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The accuracy of earnings forecast in IPO prospectuses: Evidence from Indonesia

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Abstract

The financial information that attracts the attention of most investors is the earnings forecast. Because investors are more interested in the company's prospects in the future than historical information. But in reality earnings forecast is less accurate, while the factors that are suspected to influence give inconsistent findings. This study aims to determine the effect of the forecast horizon, underwriter reputation, auditor reputation, company size, company age, leverage ratio, industry type and IPO market on the accuracy of earnings forecast. The population of all companies that IPO in Indonesia Stock Exchange period 2015-2018, were selected using the purposive sampling method, obtained 107 samples. Secondary data were obtained from the company's prospectus and annual report. The analytical method used is multiple regression. The accuracy level of earnings forecasts is measured using forecast error numbers. Mean forecast error 28.86 percent is reported over the entire sample period. Then only underwriter reputation and company size have a significant positive effect on the accuracy of earnings forecasts. And the hot IPO market has a negative effect on the accuracy of earnings forecasts. The implications of research show that underwriter reputation, company size, and IPO market became the important indicators in determining investment strategies in IPO shares.

Abstrak

Informasi keuangan yang paling menarik perhatian para investor adalah angka prakiraan laba. Karena investor lebih berkepentingan dengan prospek perusahaan di masa yang akan datang dibandingkan informasi yang bersifat historis. Tetapi pada kenyataannya prakiraan laba tersebut kurang akurat, sedangkan faktor-faktor yang diduga berpengaruh memberikan temuan yang tidak konsisten. Penelitian ini bertujuan untuk mengetahui pengaruh interval waktu, reputasi penjamin emisi, reputasi auditor, ukuran perusahaan, umur perusahaan, rasio leverage, jenis industri dan kondisi pasar IPO terhadap akurasi prakiraan laba. Populasi semua perusahaan yang IPO di Bursa Efek Indonesia pada tahun 2015–2018, diseleksi dengan menggunakan metode purposive sampling, sehingga diperoleh 107 perusahaan sampel. Data sekunder diperoleh dari publikasi prospektus dan laporan tahunan yang diterbitkan perusahaan. Metode analisis yang digunakan adalah regresi berganda. Mean forecast error sebesar 28,86 persen didapat dari seluruh periode sampel. Kemudian dari semua variabel yang diuji, hanya variabel reputasi penjamin emisi dan ukuran perusahaan yang berpengaruh positif & signifikan terhadap akurasi prakiraan laba. Dan hot IPO market berpengaruh negatif terhadap akurasi prakiraan laba. Implikasi dari penelitian ini menunjukkan bahwa reputasi penjamin emisi, ukuran perusahaan dan kondisi pasar IPO menjadi indikator penting dalam menentukan strategi investasi dalam saham IPO.

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1. Introduction

The earnings forecast contained in the prospectus is the disclosure of information about management's estimates regarding the company's future prospects. As an insider, management has access to key information sets. Such superior information ownership puts managers in a favorable position, they may be opportunistic and mislead investors by disclosing information that will benefit themselves or they can behave efficiently and provide impartial information, for the benefit of all interested parties (Hasan, Hadad, & Ahmed, 2016). The condition for capital market efficiency is that all information must be immediately reflected in securities and not biased. Under these conditions, investors can find out an unbiased profit forecast. So investors can adjust stock prices with earnings forecast information.

Research on earnings forecasts by Amer & Ahmad-Zaluki (2017) concluded that earnings forecasts are quite relevant for shareholders. Earnings forecasts from management have a high probability to be used as a guide in making investment decisions. Karim, Ahmed, & Hasan (2013) assesses that management tends to rely on past developments with the result that the forecasts are less accurate. Nonetheless, earnings forecasts can help investors in making the decision to invest their funds.

Several studies have shown management earnings forecasts in the prospectus in some countries to be inaccurate. Hammami & Sioud (2014) revealed that management tends to exploit past developments so that the forecast results are less accurate. Jelic (2014) found that stock prices on the European market in 1981-2004 did not reflect earnings forecast or were not "true forecasts" because investors did not have information held by management. Research on the accuracy of earnings forecast with a sample of Indonesian IPO companies has been studied by Sunariyah (2002) and Hasan, Hadad, & Ahmed (2016).

In the research of Hasan, Hadad, & Ahmed (2016) used 105 sample companies of Indonesian IPO in the period 1999 to 2007, it was found that the mean forecast error was 19 percent. This figure for Indonesia is far lower compared to other countries. Like the mean forecast error reported for Bangladesh 48 percent (Karim, Ahmed, & Hasan, 2013), Greece 39.72 percent (Boubaker et al, 2016), Thailand 35.76 percent (Lonkani & Firth, 2005), Australia 34.49 percent (Firth, Gounopoulos, & Pulm, 2012) and Malaysia 23.76 percent (Amer & Ahmad-Zaluki, 2017). On the other hand, the lower mean forecast error rates were found in Hong Kong 7.26 percent (McGuinness, 2005), Singapore 10.4 percent (Firth et al., 1995), Great Britain 10.70 percent (Jelic, 2014) and New Zealand 11.10 percent (Firth, 1997). This indicates that the accuracy of earnings forecast for the prospectus of IPO companies in Indonesia during that period was still quite low. Although it is better compared to our neighboring countries Malaysia, Thailand, and Australia.

