict or forecast accurately for self-serving purposes. Explicitly, we examine the role of financial distress, operating performance, ownership by insiders and the economy state in influencing managers' forecasting preferences. We find that managers of distressed firms seem to over-predict future earnings. We also find that when managers are given more stock options, they tend to under-predict future earnings. Finally, we conclude that the management earnings forecasts are affected by an intentional bias due to managers' forecasting preferences.

Keywords—Intentional bias, Management earnings forecasts, neutrality, verifiability.

I. INTRODUCTION

IPOs or initial public offerings are among the most exciting and closely followed events in the stock market. IPOs mark the transition of a company from a privately held to publicly held firm. The most important and time-consuming task facing the IPO team is the development of the prospectus, a legal document that aims to reduce information asymmetries and informs the investors on the financial status of newly listed firms. The prospectus includes, among others, management forecasts (i.e. earnings, sales, expenses) considering the voluntarily/mandatory status that depends on the country in which they want to go public.

Management forecasts inform investors, in particular, of how the IPO could affect the firm's capacities to generate profit due to development of new projects to be financed by

the capital raised [15]. Prior researches have shown that management forecasts constitute an extremely important signal of company valuation [26], [37] and [40]. Such a voluntary disclosure reduces information asymmetry between managers and investors and hence lower agency costs [9], [16], [19], [31] and [38].

Despite the evidence mentioned above on the importance of management forecasts as a performance benchmark, there is still considerable debate about their relative accuracy [4], [12], [13], [18], [23] and [32]. Management forecasts constitute the most sensitive information provided in an IPO prospectus given randomness and uncertainty that assume. Prior researches show that the credibility of the management forecasts is a function of management's ability and incentives to issue biased forecasts [6], [14], [27], [35], [37], [55] and [57].

Hence, evidence in the literature suggests that the information content of the management forecasts is attributed to its accuracy [8], [41] and [56]. However, in our study, we propose that usefulness of this accounting information is attributed to its *reliability* as a qualitative characteristic which includes more than the criteria of credibility.

Accounting information is reliable when it is reasonably free from errors and bias and, in fact, represents what it claims to represent. The ingredients of the reliability of information are representational faithfulness, verifiability and neutrality. However, by reference to the specific nature of forecast information compared with other accounting information, it would be appropriate to dedicate the two criteria verifiability and neutrality to assess the reliability of forecast information. *Verifiability* implies that the information represents the economic phenomena that it purports to represent without material error or bias. *Neutrality* is the absence of bias intended to attain a predetermined result or to induce a particular behavior [45].

The motivation for this study stems from the fact that there is a paucity of research in earnings forecast accuracy at the European level (except the evidences for UK) and particularly in the French context. Additionally there are only few studies examining the managers' forecasting behavior and the associate incentives factors. On the other hand, the previous studies focus on the accuracy of management earnings forecasts without explicit reference to the ingredients of *reliability* as a primordial characteristic of accounting information.

Maha Hammami is a Phd Researcher with the Laboratory of Applied Economics & Empirical Finance (LEFA), Institute of Advanced Business Studies of Carthage (IHEC), Carthage University, Tunisia (phone: 00 216-97 071 379; e-mail: hammamimaha2@yahoo.fr).

Pr. Olfa Benouda Sioud is a professor of finance with the Laboratory of Applied Economics & Empirical Finance (LEFA), Institute of Advanced Business Studies of Carthage (IHEC), Carthage University, Tunisia (e-mail: benoudaolfa@yahoo.fr).

The main objective of this study is to investigate the *reliability* of management earnings forecasts with reference to these two ingredients: *verifiability* and *neutrality*. Two main research questions are addressed. First, are management earnings forecasts free from significant bias? We predict this question in order to assess the *verifiability* by studying the magnitude of earnings forecast bias and evaluating the association factors related to company-specific characteristics. Second, is-it an intentional bias as a result of the managers' forecasting behavior assigned to self-serving incentives? By this question we seek to evaluate *neutrality* of management earnings forecasts bias by examining managers' forecasting preferences in order to shed new light into factors that could drive managers' decision to forecast unbiasedly, under-predict or over-predict. In particular, we examine the impact of select firm-specific (financial distress and retained ownership), industry-level (operating performance), and macro-level factors (the economy state) on managers' forecasting behaviors.

Using a sample of 102 French IPOs from 1999 to 2010, we first find that management earnings forecasts are, on average over-optimistically biased. Optimistic forecast bias increases with the Earnings variability and decreases with the level of the financial leverage. On the other hand, the higher level of details increases the superiority in forecasting earnings relative to the actual change in earnings. Given that one of the main criteria for reliability of forecast information -*verifiability*- is questioned.

We also find that in the face of higher probability of bankruptcy derived from the coefficients provided by [46], managers prefer to over-predict future earnings rather than forecast accurately. On the other hand, in the face of asymmetric loss function, managers who retain more post-IPO stock options prefer to under-predict future earnings rather than forecast accurately. However, over longer forecasting horizons, managers prefer to over-predict future earnings rather than producing unbiased forecasts, while managers of large companies prefer to provide accurate forecasts rather than over-predict future earnings. There is also evidence, to suggest that the managers' forecasting preferences is affected by incentives factors related to firm-specific variables and managers' own-self interests.

As such, this study argues that management earnings forecasts are biased upwards in some circumstances and biased downwards in others related to managers' incentives, and that the decision to under-predict or over-predict or forecast accurately is endogenous. Hence, we conclude that management earnings forecasts issued by the French IPO firms do not meet neither the criteria of *verifiability* nor the criteria of *neutrality* as two key elements of *reliability* of financial reporting.

This paper contributes to the literature in a number of ways. First, we investigate the *reliability* of management earnings forecasts, such as a primary qualitative characteristic of accounting information [5], [7], [20], [22], [24] and [44]. We examine indeed the *verifiability* and *neutrality*—the two ingredients of *reliability*— of such information. This is an

important contribution because most prior literature investigates on the quality of management earnings forecasts with reference to “accuracy approach”. Second, by examining incentives factors that could drive managers' decision to forecast unbiasedly, under-predict or over-predict, we argue that management forecasts are intentionally biased. Our empirical evidence thus enriches the literature by providing insights into factors that affect managerial forecasting behaviors.

The remainder of the paper is organized as follows: Section II gives a brief overview of literature and a development of hypotheses. This is followed by description of the methodology employed in Section III. Section IV presents the empirical results and Section V concludes the paper.

II. LITERATURE REVIEW AND DEVELOPMENT OF HYPOTHESES

A. Forecast Bias and Its Determinants

Management earnings forecasts are voluntary disclosures made by IPO firms to inform investors about their expected future financial performance [42] and [52]. Indeed, the substance of forecasts is not subject of specific instructions [34]. This evidence was considered as a framework for previous studies on the accuracy of management forecasts.

