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Voluntary vs. Mandatory Management Earnings Forecasts in IPOs

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Introduct on

Datar et al., (1991), Trezevant (1992) and Li and McConomy (2004))[2], by appointing high quality auditors (Beatty (1989), Ritter (2002), Ghikas et a

managers decide to release good news forecasts to increase their firms' stock prices, those forecasts must be credible to investors. We investigate whether the forecast error, i.e. the difference between actual reported earnings (after the IPO) and the forecasted earnings, is affected by the details of forecast information in the financial statements under the mandatory and voluntary disclosure regimes. Overall the incremental contribution of this study in the IPO and management earnings forecasts literature is the examination of the informational content of the regulatory change and the quality signal by newly listed firms to multiple user groups including market makers and investors, within an international driven framework. Our findings also have important implications for future empirical studies. Specifically, we provide justification that when managers jointly apply multiple options, it is important to consider the interaction of these options. Ignoring these interactions may lead to overstatement of the marginal impact of individual signals. In sum, our results may be of interest to managers, securities regulators, investors and IPO researchers, by providing evidence of which

average forecast was 8.65% below actual earnings wh

investors. Collectively, our results support the view that the method by which management discloses earnings forecast affects the properties of management earnings forecasts, because pessimism in the mandatory regime is replaced by optimism during the voluntary regime. Moreover, the disclosure of an earnings forecast during voluntary period allows firms to signal their quality. Our study implies that an accurate management provided earnings forecast is highly valuable, particularly for firms who aim to reduce information asymmetry with investors.

We further perform three complementary tests in order to provide evidence on the role of increasing regulatory disclosure as a channel through which governmental intervention does not translate into a superior or more accurate management earnings forecast. We first study the effect of stock exchange imposed price limits on forecast accuracy. Daily limits on price variation were imposed by the Athens Stock Exchange for the first time in 1992( )250]TJimane we.617(b38(t)-11.1165(f)1(f)-9

Consistent with the erosion of trust, investment banks have increased their market power and managerial incentives have been realigned as IPO investment became more institutionalized.

Our third complementary test assesses the effect of institutional allocation on earnings forecast accuracy as an excessively aggressive allocation policy might increase firm risk. In the US, Rock's (1986) winner's curse theory is indirectly tested by several papers under the assumption that institutional investors are better informed. Michaely and Shaw (1994) show that for IPOs with little participation by institutional investors, there is less underpricing as investors know they are not competing with informed investors. Aggrawal, Prabhala and Puri (2002) and Boehme, Boehme and Fishe (2006) use data on the proportion of the issue that is allocated to institutional investors and retail investors. They find that institutional investors receive a larger proportion of new issues in IPOs that are more underpriced and earn more than retail investors, thereby largely avoiding ''lemons'' in the IPO market. Amihud, Hauser and Kirsh (2003) document negative returns earned by uninformed investors which means that their demand for new issues is, on average, too high. To assess whether the institutional allocation drives our results, we regress earnings forecast errors on institutional allocation once the management earning forecast was announced. In line with our expectations, we uncover a positive relation between forecast error and excess institutional allocation. This provides robust evidence that institutional investors heavily participate in low quality IPOs (i.e. using management forecast error as a metric) as they expect they will be rewarded by underwriters for their participation.

Regulatory authorities mainly worry about the accuracy of forecasts included in the IPO prospectuses. Accurate forecasting is a demanding task, especially when it is prepared by newly established companies that lack historical data and prior experience. Also, forecasts are affected by external factors that are out of the control of the firm such as currency exchange rates, political climate, oil prices and inflation. Brown et al. (1987) report that the ex-ante uncertainty of the forecast will increase by any sudden change in these external factors. Lee et al. (1993) report that managers claim that changes in the external factors explains their failure to achieve the forecasted targets.