Research on the accuracy of earnings forecast in various countries shows varied results. Jelic (2014) found company size, company age, and industry classification significantly influence the accuracy of the earnings forecast. Gounopoulos (2011) who analyzed companies in Greece got the results of the size, company age, leverage and the percentage of owner's shares that affect the accuracy of earnings forecast. In Bangladesh, Karim, Ahmed, & Hasan (2013) found auditor reputation significantly influences the accuracy of earnings forecast. In the study of Hammami & Sioud (2014) with a sample of IPO companies in the United States. It was found that leverage affects the accuracy of the earnings forecast. Then in Malaysia, Amer & Ahmad-Zaluki (2017) found that underwriter reputation, industry classifications, and auditor reputation affect the accuracy of earnings forecast.

This study replicates the research of Hasan, Hadad, & Ahmed (2016) that used 105 samples of companies that had IPO in Indonesian in the period

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1999 to 2007. The sample data tested was the company IPO data decades ago. So researchers want to re-examine the accuracy of earnings forecast and the factors that influence it with the latest data samples, namely companies that have IPO in Indonesia in the 2015-2018 period. By taking the 4 variables tested in Hasan, Hadad, & Ahmed (2016), add 3 variables from the research of Amer & Ahmad-Zaluki (2017) and add 1 variable by Warganegara & Warganegara (2014).

Based on previous research, the results show that earnings forecasts from management are reported to be less accurate and biased. While the factors analyzed that affect the accuracy of earnings forecast, find the inconsistencies results. Based on the research gap, the researcher wants to reexamine the factors that can influence the accuracy of earnings forecast such as forecast horizon, underwriter reputation, auditor reputation, company size, operating history (company age), leverage ratio, industry type and IPO market with the latest periods and data to obtain representative samples and results.

2. Hypotheses Development

In signal theory, the company's drive to provide information, because there is asymmetry information between company managers and outsiders. The managers know more information about the company and future prospects than outsiders (Morris, 1987). The way to reduce asymmetry information is by giving signals to outsiders, like trustworthy financial information that will reduce uncertainty about the company's prospects in the future. Information disclosed in the prospectus and the annual report shows the information about financial statements and earnings forecasts.

The quality of information such as earnings forecast data, financial ratios, underwriters, and other information in the prospectus greatly affect investment decisions. In the going public process,

management usually tends to manipulate the value of earnings. So investors will be interested and give a positive signal to the company and the IPO price that tends to be higher. To overcome this, companies use independent parties such as auditors and underwriters to check the accuracy of the earnings forecast presented in the prospectus. So the asymmetry information can be reduced, and investment decisions can be accurate. Description of variables that affect the accuracy of the earnings forecast and the corresponding hypotheses as follows:

Forecast horizon

The forecast horizon is the length of time between the date of the forecast publication and the end of the time period the forecast was made (Karim, Ahmed, & Hasan, 2013; Hasan, Hadad, & Ahmed, 2016 and Amer & Ahmad-Zaluki, 2017. According to Hasan, Hadad, & Ahmed (2016) and Cazavan Jeny & Jeanjean (2007) also found the shorter forecast horizon, the more accurate the forecast will be. Significant negative relationship between forecast horizon and the accuracy of earnings forecast was reported in Thailand (Lonkani & Firth, 2005), France (Cazavan Jeny & Jeanjean, 2007), Australia (Lee, Taylor, & Taylor, 2006), Greece (Boubaker et al., 2016) and Indonesia (Hasan, Hadad, & Ahmed, 2016).

Researchers assume the longer time intervals can provide opportunities for management to make discretionary choices to meet their predictions. This is because of the longer forecast horizon, the higher the level of uncertainty the company will face. So the actual profits that occur will diverge even greater. In addition, with a short forecast period, management can consider factors that affect the amount of profit more quickly. While long term forecasts will consider only common factors. So the researchers estimate that the longer forecast horizon, the lower the accuracy of earnings forecast.

H_1 : forecast horizon has a significant negative affect the accuracy of earnings forecast

Underwriter reputation

Using the quality underwriter services can be a positive signal to the value of an IPO company (Jelic, 2014). Amer & Ahmad-Zaluki (2017) believes that stock analysts (underwriters) have a positive effect on the accuracy of earnings forecast. In evaluating companies, underwriters need to maintain their integrity and credibility. Because the underwriters are needed to provide accurate results and information to potential investors.