There are vast amounts of past research available on the relative accuracy, bias and determinants of management earnings forecast accuracy. The magnitude of forecast error varies across countries according to the mechanisms of regulation of financial markets and to company-specific characteristics.

While management earnings forecasts are much less common in the US context and other major countries, a vast number of past researchers have found significant forecast errors and investigated several factors that are associated with systematic bias in management earnings forecasts. For example [39] reports significant optimistic bias in MEF issued by financially distressed firms; over-optimism in management forecasts is also well documented by other studies [1] and [50]. On the other side, several recent studies find that management earnings forecasts are unbiased on average; [49] notes that around 40% of sample firms make unbiased earnings forecasts).

In a recent Australian study, [25] finds that managers of Australian IPOs underestimate actual earnings, but the mean earnings forecast error is substantially lower than the figure reported by [30] and [40], which indicates a general reduction in the forecast bias of Australian IPOs.

Reference [51] has studied 151 French IPOs companies listed over a 5-year period from 1996 to 2000 to examine the degree of forecast accuracy and identify its determinants. They found that the MEF included in the IPOs prospectus are more accurate than those derived using a time series model and that the level of accuracy is to some extent associated with length of period the company has been in business (age). Table I summarizes the results of previous studies on forecasting and the accuracy of earnings forecasts, while Table II outlines those on determinants of the accuracy of earnings forecasts

Thus, a number of previous studies on the accuracy of management forecasts support the existence of significant bias in MFE, and this leads to our first prediction:

Hypothesis 1: Management Earnings Forecasts Are Affected by Significant Bias Associated to Firm-Specific Characteristics.

To find out the possible determinants of management earnings forecasts bias and to explore their relative relationships, the following hypotheses are constructed:

Level of detail in forecasts disclosures (DETL): IPOs firms can provide forecast information in many ways: detailed forecasts, presenting a full set of financial statements and a description of their assumptions. Alternatively, their forecasts can be very brief, simply a table with key indicators. Reference [36] investigates the determinants and consequences of the varying levels of detail provided in the forecasts disclosed in IPO prospectuses. Based on a sample of 82 IPOs on the Euronext Paris market (2000-2002), they show that only two variables are associated with highly detailed forecast disclosures: forecast horizon and firm age. They also find that the forecast error decreases as the level of detail in the forecast disclosures increases.

H11: Management Earnings Forecasts Bias Is Negatively Associated with the Level of Detail in Forecasts Disclosures.

The level of detail in the management forecasts is measured by giving a score to each company in the sample according to the nature and the quantity of forecast information. Starting from an initial score of zero, each firm's score rises if it publishes forecasts. Six factors were taken into consideration:

- (1) Publication of assumptions: one point if it is published, zero otherwise.
- (2) Publication details about assumptions and suppositions: one point if it is published, zero otherwise.
- (3) Publication of a forecast balance sheet: one point if it is published, zero otherwise.
- (4) Publication of a forecast income statement/ one point if it is published zero otherwise.
- (5) Publication of a cash flow statement: one point if it is published, zero otherwise.
- (6) Publication of a table of key figures: one point if it is published, zero otherwise.

Earnings variability (EVAR): [33] suggests that Earnings variability as proxied by the variance of changes in annual primary earnings, constitute a significant factor in explaining ex post bias. In this study, we hypothesize that the more variable a firm's earnings are, the more difficult they are to predict, and hence the larger is the magnitude of the forecast bias.

H12: Management Earnings Forecasts Bias Is Positively Associated with Firms' Earnings Variability.

Operating performance (ROA): The firms experiencing significant operating performance provide optimistic earnings forecasts to reassure investors of continuous of such situation. Reference [28] finds a significant positive correlation between forecast error and operating performance, and suggests that

managers appear to over-extrapolate past performance in forecasting future earnings.

H13: Management Earnings Forecasts Bias Is Positively Associated with Firms' Operating Performance.

Financial leverage (FLEV): It is argued that firms with relatively high financial leverage are likely to experience more volatile earnings. For example, [17] reports that management earnings forecast are less accurate for firms with high leverage in Canada. We expect that financial leverage is *positively* associated with forecast bias.

H14: Management Earnings Forecasts Bias Is Positively Associated with High Levels of Financial Leverage.

The economy state (ECON): The ability to forecast accurately is influenced by the variability of the economic conditions in effect from the beginning to the end of the forecast period. [48], and [30] report that the more unstable economic conditions are, the more difficult it is to forecast accurately. To examine this notion, the following hypothesis is formulated.

H15: Management Earnings Forecasts Bias Is Positively Associated with Changes in Economic Conditions (Measured by GDP- Gross Domestic Product).

B. Managers' Forecasting Behavior and Intentional Bias

Contrary to mandatory disclosures, managers have a considerable discretionary power on the quality of the management earnings forecasts as a voluntary disclosure. Thus, given the incentives that serve the interests of managers or of their firms, the neutrality of the management forecasts could be questioned. Reference [53] argues that managers face an asymmetric loss function when making voluntary disclosure decisions. He shows evidence that given certain factors, the costs of not disclosing bad news are materially larger than the costs of not disclosing good news, and proposes that this is attributable to the greater likelihood of loss of management reputation and litigation costs where bad news is withheld. Consistent with Skinner's argument we propose that managers would be more conservative in issuing management forecasts. However, over-optimism in management forecasts is also well documented (see, for example, [49], [1], [45] and [50], raising the possibility that some managers prefer erring on the negative side than on the positive side.

In fact, the nature of loss functions depend on certain factors associated to firm-specific variables, and to advantages granted to managers. These factors create differences in managers' forecasting behaviors and guide their decision to under-predict, over-predict or forecast accurately.

With regard to how forecast bias varies with manager incentives, [50] shows that when it is more difficult for market participants to detect forecast bias, financially distressed firms are more optimistic than healthy firms, and firms in concentrated industries are more pessimistic than those in less concentrated industries.

In a recent study, [21] examines some firm-level, industry-level and macro-economic factors that could potentially influence the manager's forecasting behavior, and show that higher analyst following, competition and stock based

compensation increase the probability that a manager will under-predict future earnings. Managers of growth firms, on the other hand, seem to prefer forecasting accurately or over-predicting.