There is an extensive literature on the determinants of management absolute forecast error at the time of IPOs but almost all of them are in commonwealth countries (Firth and Smith (1992); Jelic et al. (1998); Cheng and Firth (2000) among others).[6] Few prior studies have concentrated on the forecast/non-forecast dichotomy and its relationship to future performance (Jaggi and Grier, (1980)). Moreover, we are not aware of any existing study that investigates the association between mandatory vs voluntary forecast disclosure and their associated earnings forecast error.

Mana e ent Earn n s Forecast n a o untary Env ron ent

In some countries, firms are allowed to voluntarily disclose earnings forecasts in their IPO prospectuses. Karamanou and Vafeas (2005) report that the importance and usefulness of management forecasts as a disclosure tool is likely to be determined by the incentives managers have to protect shareholders. In deciding whether to issue a forecast, the management of every firm has to weight the forecast costs against the forecast benefits. Other studies suggest several reasons why earnings forecast can be beneficial to the firm.

Sami and Zhou (2004) reports that managers worry that inaccurate forecasts can lead to a negative stock market reaction because investors can then view the firm as unstable and risky. Trueman (1986) argues that accurate forecasts give investors a favorable assessment of the managers' ability to anticipate economic events and thus translate into higher market values. Frankel *et al.*(1995) provide evidence that management earnings forecasts aid the firm in eliciting funds from the capital markets. Skinner (1994) propose that managers most probably will make a forecast to deliver bad news to investors[7].

Kasznik and Lev (1995) find that managers will provide a voluntary earnings forecast mainly

theory[8] supports this especially because managers have incentives to provide voluntary disclosure of earnings forecast to reduce information asymmetry and the firm's cost of external financing. Coller and Yohn (1997) report that management forecasts are linked with information asymmetry among investors and management, as captured by bid-ask spreads, whereas Clement et al. (2003) find that uncertainty about future earnings decrease only when forecasts confirm market beliefs about the earnings.

Kasznik (1999) and Gramlich and Sorensen (2004) indicate that managers who publish earnings forecasts in the IPO year manage earnings to meet their reported forecasts. Thus voluntary disclosure of earnings forecasts motivates managers

IPO prospectus. Newly listed firms were complaining about compliance costs and about their inability to provide accurate management earnings forecasts.[10]

The regulatory switch from mandatory to voluntary management earnings forecasts was motivated by its supposed contribution to the efficient and cost-effective functioning of the capital market. The protection of investors and the maintenance of confidence in the Greek financial market were also important issues. This regulatory change was also intended to reinforce the freedom of movement of capital in the internal market and to help small family companies to go public.

It is clear that the regulatory switch from mandatory to voluntary disclosure of management earnings forecast was inspired by and looking forward to the introduction of the more strict international accounting standards (IAS). IAS require three tests of any regulation, firstly that it meets the basic requirement of the Council Directives, that is to say that its application results in a true and fair view of the financial position and performance of an enterprise, secondly that, in accordance with the conclusions of the Council of 17 July 2000, it is conducive to the European public good and thirdly that it meets basic criteria as to the quality of information required for financial statements, specifically that it is useful to users. It became clear that inaccurate forecasts under the mandatory forecast regime would be a major problem for the trustworthiness of Greek IPOs.

_ **Met odo o y and Hypot es s Deve op ent**

The forecast error measure reflects the difference between the actual and predicted figures for the same time period. The forecast error measures (FE) evaluates the *bias* in the forecasts, which mainly shows whether managers have been optimistic or pessimistic in their forecasts (see, e.g., Jaggi (1997); Chan, (1996); Chen et al. (2001); Cheng & Firth (2000); and McGuinness (2005) and can be calculated with or without the sign of the error. S

where the growth model forecast GMF is measured as $GM = AP_{t-1}(AP_{t-1} - AP_{t-3})^{1/2.}$

esearc Des n and deve op ent of Hypot es s

who perceive that their disclosure costs exceed the benefits may intentionally delay or obscure their forecasts to reduce the costs. Thus, we expect mandatory forecasts to be less timely, less precise, and less accurate, on average, than voluntary forecasts. The above arguments lead to the following hypothesis:

H *Earnings forecast accuracy improves after the introduction of voluntary disclosure status.*

To test for the effect of management earnings forecast and the level of error we use the following research design:

AFE or FE or SUP or $MSUP = a + \beta_1 SIZE + \beta_2 AGE + \beta_3 TLAG + \beta_4 PRIV + \beta_5 OVER + \beta_6 UND + \beta_7 H/C + \beta_8 OWN + \beta_9 IND + \varepsilon_i$[11] (5)

where *FE* is the forecast error, *AFE* is the absolute forecast error, *SUP* is the forecast sue7565(o)7.54( )-11175.2425

The Greek government, in its effort to minimise state ownership and its desire to raise capital, conducted many privatization IPOs during 1994-2002 period. We expect that the more control a state has on a firm at the time it goes public (privatizations), the greater the accuracy of the forecast, and the lower the forecast error.

Of course, one potential reason for the change in accuracy after the introduction of voluntary earnings forecasts in IPO prospectuses is that firms self-select whether or not they disclose an earnings forecast. This choice is unlikely to be random as firms will base their decision on a variety of factors. For example, firms with high information asymmetry might choose to issue an earnings forecast in an attempt to reduce the asymmetry. Conversely, firms where the cost of issuing a forecast might be relatively higher due to their smaller size or firms where the forecast is likely to be less accurate (e.g. younger firms with less earnings history or firms in non-industrial industries) are expected to be less likely to disclose an earnings forecast. To address this issue we develop and estimate the following probit model of disclosure choice:

$$Disclosure\_Choice = a + \beta_1 SIZE + \beta_2 AGE + \beta_3 TLAG + \beta_4 PRIV + \beta_5 OVER + \beta_6 UND + \beta_7 H/C + \beta_8 OWN + \beta_9 IND + \varepsilon_i \quad (6)$$

Where *Disclosure_Choice* has the value of 1 if the firm included an earnings forecast in their IPO prospectus (and is otherwise 0) and all of the other variables are as described above.

B ent ent Effect

C e u atory Effect

Leuz and Wysocki (2008) suggests that to justify its existence, regulations must function as a low-cost commitment device for preventing market failures. Arguments suggesting as well as casting doubt on the net benefit of regulation are well documented, and the extant empirical evidence is largely mixed (see Healy and Palepu, (2001); Shleifer, (2005); Hail and Leuz (2006); Mulherin, (2007); Zingales, (2009)). Despite this voluminous literature, very little is known about the efficacy of regulatory reforms in emerging economies (Leuz and Wysocki, 2008). Baker and Wurgler [(2006), (2007)] report that a regulatory intervention in the form of restriction on daily variation may produce a 'cooling off' effect so that overall underpricing will be moderated.

Furthermore, it is unclear whether or not investors can distinguish the quality of the earnings forecast at the time of the IPO or do they have to wait until the earnings announcement post-IPO to determine the quality of the forecast. If investors are able to discern the quality in advance of the earnings announcement then we would expect the earnings quality to be related to the IPO pricing. Alternatively, a lack of a market reaction to underpricing in the mandatory forecast regime would cast doubt on the effectiveness of the forecast, the ability of investors to infer the quality of the forecast, or both. Therefore we hypothesize:

H a *Underpricing is lower over time following the transformation fro*

Up's an IPO has achieved as a result of the Price Cap Limit and finally, *InAl* is the percentage of shares allocated to institutional investors during the public offering process.

a p e and Data

The sample consists of 306 IPOs that occurred during the January 1st, 1993 to December 31st, 2014 time period.[12] A great effort was made to collect the data relating all the firms listed on the Athens Stock Exchange (ASE) during this period except for insurance and investment companies.

confirm that no IPOs were listed on the Athens Stock Exchange in the years 2008, 2010, 2011, 2012, 2013 and 2014, most likely as a result of the global financial crisis.

In contrast to U.S. firms that they are less likely to provide earnings forecast in the corresponding US voluntary disclosure environment, 100% of Greek IPOs issue forecasts during the mandatory forecast regime, compared with 70.9% of firms during the voluntary regime. We find that following the voluntary reporting regime, the average age of fi4.96715(r)-9.6598(e)4.966724.5-6.99509( )]TJETQ0

5.d E p r ca Ana ys s Mandatory vs o untary Per od sted Pub c Offer n s

The regression results for all 281 firms that provide a forecast appear in table 4. For each disclosure regime (mandatory, voluntary and overall sample) we run four regressions, one each for absolute forecast error, forecast error, superiority of management forecasts and superiority of management forecasts adjusted for growth of earnings. All twelve regressions are well specified and statistically significant at conventional levels. Adjusted R^2 are sometimes low[15] but for the mandatory sample of IPOs they are similar to the related literature and are somewhat higher for IPOs with voluntary earnings forecast disclosure. The models are estimated using robust standard errors.

[Please Insert Table 4 About Here]

The size control variable is positive for the mandatory earnings forecast and for the total sample of IPOs implying that larger companies have higher forecast errors. In contrast, the size coefficient for IPOs that voluntarily provide an earnings forecast is negative, suggesting that larger companies have lower forecast errors. All size coef

forecasts than younger companies. These findings are in accordance with Jaggi (1997) and could reflect the enthusiasm of younger companies in providing an over optimistic picture of future performance and thus inaccurate forecasts. Another explanation could be that companies with more experience have a better knowledge of the market environment and have better control over their operations compared to younger companies.

The time lag variable for all Greek IPOs that provide an earnings forecast is positive as expected and in the case of the AFE regression for the overall sample, the coefficient is statistically significant. Therefore, companies make more accurate predictions when the time period between the offer price and first day of trading is comparatively short. The positive sign of our time lag coefficient is in accordance with previous studies for time horizon which shows a significant relation between 'TIME' of forecast and forecast accuracy, e.g. Firth, et al. (1995) for Singapore companies, Jaggi (1997) for Hong Kong companies and Chen and Firth (1999) for Chinese companies. However, Chan et al. (1996) and Cheng and Firth (1999) for Hong Kong and Jelic et al. (1998) for Malaysia find no significant association between time and forecast accuracy for Hong Kong companies.[16] Our results indicate that forecast accuracy improves with shorter time lags. The significant AFE coefficient for the overall sample supports the view that Greek companies with shorter time lags will have more

investors can detect when the company is too pessimistic or conservative in their earnings forecasts and so increase the demand for the shares.

The company's underwriter reputation variable has the expected sign for the full sample of IPOs that provide earnings forecasts with the coefficient for the AFE regression significant at 1% level. This result supports the view that IPOs forecast accuracy is higher if a "Big-Five" underwriter advises the company going public. The results of earlier studies sometimes find an association between forecast accuracy and the company's underwriter. Cheng and Firth (2000) report that IPOs

[Please Insert Table 4 About Here]

To capture the effect of mandatory vs voluntary earnings forecast, we propose the 'mandatory' variable, which separates those IPOs that were forced to provide earnings forecast during the listing period with those that voluntarily decided to announce their expected earnings. Specifically, in the case where the issuer is uncertain about future operations, there is the option under the voluntary regime to avoid announcing a forecast of earnings whereas in the case where the issuer has clear understanding of the operations and the returns on investment, the company can make a forecast of earnings.

Table 5 presents the results for this analysis. In specification (1) the mandatory coefficient is positive and statistically significant at the 1% level. This result confirms our prediction that absolute forecast error among public offerings will increase when the earnings forecast is mandatory. Moreover, in specification (2) we run the same analysis for forecast error and the coefficient on the 'mandatory' variable is again positive and significant at the 1% level. Overall, the results imply that the disclosure of a forecast of earnings in a mandatory regime provides more, but not necessarily more useful information to investors as the accuracy of the information is suspect.