TABLE I
SUMMARY OF PREVIOUS STUDIES ON THE ACCURACY OF MANAGEMENT EARNINGS FORECASTS

| Country | Study | Period | Sample | Mean Forecast Error-MFE (%) | Absolute Forecast Error-AFE (%) | Superiority of forecasting earnings (SUP) |
|-------------|-------|-----------|--------|-----------------------------|---------------------------------|---|
| France | [51] | 1996-2000 | 151 | -12.1 | 42.58 | 1.71 |
| Australia | [25] | 2001-2009 | 221 | 11.1 | 34.49 | NA |
| Canada | [48] | 1983-1987 | 112 | -77.7 | 88 | NA |
| | [16] | 1984-1987 | 93 | 99 | NA | NA |
| Singapore | [26] | 1977-1992 | 116 | 20.11 | 10.4 | NA |
| New Zealand | [2] | 1979-1987 | 143 | -91 | 111 | NA |
| Hong Kong | [11] | 1990-1992 | 110 | 12 | 18 | NA |
| Taiwan | [34] | 1994-2001 | 759 | 20 | NA | NA |
| Thailand | [42] | 1991-1996 | 175 | -6.86 | 35.76 | NA |

Note: NA: Non-Analyzed

TABLE II
SUMMARY OF PREVIOUS STUDIES ON THE DETERMINANTS OF THE ACCURACY OF MANAGEMENT EARNINGS FORECASTS

| Country | Study | Proprietary information | Growth | Financial Distress | Financial leverage | Industry | Capital increase | Size | Horizon | Underwriter | Age | Retained ownership |
|-----------|-------|-------------------------|--------|--------------------|--------------------|----------|------------------|------|---------|-------------|------|--------------------|
| France | [51] | NA | A/NS | A/S | A/S | A/S | A/S | A/NS | A/NS | NA | NA | NA |
| Australia | [25] | NA | NA | NA | NA | NA | NA | A/S | A/S | A/S | NA | NA |
| Athena | [52] | NA | A/S | NA | NA | NA | NA | A/NS | A/NS | A/NS | NA | NA |
| Thailand | [42] | NA | NA | NA | NA | NA | NA | A/S | A/S | NA | A/NS | NA |
| Canada | [37] | NA | NA | NA | NA | NA | NA | A/NS | NA | A/S | A/S | A/S |
| UK | [33] | A/S | A/S | A/S | A/NS | NA | NA | NA | NA | NA | NA | NA |
| Hong Kong | [13] | NA | NA | NA | NA | A/NS | NA | A/S | A/NS | NA | A/NS | NA |
| Australia | [30] | NA | NA | NA | NA | A/S | NA | A/NS | NA | A/S | NA | A/NS |

NOTE: *A/S: Analyzed and Significant; *A/NS: analyzed et Non Significant; *NA: Non analyzed.

Thus, the findings in prior research point to differences in the nature of loss functions that managers face in choosing their forecasting rules, as well managers strategically distort their forecasts in response to their incentives. This leads to the second prediction:

H₂: MEF Are Affected by an Intentional Bias as a Result of the Managers' Forecasting Behavior Assigned to Self-Serving Incentives.

In an attempt to isolate factors that could drive managers' decision to forecast accurately, under-predict or over-predict, we focus on certain firm-specific variables and incentives facing managers that may be contributing to asymmetric loss functions.

Financial distress (PRBK): Financial distress is proxied by the *probability of bankruptcy* derived from the coefficients provided by [46]. Previous studies show that managers of financially distressed firms are more optimistic than healthy firms [39], [33] and [47]. When a firm has performed poorly, the manager has an incentive to provide some good news to the market and increase investor confidence about the firm's future prospects. Such a disclosure is aimed at convincing investors that they should continue to employ the manager because he is executing a business plan that will restore the ailing company to financial health. Hence, our directional hypothesis is:

H₂₁: Managers of Distressed Firms Prefer to Over-Predict Future Earnings.

Operating performance (ROA): The evidence in previous studies suggests that managers of firms with high operating performance have more incentives to announce pessimistic forecasts in order to avoid the risk of earnings disappointments [47]. As possible explanation for these findings is that the stock market response to negative earnings surprises is particularly stronger for high-growth firms [54]. Likewise, [3] argues that managers of firms with higher growth opportunities are more reluctant to disclose positive earnings surprises for fear of disseminating confidential information to competitors. Thus, the evidence suggests that high-growth firms are inclined to issue more pessimistic earnings forecasts in order to avoid "earnings disappointments". These findings lead to the following hypothesis:

H₂₂: Managers of Firms with High Operating Performance Prefer to Under-Predict Future Earnings.

Retained ownership by insiders (OWN): The proportion of post-IPO retained ownership held by pre-issue owners may reflect forecast integrity. A lower proportion may signal owner concern about forecast accuracy while a high level of retained ownership indicates higher confidence and forecast achievability. Reference [29] shows that firms with high

retained ownership by pre-IPO holders tend to disclose pessimistic earnings forecasts, while in the cases with low retained ownership earning forecast is more optimistic at 14.22%. In fact, when ownership remain concentrated, controlling owners have an incentive to provide outside shareholder and investors less information in order to more freely exercise private benefits of control [2] and [43]. Thus, we suppose that managers who retain more post-offer stock options will face asymmetric loss functions and will be strongly encouraged to provide pessimistic earnings forecasts in order to obtain higher stock returns. To accommodate this factor as a determinant of the managers' forecasting preferences, the following hypothesis is constructed.

H₂₃: Managers Who Have More Post-IPO Stock Options Prefer to Under-Predict Future Earnings.

The economy state (ECON)

The evidence in previous studies suggests that in context of economic uncertainty, the managers will be more rational to deal with asymmetric loss functions and are encouraged to overestimate or underestimate future earnings rather than provide unbiased forecasts [11] and [30]. However, Reference [21] has examined the effect of macro-economic cycles on the managers' forecasting behavior. They assume that the probability of issuing optimistic forecasts by managers increases when the economy is in a period of expansion.

Thus, we assume that in an economic environment with high variability, managers prefer to over-predict or under-predict the future earnings rather than provide accurate forecasts.

H₂₄: In Context of Economic Uncertainty, Managers Prefer to Over-Predict or Under-Predict the Future Earnings Rather than Provide Accurate Forecasts.

III. METHODOLOGY

A. Data Collection

The study examines 102 IPOs listed on Euronext Paris between January 01, 2002 and December 31, 2010. We have eliminated foreign firms, transferred firms and firms without the necessary data. The majority of data is hand collected and extracted from IPO prospectuses, and AMF (*Autorité des Marchés Financiers – Financial Market Authority*) reports. The prospectuses were collected from the AMF and Euronext websites. To be included in the final sample, IPO prospectuses were required to contain precise earnings forecasts figures. The prospectuses that didn't provide a forecasted range of expected earnings, or other specific forms of performance forecast, were excluded from the analysis.

B. Management Forecast Errors Measures

The ex post management earnings forecast errors for the company (i) for the year of the IPO (t) is calculated in different ways. In our study we use three methods to calculate ex post forecast errors: The mean forecast error, the superiority of forecasting earnings and the Absolute Forecast Error.

The mean forecast error (MFE) measures the bias in forecasts. The MFE is calculated as follow:

$$MFE_{it} = (AP_{it} - FP_{it})/|FP_{it}|$$

where AP_t is reported earnings for year t, while FP is earnings forecast as given in the IPO prospectus.

MFE examines whether company systematically over or under-predict future earnings. A positive value for MFE implies that on average IPO companies has a pessimistic bias while a negative value for MFE represents an optimistic bias.

The superiority of forecasting earnings (SUP) is a proxy for the superiority in forecasting profits relative to the actual change in profits:

$$SUP = \ln[(AP_t - AP_{t-1})/(AP_{it} - FP_t)]^2$$

where the denominator measures the error in the management earnings forecasts while the numerator is the change in earnings from year t-1 to year t. The numerator can also be regarded as the forecast error from a simple time series forecasting process, where AP_{t-1} is a random walk model estimate of the profit in year t.

The Absolute Forecast Error (AFE) is the major metric used to evaluate forecast accuracy. It measures the relative deviation of reported earnings from forecast earnings and provides an indication of how close the forecasts were to actual profits in absolute terms. The AFE is measured by:

$$AFE_{it} = |(AP_{it} - FP_{it})|/|FP_{it}|$$

C. Models

1. Hypothesis H₁: Multivariate Regression Model

Mean forecast error (MFE), Superiority of forecasting earnings (SUP), and Absolute forecast errors (AFEs) vary across companies and we construct cross-sectional models to help explain the variations. We base our models on a priori reasoning and, also, on the results from previous studies. The model for MFE is (SUP and AFE are also modeled as functions of the same independent variables):

$$MFE_{it} = \alpha_0 + \alpha_1 DETL + \alpha_2 ROA + \alpha_3 EVAR + \alpha_4 FLEV + \alpha_5 ECON + \alpha_6 SIZE + \alpha_7 HORZ + \alpha_8 INDS + \alpha_9 AGE + \varepsilon_{it}$$

where:

DETL: The level of detail; a score given to each company according to the nature and the quantity of forecast disclosures, as described earlier (see Section II).

ROA: return on assets given by net profit divided by total assets.

EVAR: Variance of (eps_{i,t} - eps_{i,t-1}), where eps_{i,t} is the annual earnings for firm i in period t, t = -3, ..., 0 (t=0 is the management forecast year), and variances associated with negative forecast errors are multiplied by -1.

FLEV: Financial leverage measured by the debt ratio in period t-1 (Total debt / Total assets).

ECON: Economic conditions measured by GDP- Gross domestic product.

As control variables: **SIZE:** is log of total assets after the IPO; **AGE:** the number of years from the date of the company's incorporation to the IPO date; **HORZ:** Horizon, length of the forecast period; **INDS:** a dummy variable taking the value one (1) if the company belongs to the industrial sector; otherwise IND is coded zero (0). ε_{it} = the error term.

2. Hypothesis 2: Multinomial Logit Model

We test the hypotheses H21, H22, H23 and H24 using a multinomial logit model with three modalities corresponding to managers' forecasting preferences with three levels of utility:

- forecast unbiasedly (the mean forecast error is zero);
- under-predict (the mean forecast error is positive) or
- over-predict (the mean forecast error is negative).

Note that the dependent variable is the mean forecast error calculated as follows:

$$MFE_{it} = (APit - FPit) / |FPit|$$

If the MFE is zero, it takes the value 0 in the multinomial logit model above; if the MFE is positive, it takes the value 1; and if the MFE is negative, it takes the value 2.

Since managers have just the three forecasting preferences mentioned above, we need two logit functions. Our base category is the case where managers make accurate forecasts, i.e., their forecast error is zero (MFE = 0). The two logit functions are specified as follows:

$$(1) G_1(x) = \ln \left[\frac{\text{Prob}(MFE_{it}=1|X)}{\text{Prob}(MFE_{it}=0|X)} \right] \\ = \beta_{10} + \beta_{11} \text{PRBK} + \beta_{12} \text{ROA} + \beta_{13} \text{OWN} + \beta_{14} \text{ECON} + \beta_{15} \text{SIZE} + \beta_{16} \text{HORZ} + \beta_{17} \text{INDS} + \beta_{18} \text{AGE} + \varepsilon_t$$

and

$$(2) G_2(x) = \ln \left[\frac{\text{Prob}(MFE_{it}=2|X)}{\text{Prob}(MFE_{it}=0|X)} \right] \\ = \beta_{20} + \beta_{21} \text{PRBK} + \beta_{22} \text{ROA} + \beta_{23} \text{OWN} + \beta_{24} \text{ECON} + \beta_{25} \text{SIZE} + \beta_{26} \text{HORZ} + \beta_{27} \text{INDS} + \beta_{28} \text{AGE} + \varepsilon_t$$

where:

$\text{PRBK}_i = [1 + \exp(-y_{ii})]^{-1}$, Where, $Y_{it} = -1.32 - 0.407 X_{1it} + 6.03 X_{2it} - 1.43 X_{3it} + 0.0757 X_{4it} - 2.37 X_{5it} - 1.83 X_{6it} + 0.285 X_{7it} - 1.72 X_{8it} - 0.521 X_{9it}$, where: \mathbf{X}_1 = SIZE Ratio = $\ln(\text{Total assets})$; \mathbf{X}_2 = Total Liabilities/ Total Assets; \mathbf{X}_3 = Working Capital/ Total Assets; \mathbf{X}_4 = Current Liabilities/ Current Assets; \mathbf{X}_5 = Net Income/ Total Assets; \mathbf{X}_6 = Operating Cash Flows/ Total Liabilities; \mathbf{X}_7 = 1 if net income was negative for the last two years, zero otherwise; \mathbf{X}_8 = 1 if total liabilities exceed total assets, zero otherwise; \mathbf{X}_9 = $(\text{Net Income}_t - \text{Net Income}_{t-1}) / (|\text{Net Income}_t| + |\text{Net Income}_{t-1}|)$; (t being the management forecast year).

ROA: return on assets given by net profit divided by total assets; **OWN:** The proportion of post-IPO retained ownership held by pre-issue owners; **ECON:** Economic conditions measured by GDP- Gross domestic product.

As control variables: **SIZE:** is log of total assets after the IPO; **AGE:** the number of years from the date of the company's incorporation to the IPO date; **HORZ:** HORIZON, length of the forecast period; **INDS:** a dummy variable taking the value one (1) if the company belongs to the industrial sector; otherwise **IND** is coded zero (0). ε_{it} = the error term.

In the two functions (1) and (2) mentioned above, X refers to the matrix of factors of interest and the other control variables.

Factors of interest represent the explanatory factors of the managers' forecasting preferences. The factors of interest in our model are: Financial distress, Operating performance, Ownership by insiders and the economy state. We included the same control variables studied at the hypothesis H₁: Size, Horizon, Industry and Age.

The estimated parameters β_j for the two logit functions (1) and (2) can be interpreted as deviations from our reference category. They compare the case where managers under-predict (or over-predict) future earnings, compared to our reference category where managers prefer to forecast accurately. A positive sign means that the explanatory variable increases the likelihood of modality associated relative to the probability of the reference category.