[Please Insert Table 5 About Here]

In order to shed further light on the relationship between the earnings forecast and the level of underpricing in the immediate aftermarket, we investigate the impact of forecast accuracy by employing the market adjusted initial returns of the new listed firm as the dependent variable. If IPOs have lower levels of forecast error and have a wider access to investors, then it is plausible that

Endo ene ty Contro

It is possible that our results can be affected by

Pr ce Cap and Mana e ent Earn n s Forecast Cont nues L t ps

In order to shed further light on the relationship between voluntary and mandatory disclosure environments and earnings forecast accuracy, we investigate the impact of other regulatory changes that took place during our sample period. Baker and Wurgler (2006) argue that higher information asymmetry intensifies the appearance of investor sentiment. If early investor sentiment, whether spontaneous or managed by underwriters, is responsible for earnings forecast accuracy (or some

[Please Insert Table 11 About Here]

Boo bu d n and Mana e ent Earn n s Forecast

Next, we test the relation between the management earnings forecast and the book building mechanism, the process of generating, capturing, and recording investor demand for shares during an Initial Public Offering (IPO) (see Cornelli and Goldreich [(2001; 2003)]; Sherman and Titman (2002); Derrien and Womack, ng

Conc us on

The main purpose of this study is to provide, for the first time, a direct comparison between IPOs that were obliged to provide an earnings forecast in their prospectuses with those that were allowed to voluntarily disclose an earnings forecast. We find that earnings forecast accuracy increases following the introduction of voluntary disclosure but still perhaps not to the level that would satisfy regulators and investors. This behavioral change implies that managerial confidence increases under the voluntary regime resulting in higher and more accurate figures in the earnings forecast.

The voluntary disclosure mechanism allows twenty-four out of a total sample of eighty one Greek IPOs to avoid disclosing earnings forecast information for reasons such as a lack of confidence in their ability to forecast, poor income expectations, prohibitively high proprietary costs and high costs of acquiring information. For those that do voluntarily provide earnings forecasts, we find that younger firms with a long time lag between the forecast and the IPO issue date provides inaccurate forecasts. Errors decrease with the age of the issuing firm, the size of the issue and the shorter time lag between forecast and IPO issue dates.

Four metrics are employed to model earnings forecast accuracy and reveal differences between the mandatory and voluntary earnings forecast regimes. Large IPOs that must provide earnings forecasts experience higher absolute forecast errors while those that voluntarily announce earnings forecasts experience lower errors. We interpret this as, under the voluntary regime, larger firms that can provide accurate forecasts do so while firms that are unable to provide a reliable

disclosure period when market conditions are ‘hot”, firms understate earnings forecasts to avoid the possibility of disappointing investors.

Overall, forecast errors decrease on average during the voluntary regime as firms that choose to disclose earnings forecast are more accurate. This is especially evident for large firms and for IPOs that need to sell a large portion. However, that does not prevent firms from manipulating their forecasts by deliberately understating their forecasts when they wish to signal the quality of their IPO, noticeably so when market conditions are ‘hot’. These results suggest that allowing for a voluntary disclosure of earnings forecasts is a good idea which benefits young firms that otherwise would have difficulties in providing private information directly to the capital market. On the basis of these findings we conclude that earnings forecasts disclo

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Appendix A: Variable Definitions

Variable	Definition
	Panel A: Measures of Earnings Forecast
Absolute Forecast Error	Absolute Forecast Error. Measures the relative deviation of actual earnings (published in the Annual Report) from forecast earnings (announced in the prospectus of the firm). It is based on forecast of the next annual earnings.
Forecast Error	The percentage difference between earnings announced in the first annual report of the firm with the

r ty Measures

solute forecast error; AFE= | FE |, SUP= Brown et al. $AP_t - FP_t))^2$]. ** Significant at the 5% , * significant at the

	MSUP
5	1.258
6	0.000
3	1.257
2	0.184

ab e _ ; Corre at on Matr x

The table presents pairwise correlations of the variables. The sample consists of Greek public, private, and subsidiary acquisitions announced over the period January 1, 1990 to December 31, 2014. All variables are defined in Appendix A.