IV. EMPIRICAL RESULTS

A. Descriptive Statistics

Distributional statistics of forecast errors, absolute forecast errors, and forecasting superiority measures, are shown in Table III¹. The average forecast error for the sample is -0.49, the negative sign for mean forecast earnings reveals that reported profits (actual) exceed their forecasted profits. This result indicates that French IPOs are, on average, optimistically biased. While the mean absolute forecast error is 0.84; it is also significantly different from zero at the one percent level. Positive values are also observed for the means of the SUP. This demonstrates that earnings forecasts issued by the French IPOs are more accurate than a forecast based on the random walk model.

TABLE III
 SUMMARY STATISTICS OF MANAGEMENT FORECASTS ACCURACY

| Variable | N | Mean | Standard deviation | Minimum | Maximum |
|-------------------|-----|-------|--------------------|---------|---------|
| MFE _{it} | 102 | -0.49 | 2.57 | -23.58 | 7.50 |
| SUP _{it} | 102 | 0.18 | 3.38 | -9.66 | 9.99 |
| AFE _{it} | 102 | 0.84 | 2.47 | 0.00 | 23.58 |

¹ By examining the sign of the Mean forecast error (positive and negative), we can conclude whether a company is optimistic or pessimistic about its future earnings since we test whether the profits are overestimated or underestimated. The Absolute Forecast Error (AFE) measures forecast accuracy by evaluating the relative deviation of actual earnings from forecast earnings. While, Management forecast superiority (SUP) measures the ability of management to predict earnings more accurately than a time series model used as a benchmark. Positive value for SUP means that management earnings forecasts are more accurate than forecasts based on the random walk model. Otherwise, a negative value of SUP implies that the management forecasts are inaccurate.

Table IV provides descriptive statistics for the independent variables. The score on the level of detail varies from one to seven, with an average of 3.79. The operating performance for the sample varies between -0.79 and 7.04. Whereas, the degree of Earnings variability of the firms examined varies from -3.43 to 3.18 with an average of 0.06. The average of financial leverage (Long term liabilities/ Total Assets) is 0.76 with a range of 0.04 to 3.90. On average, the owners of the sample firms retained 36.7 percent of the capital after the IPO with a range from 0 to 95 percent.

TABLE IV
 DESCRIPTIVE STATISTICS OF INDEPENDENT VARIABLES

| Variable | N | Mean | Standard deviation | Minimum | Maximum |
|----------|-----|-------|--------------------|---------|---------|
| DETL | 102 | 3.79 | 2.58 | 1.00 | 7.00 |
| ROA | 102 | 0.16 | 0.71 | -0.79 | 7.04 |
| EVAR | 102 | 0.06 | 1.01 | -3.43 | 3.18 |
| FLEV | 102 | 0.76 | 0.65 | 0.04 | 3.90 |
| ECON | 102 | 0.01 | 0.01 | -0.03 | 0.02 |
| PRBK | 102 | 0.20 | 0.29 | 0.00 | 0.99 |
| OWN | 102 | 36.78 | 31.34 | 0.00 | 95.00 |
| AGE | 102 | 0.94 | 0.365 | 0.30 | 2.14 |
| HORZ | 102 | 0.70 | 0.32 | 0.00 | 1.07 |
| SIZE | 102 | 7.13 | 0.99 | 5.25 | 10.56 |

B. Cross Sectional Regression Results

The results of the multiple regression models are shown in Table V. Multiple regression technique is used to take further investigation about variables affecting forecast errors. Panel A relates to the MFE dependent variable while panels B and C relate to SUP and AFE, respectively. The explanatory powers of the models are significant ($p=0.000$) with adjusted R squares ranging from 0.53 for panel C to 0.35 for panel A.

Earnings variability (EVAR) is positively related to the Mean Forecast Error (MFE) in panel A. The positive sign accord with our hypothesis (H_{12}) and the coefficient is marginally significant in Panel A.

The coefficient for financial leverage (long-term debt over total assets) is positive and statistically significant in Panel C. This result shows that the financial leverage factor explain absolute forecast accuracy in the correct direction of hypothesis H_{13} . The result confirms that the higher the financial leverage, the higher the risk faced by the company and the higher the absolute forecast error reported. While, in Panel A this coefficient is negative and statistically significant at the 5 percent level. This finding indicates that the “optimism” of the managers in their forecasts (measured by the mean forecast error) decreases with the level of the financial leverage. The coefficient for level of detail factor in Panel C is negative -consistent with the hypothesized negative sign- but insignificant.

Regarding the other variables, ROA, ECON, HORZ, IND and AGE, we find a positive but insignificant correlation with the mean forecast error (Panel A). While, these variables are negatively correlated with the absolute forecast error (Panel C).

In Panel B, there is only the level of detail factor which have a positive and significant coefficient. The result shows

that the higher level of details increases the superiority in forecasting earnings relative to the actual change in earnings.

C. Multinomial Logistic Regression Results

Results of the multinomial logistic regression appear in Table VI. The Chi2 test associated with the log ratio (LR) confirms that the explanatory power of the logit model is significant ($p=0.000$ -the probability (Prob> chi2) is less than 0.01 and that at least one of a regression coefficient is statistically significant. Comparing with other studies particularly [10], the independent variables explain significantly the managers’ forecasting preferences at a level of 23% (Pseudo R square).

The coefficient for financial distress is positive and statistically significant at the 5 percent level for category 2 ($\beta = 3.68, z = 2.48$). This result indicates that the probability of a manager producing an over-predicting forecasts increases as the level of financial distress increases. Given that in the face of higher the probability of bankruptcy, managers prefer to over-predict future earnings rather than forecast accurately.

These results are quite consistent with the findings of [39] which document that management forecasts issued by distressed firms exhibit greater upward bias and are viewed as less credible than similar forecasts made by non-distressed firms. In addition, an examination of revisions in analyst forecasts suggests that the financial community views forecasts, made by distressed firms, with skepticism. Our results are thus consistent with the predictions of Hypothesis H_{21} .

Recall that in Hypothesis H_{22} , we test the effect of operating performance (ROA) on managers’ forecasting preference. The result shows that operating performance does not appear to impact managers’ forecasting preference significantly. Therefore, the hypothesis H_{22} is not verified.

In hypothesis H_{23} , we examine the effects of the retained ownership, measured by the proportion of post-IPO stock options retained by the managers, on managers’ forecasting preference. Our results are very similar to those documented for Hypothesis 23 above. Specifically, the estimate coefficient of this variable is positive and statistically significant at the 5 percent level for category 1 ($\beta=0.049, z=2.89$), whereas it is negative but insignificant for over-predict behavior. The result suggests that in the face of asymmetric loss function managers who retain more post-IPO stock options prefer to under-predict future earnings rather than forecast accurately. Thus, the hypothesis H_{23} is verified.