	FE	AFE	Age	Tlag	Priv	Und	HC	Own	Ind	Mar	MAIR	PC	BB	Ret	Nuipo	CLU
AFE	0.431															
Size	-0.090	-0.004														

ab e Cross ect ona e ress ons of Forecast effect on Mar et Ad usted In t a eturns

The table presents the results of the cross sectional regression analysis on the impact of various forms of forecast error on the adjusted initial

ab e ◥ Endo ene ty Contro for Earn n s Forecast Ex stence

Results of instrumental variable probit regression to determine the probability of providing a forecast in the voluntary era for IPOs listed on ASE over the sample period. Specification (1) is the reduced regression of accuracy in the mandatory regime using

ab e reat ent Effect Max u L e ood wo ta e ode

The table presents regression output of AFE and FE on 'Market Adjusted Initial Returns' based on returns to the investors and on the possibility of an IPO to provide forecast. The reported shows the obtained results from the treatment effect method of estimation for each individual qualification. Specifications (1) - (3) are estimated via maximum likelihood and specifications (4) - (6) are estimated with two stage least square model. See Appendix A for definitions of the variables. The symbols ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. N denotes the number of observations.

VARIABLES	(1) AFE	(2) FE	(3) AFE	(4) AFE	(5) FE	(6) AFE
Treatment Effect	MAIR		PFE	MAIR		PFE
Constant	-33.71	-69.38***	25.00***	-64.15	-45.23	5.893
	(0.221)	(0.0005)	(0.009)	(0.102)	(0.311)	(0.826)
SIZE	3.406**	3.453*	1.866	3.298**	2.069	2.385
	(0.036)	(0.092)	(0.113)	(0.042)	(0.415)	(0.139)
AGE	-0.132	-0.112	-0.184***	-0.117	-0.0679	-0.188
	(0.307)	(0.111)	(0.000)	(0.371)	(0.750)	(0.128)
TLAG	0.408**	0.160	0.239***	0.418**	0.0707	0.365**
	(0.0221)	(0.464)	(0.008)	(0.020)	(0.804)	(0.029)
PRIV	0.904	-6.421	-0.452	1.341	-3.731	1.561
	(0.922)	(0.514)	(0.867)	(0.882)	(0.809)	(0.871)
OVER	0.011	0.024***	0.005***	0.0004	-	0.013
	(0.459)	(0.000)	(0.000)	(0.980)	-	(0.335)
UND	-3.743	-10.64***	-3.567***	-3.882	-10.18	-2.791
	(0.345)	(0.003)	(0.000)	(0.326)	(0.121)	(0.471)

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ab e Hec an wo ta e Mode AFE and FE

The table presents the results of Heckman Two stage method for Absolute Forecast Error and Forecast Error. Specification A presents the results on the Absolute Forecast Error. Specification B presents the results for Forecast Error. In this two stage procedure the first stage selection equation is estimated by a probit regression from which the Inverse Mills Ratio is estimated. This ratio is the add to the second stage equation which controls for the presence of selection bias in the sample.

Pane A Hec an wo ta e Mode for se f se ect on b as

	AFE		FE	
VARIABLES	Selection	Outcome	Selection	Outcome
Constant	**0.507*** **	-52.64	0.489***	

ab e obustness and Aux ary ests

Results of multivariate regression analysis of cross sectional variation with Earnings Forecast Error

ab e obustness and Aux ary ests cont nue..

Results of multivariate regression analysis of cross sectional variation with Absolute Earnings Forecast Error as dependent variable for IPOs