As mentioned above, in hypothesis H_{24} we predict that in an economic environment with high variability, managers prefer to over-predict or under-predict the future earnings rather than provide accurate forecasts. The results show that “Economy state” factor does not appear to impact managers’ forecasting preference. Specifically, the estimate coefficients are negative but non-significant for the two estimation categories. Therefore, the hypothesis H_{24} is not verified.

TABLE V
CROSS-SECTIONAL REGRESSION RESULTS OF MFE, SUP AND AFE

| Variables | Panel A : MFE EMP | | | | Panel B : SUP ESP | | | | Panel C : AFE EAP | | | |
|-------------------------|----------------------|-------|-------------|--------------|----------------------|-------------|-------------|------------------|----------------------|-------------|-------------|------------------|
| | Coef. | T | P> t | CI (95%) | Coef. | t | P> t | CI (95%) | Coef. | t | P> t | CI (95%) |
| ROA | 0.36 | 1.22 | 0.22 | -0.22, 0.96 | -0.02 | -0.06 | 0.95 | -0.86 0.81 | -0.48 | -1.90 | 0.06 | -1.00 0.022 |
| DETL | 0.03 | 0.33 | 0.74 | -0.17 0.23 | 0.78 | 5.37 | 0.00 | 0.49 1.06 | -0.04 | -0.51 | 0.61 | -0.22 0.13 |
| EVAR | 1.16 | 5.00 | 0.00 | 0.69 1.62 | -0.07 | -0.24 | 0.81 | -0.72 0.579 | -0.19 | -0.98 | 0.32 | -0.59 0.20 |
| FLEV | -1.05 | -2.53 | 0.01 | -1.87 -0.22 | 0.67 | 1.16 | 0.25 | -0.48 1.836 | 2.49 | 6.99 | 0.00 | 1.78 3.19 |
| ECON | 18.26 | 0.89 | 0.37 | -22.36 58.88 | 44.83 | 1.56 | 0.12 | -12.29 101.96 | -5.53 | -0.32 | 0.75 | -40.40 29.34 |
| HORZ | 0.17 | 0.26 | 0.79 | -1.20 1.56 | 0.33 | 0.34 | 0.73 | -1.61 2.28 | -0.44 | -0.75 | 0.45 | -1.63 0.74 |
| INDS | 0.16 | 0.37 | 0.70 | -0.70 1.02 | -0.89 | -1.46 | 0.14 | -2.11 0.32 | -0.37 | -1.00 | 0.32 | -1.11 0.37 |
| SIZE | 0.02 | 0.09 | 0.92 | -0.43 0.47 | -0.60 | -1.87 | 0.06 | -1.24 0.03 | 0.10 | 0.56 | 0.58 | -0.28 0.50 |
| AGE | 0.00 | 0.01 | 0.98 | -1.15 1.16 | -0.50 | -0.62 | 0.54 | -2.13 1.12 | -0.45 | -0.91 | 0.36 | -1.44 0.54 |
| _cons | -0.60 | -0.33 | 0.74 | -4.22 3.02 | 0.81 | 0.32 | 0.75 | -4.28 5.92 | -0.62 | -0.40 | 0.69 | -3.73 2.49 |
| N | 102 | | | | 102 | | | | 102 | | | |
| R ² | 0.4165 | | | | 0.3339 | | | | 0.5363 | | | |
| R ² Adjusted | 0.3595 | | | | 0.2687 | | | | 0.4909 | | | |
| F (9.92) | 7.30 | | | | 5.12 | | | | 11.82 | | | |
| Prob > F | 0.000 | | | | 0.000 | | | | 0.000 | | | |

TABLE VI
MULTINOMIAL LOGISTIC ANALYSIS OF MANAGERS' FORECASTING PREFERENCES

| Variables | Categories | Under-predicted bias (Category 1 : EMP>0) | | | Over-predicted bias (Category 2 : EMP<0) | | |
|-----------|-----------------------|---|-------|-------|--|-------|-------|
| | | Coef. | z | P> z | Coef. | z | P> z |
| | PRBK | 2.901 | 1.62 | 0.105 | 3.683 | 2.48 | 0.013 |
| | OWN | 0.049 | 2.89 | 0.004 | -0.012 | -0.82 | 0.410 |
| | ROA | 1.690 | 0.88 | 0.377 | 0.809 | 0.57 | 0.571 |
| | ECON | -0.215 | -0.30 | 0.767 | -0.583 | -0.98 | 0.326 |
| | AGE | 1.290 | 1.41 | 0.159 | 0.622 | 0.79 | 0.431 |
| | HORZ | 1.318 | 1.30 | 0.195 | 2.279 | 2.50 | 0.013 |
| | INDS | 0.178 | 0.24 | 0.810 | 0.204 | 0.36 | 0.716 |
| | SIZE | 0.219 | 0.63 | 0.531 | -0.684 | -2.16 | 0.031 |
| | _cons | -6.409 | -2.07 | 0.039 | 2.864 | 1.08 | 0.278 |
| | N | 102 | | | | | |
| | LR chi2(16) | 48.67 | | | | | |
| | Prob > chi2 | 0.000 | | | | | |
| | Pseudo R ² | 23 % | | | | | |

*Statistical significance is identified at 5percent level.

Regarding to the control variables, in Table VI the results show that the only significant control variables in multinomial logistic regression are forecasting horizon (HORIZON) and size of the firm (SIZE). The estimate coefficient for the HORIZON factor is positive and statistically significant at the 5 percent level for category 2 ($\beta = 2.279$, $z = -2.50$). This result confirms that over longer forecasting horizon, managers prefer to over-predict future earnings rather than producing unbiased forecasts. Similarly, the coefficient associated with the SIZE factor is negative and statistically significant at the 5 percent level for category 2 ($\beta = -0.68$, $z = -2.50$). This result means that the probability that managers produce optimistic forecasts decreases with firm size. In other words, managers of large companies prefer to provide accurate forecasts rather than over-predict future earnings.

V. DISCUSSION AND CONCLUSION

This paper examines the *reliability* of management earnings forecasts (MEF) in the French context with reference to these two ingredients: *verifiability* and *neutrality*. Firstly, we assess the *verifiability* of the MEF by studying the magnitude of the forecast bias and evaluating its determinants related to firm-specific characteristics (descriptive and multivariate analyzes). Secondly, we examine the *neutrality* of MEF by verifying if they are affected by an intentional bias as a result of the managers' forecasting preferences (Multinomial logistic regression analysis).

Descriptive statistics reveal that the management earnings forecasts issued by French IPO Firms are, on average, significantly biased (the mean absolute forecast error is 84 percent). Likewise, the management earnings forecasts are, on

average optimistically biased (The mean forecast error is negative with a value of 49 percent).

Multivariate analysis shows that earnings variability is positively related to the average forecast error. Given that the higher the Earnings variability, the higher the risk faced by the company and the higher the optimistic forecast bias reported. However, optimism in management earnings forecasts (as measured by the mean forecast error) decreases with the level of the financial leverage. However, the higher level of details increases the superiority in forecasting earnings relative to the actual change in earnings.

These findings confirm that French IPO firms are significantly over-optimistic in their management earnings forecasts and that the forecast bias is associated to earnings variability and financial leverage. These results support the predictions of our first hypothesis H_1 , and prove the non-verifiability of MEF. Given that one of the main criteria for reliability of forecast information is questioned.

Multinomial logistic regression analysis is used to isolate incentive factors that could affect managers' forecasting preferences. The results show that the probability of a manager producing an over-predicting forecasts increases as the level of financial distress increases. Given that in the face of higher probability of bankruptcy derived from the coefficients provided by [46], managers prefer to over-predict future earnings rather than forecast accurately. This result is consistent with prior literature in particular [39] and [47].

On the other hand, in the face of asymmetric loss function, managers who retain more post-IPO stock options prefer to under-predict future earnings rather than forecast accurately. This finding is quite consistent with studies that document the strategic disclosure of good news particularly [21] which suggests that when managers' compensations are linked to performance, it increases significantly their propensity to under-predict future earnings.

However, over longer forecasting horizons, managers prefer to over-predict future earnings rather than producing unbiased forecasts, while managers of large companies prefer to provide accurate forecasts rather than over-predict future earnings. Hence, we can conclude that the managers' forecasting preferences is affected by incentives factors related to firm-specific variables and managers' own-self interests. These findings prove that the management earnings forecasts issued by the French IPO firms are affected by an intentional bias as a result of the managers' forecasting behavior assigned to self-serving incentives. These results are consistent with the prediction of our second Hypothesis H_2 and prove the non-neutrality of management earnings forecasts.

In conclusion, the results of the multivariate analysis and multinomial logistic showed that, in the French context, the forecasts information disclosed by the French IPO firms are non reliable. These forecasts do not meet neither the criteria of verifiability nor the criteria of neutrality as two key elements of reliability as a qualitative characteristic of financial reporting.

Going forward, even if the management forecasts issued by the French IPO firms are unreliable, they could be relevant for

investors, hence the utility of examining the relevance of management forecasts in an IPO setting.

REFERENCES

- [1] Ajinkya, B. et Gift M.J. (1984), "Corporate managers' earnings forecasts and symmetrical adjustments of market expectations", *Journal of Accounting Research*, 22, pp. 425-444.
- [2] Ajinkya B., Bhraj S., and Sengupta P. (2005), "The association between outside directors, institutional investors and the properties of management earnings forecasts", *Journal of Accounting Research*, (43) 3, pp. 343-376.
- [3] Bamber, L. S. and Cheon, Y. S. (1998) Discretionary management earnings forecast disclosures: antecedents and outcomes associated with forecast venue and forecast specificity choices, *Journal of Accounting Research*, 36, 167-90.
- [4] Barniv R. et al., (2006), "An International Analysis of Historical and Forecast Earnings in Accounting-Based Valuation Models", *Journal of Business Finance & Accounting*, pp 1087-1109.
- [5] Barua A., (2008), Using the FASB's Qualitative Characteristics in Earnings Quality Measures, *Louisiana State University*, 52p.
- [6] Bilson C., Heaney R., Powell J.G, et Shi J. (2003), "The Decision to voluntarily provide an IPO Prospectus earnings forecast: theoretical implications and empirical evidence", *Working Paper*, Australian National University.
- [7] Boesso G., (2003), How to Assess the Quality of Voluntary Disclosures, *Journal of Accounting and Financial Research*, n.1.
- [8] Boulton, Thomas, Scott Smart and Chad Zutter, "Earnings Quality and International IPO Underpricing," *The Accounting Review*, 86, March 2011, 483-505.
- [9] Broy G. and Shatt A (2002), "Comment réduire la sous-évaluation lors de l'introduction en bourse?" (with A. Schatt), *La Revue des Sciences de Gestion*, n° 196.
- [10] Brown S. and al., (2005), "Management Forecasts and Litigation Risk", *Working Paper*, Emory University, INSEAD, University of British Columbia.
- [11] Chan Y. et al. (1996), "Possible Factors of the Accuracy of Prospectuses Earnings Forecasts in Hong Kong", *The International Journal of Accounting*, 31(3), pp. 381-398.
- [12] Chen, C.X., Doogar, R. and Li, L.Y. (2008) "Disaggregation and the quality of management earnings forecasts" Available at SSRN: <http://ssrn.com/abstract=1270844>
- [13] Chen, G., Firth M. and Krishnan, G. (2001), "Earnings forecast errors in IPO prospectuses and their association with initial stock returns", *Journal of Multinational Financial Management*, vol. 11, pp. 225-240.
- [14] Cheng, Qiang and Luo, (2013), Managerial Incentives and Management Forecast Precision Available at SSRN: <http://ssrn.com/abstract=2202064>
- [15] Cheng, T., and Firth, M. (2000). "An empirical analysis of the bias and rationality of profit forecasts published in new issue prospectuses." *Journal of Business Finance & Accounting* 27(3): 423-446.
- [16] Clarkson, P., Dontoh A, Richardson G. et Sefcik S. (1992), "The Voluntary Inclusion of Earnings Forecasts in IPO Prospectuses", *Contemporary Accounting Research*, vol. 8, pp.601-626.
- [17] Clarkson, P.M., (2000), "Auditor Quality and Accuracy of Management Earnings Forecasts", *Contemporary Accounting Research*, 17 (4), pp. 595-622.
- [18] Clement, M., Frankel R, and Miller J., (2003), "Confirming Management Earnings Forecasts, Earnings Uncertainty, and Stock Returns", *Journal of Accounting Research*, 41 (4), pp. 653-679.
- [19] Choi, J., Myers, L.; Ziebart, D.; and Zang, Y. (2008), "The Effect of Management Earnings Forecasts on the Relationship between Returns and Future Earnings and the Implications for the Continuation of Management's Quarterly Earnings Guidance", *American Accounting Association (AAA) Annual Meeting*. Research Collection School Of Accountancy.
- [20] Deaconu A. and al., (2008), "Solutions for Measuring the Quality of the Accounting, Information", *Accounting and Management Information Systems*, No. 24.
- [21] Dhole S., Mishra S. and Sivaramakrishnan K. (2010), "On the Cross-Sectional Determinants of Bias in Management Earnings Forecasts", *Fourth ISB Accounting Research Conference*, Hyderabad, 19-20 December.

- [22] Dichev I. et Tang V. (2009), "Earnings volatility and earnings predictability", *Journal of Accounting and Economic*, Vol 47, pp 160-181.
- [23] El-Rajabi M. and al. (2006), "The accuracy of earnings forecasts disclosed in the prospectuses of newly formed public companies in Jordan"; *Managerial Auditing Journal*, 21, pp.117- 131.
- [24] Fairfield P. and Whisenant S., (2010), Using Fundamental Analysis to Assess Earnings Quality: Evidence from the Center for Financial Research and Analysis, *Journal of Accounting, Auditing and finance*, Vol 16, pp 273-295.
- [25] Firth, M., Gounopoulos, D. et Pulm J. (2013), "IFRS Adoption and Management Earnings Forecasts of Australian IPOs". Available at SSRN: <http://ssrn.com/abstract=2199034>
- [26] Firth M. (1998), "IPO profit forecasts and their role in signaling firm value and explaining post-listing returns", *Applied Financial Economics*, 8(1), pp. 23-39.
- [27] Gao J.Z. & Zhou X.S. (2009), "Information Asymmetry, the Characteristics of Directorate and the Selection of Management Forecast Disclosure- An Empirical Study Based on the Data From 2004-2007 of a Listed Company in China", *Collected Essays on Finance and Economics*, 2009-05.
- [28] Gong, G., Li, L., & Zhou, L. (2009). Earnings non-synchronicity and voluntary disclosure. *Working paper*, Pennsylvania State University.
- [29] Gounopoulos D. (2004), "Accuracy of Management Earnings Forecasts in IPO Prospectuses: Evidence from Athens Stock Exchange", *Working Paper*, in *Global Finance Association Conference*, Las Vegas, USA, 29p.
- [30] Hartnett, N. and Romcke, J. (2000), "The predictability of management forecast error: A study of Australian IPO disclosure", *Multinational Finance Journal*, 4 (1/2), pp.101-132.
- [31] Healy, P. and Palepu K., (2001), "Information Asymmetry, Corporate Disclosure, and the Capital Markets: A Review of the Empirical Disclosure Literature", *Journal of Accounting and Economics*, 31, pp.405-440.
- [32] Hirst, D.E., L. Koonce and S. Venkataraman (2007), «How Disaggregation Enhances the Credibility of Management Earnings Forecasts», *Journal of Accounting Research*, 45(4), 811-837.
- [33] Irani, A. (2000), "Determinants of bias in management earnings forecasts", *Accounting Enquiries*, 10 (1), 33-86.
- [34] Jaggi B., Chin c., William. C, Lee L., (2006), "Earnings forecast disclosure regulation and earnings management: evidence from Taiwan IPO firms", *Review of Quantitative Finance and Accounting*, 2006, vol. 26, issue 3, pages 275-299.
- [35] Jennings, R. (1987), "Unsystematic Security Price Movements, Management Earnings Forecasts, and Revisions in Consensus Analyst Earnings Forecasts," *Journal of Accounting Research*, pp. 90-110.
- [36] Jeny A.C. and Jeanjean T. (2007), "Levels of voluntary disclosure in IPO prospectuses: an empirical analysis", *Review of Accounting and Finance*, 6(2), pages 131-149.
- [37] Jog, V., and McConomy B. J., (2003), "Voluntary Disclosure of Management Earnings Forecasts in IPO Prospectuses", *Journal of Business Finance & Accounting*, 30 (1/2), pp125-167.
- [38] King, R.; Pownall, G.; and Waymire, G. (1990), "Expectations adjustment via timely earnings forecast disclosure: Review, synthesis and suggestions for future research", *Journal of Accounting Literature*, 9, pp.113-144.
- [39] Koch, A. (2002), Financial distress and the credibility of management earnings forecasts. *Working Paper*, Carnegie Mellon University.
- [40] Lee, P., C. Yee and Yee M. (1993), "Prospectus Earnings Forecasts: Evidence and Explanations", *Australian Accounting Review*, 3, pp. 21-32.
- [41] Lev, B. and Penman S. H., (1990), "Voluntary Forecast Disclosure, Nondisclosure, and Stock Prices", *Journal of Accounting Research*, (28), pp 49-76.
- [42] Lonkani, R. and M. Firth (2005). "The accuracy of IPO profit forecasts in Thailand and their relationships with stock market valuation." *Accounting and Business Research* 35(3).
- [43] Miller, G. S., (2002), "Earnings performance and discretionary disclosure", *Journal of Accounting Research*, 40, pp.173-204.
- [44] Mohammady A. (2010), Earnings Quality Constructs and Measures, *The Business Review*, Cambridge, vol 16.
- [45] Norton, Curtis L., Michael A. Diamond, and Donald P. Pagach., (2007). *Intermediate Accounting: Financial Reporting and Analysis, second edition*, Houghton Mifflin Company, Boston.
- [46] Ohlson, J. (1980), "Financial Ratios and the Probabilistic Prediction of Bankruptcy," *Journal of Accounting Research*, pp. 109-131.
- [47] Ota, K. (2011), "Analysts' awareness of systematic bias in management earnings forecasts", *Applied Financial Economics*, 2011, 21, 1317-1330.
- [48] Pedwell, K., Warsame, H. and Neu, D. (1994), « The accuracy of Canadian and New-Zealand earnings forecasts: a comparison of voluntary versus compulsory disclosures», *Journal of International Accounting Auditing and Taxation*, 3 (2), pp. 221-236.
- [49] Penman, S. (1980), "An Empirical Investigation of the Voluntary Disclosure of Corporate Earnings Forecasts", *Journal of Accounting Research*, 18 (1), pp. 132-160.
- [50] Rogers, J. L., and Stocken P., (2005), "Credibility of management forecasts", *The Accounting Review*, 80, pp1233-1260.
- [51] Schatt, A. et T. Roy (2002), "Analyse empirique des écarts de prévisions de bénéfices dans les prospectus d'introduction", *Actes du 23ème congrès de l'AFC*, Toulouse.
- [52] Siougle G.(2007), "Earnings Forecasts Disclosed in SEO Prospectuses: Evidence from an Emerging Market", *Journal of Emerging Market Finance*; 6; pp249-267.
- [53] Skinner, D. (1994). Why firms voluntarily disclose bad news. *Journal of Accounting Research* 32 (1): 38-60.
- [54] Skinner, D. and Sloan, R. (2002) Earnings surprises, growth expectations, and stock returns or don't let an earnings torpedo sink your portfolio, *Review of Accounting Studies*, 7, 289-312.
- [55] Yang C.H. and Kao H.S. (2007), "The Association between Management Earnings Forecast Errors and Corporate Governance Structure in IPO Firms", *China Accounting Review*, 2007-02.
- [56] Waymire, G. (1984), "Additional Evidence on the Information Content of Management Earnings Forecasts", *Journal of Accounting Research*, 22, pp. 703-718.
- [57] Zhonglan D., Suresh R., and Weining Z., (2009), Implicit/Explicit Incentives and Management Earnings Forecasts, *working paper*, University of Texas at Dallas, 50 p.