Research results in Indonesia (Sunariyah, 2002) and Malaysia (Amer & Ahmad-Zaluki, 2017) show that there is a significant positive relationship between the accuracy of earnings forecast and the underwriter reputation. Using the quality underwriter services can be a positive signal to the value of an IPO company. Their involvement will result in lower forecast errors. So the researchers estimate that the better the underwriter reputation, the higher the accuracy of the profit forecast.

H_2 : underwriter reputation has a significant positive effect on the accuracy of earnings forecast

Auditor reputation

In the prospectus, companies must present audited financial statements. In the financial statement, earnings forecasts are included in the audit. The assumptions and approaches taken will be assessed whether they have a rational basis for the forecast from management. Then the auditor's reputation is considered as a factor that has influence the accuracy of earnings forecast (Ahmad Zaluki & Wan Hussin, 2010). Bedard, Coulumbe, & Courteau (2008) states that the selection of auditors with a good reputation is a signal that the company has good information.

Research results in Malaysia (Ahmad Zaluki & Wan Hussin, 2010; Amer & Ahmad-Zaluki, 2017), Bangladesh (Karim, Ahmed, & Hasan, 2013) show

that there is a significant positive relationship between the accuracy of earnings forecast and the auditor's reputation. The selection of reputable auditors is a signal that the company has good information because the auditor acts as a third party that guarantees the reasonableness of the financial statements. So that researchers estimate that the better auditor's reputation, the higher level accuracy of earnings forecast.

H_3 : the auditor reputation has a significant positive effect on the accuracy of earnings forecast

Company size

The description of the company's ability to generate cash flow, assets, and wider information access is called company size (Jelic, 2014). If the number of issuers' assets is getting bigger, the company size is also greater. So it tends to dominate the market more and less affected by fluctuations in the market. This condition causes companies with a larger size to have a more stable profit, compared to smaller companies. So that stable earnings, possible to make earnings forecast more accurately (Hammami & Sioud, 2014). With the capabilities, a company with a larger size will have bright prospects in the future.

The results studies in the United Kingdom (Gounopoulos, 2011), Thailand (Lonkani & Firth, 2005), Malaysia (Ahmad Zaluki & Wan Hussin, 2010), England (Jelic, 2014) and Greece (Boubaker et al., 2016) show that there is a significant positive relationship between the accuracy of earnings forecast with company size. Companies with a large scale of business and assets tend to control the market and less affected by fluctuations in the market. So that researchers estimate that the larger company size, the higher level accuracy of earnings forecast.

H_4 : company size has a significant positive effect on the accuracy of earnings forecast

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Company age

The age (operating history) of the company proves the entity's ability to continue to operate with the experience and track record that has been known by the public. According to Kristiantari (2013), the longer the company's life indicates that the company is able to survive, compete and business opportunities in the market. Experience in managing business leads to considerable knowledge of the business environment. So before making earnings forecast, management will consider the business environment that affects the accuracy of the earnings forecast. While young companies will lack business experience. Because they can't analyze more deeply about the aspects to determine the level of accuracy of earnings forecast.

The results studies in the United Kingdom (Gounopoulos, 2011; Jelic, 2014), Greece (Gounopoulos, 2011 and Boubaker et al., 2016) show that there is a significant positive relationship between the accuracy of earnings forecast with company age. Companies with a longer operating history can provide more detailed and more information compared to newly established issuers (Marofen & Khairunissa, 2015). So researchers estimate that the longer the company age, the higher the accuracy of earnings forecast.

H_5 : company age has a significant positive effect on the accuracy of earnings forecast

Leverage ratio

Leverage ratio is a ratio that describes the company's ability to pay obligations with total asset. The more debt by a company indicates a high-risk level. The leverage ratio used is DAR (debt to asset ratio). The results studies in the United Kingdom (Gounopoulos, 2011) and in the United States (Hammami & Sioud, 2014) show that there is a significant effect between the accuracy of earnings forecast and the leverage degree. The high level of leverage makes management difficult to make earn-

ings forecast because the risks and uncertainties (rising interest rates, BI Rate, etc.) that it faces are also higher (Hammami & Sioud, 2014). So the researchers estimate that the higher the leverage ratio, the lower the accuracy of earnings forecast

H_6 : leverage ratio has a significant negative effect on the accuracy of earnings forecast

Industry classification

Due to differences in the cost structure, volatility of market revenue and operating leverage, industry classifications are usually expected to affect forecast errors (Jelic, 2014). Each industry faces different competition and complexity, which makes several companies in an industry forecast more accurate. Some industries are easier to predict than others. Jelic's research (2014) succeeded in proving that companies included in the classification of types of services (finance, hotel, trade/services, and property), construction and special sectors (plantation/agriculture, mining) have a low level of accuracy in the estimated earnings.

Research results in Greece (Gounopoulos, 2011; Boubaker et al., 2016), United Kingdom (Jelic, 2014) and Malaysia (Amer & Ahmad-Zaluki, 2017) show that there is an effect between the types of company industries and accuracy of earnings forecast. Profits for companies in some industries may be more difficult to predict than others, because of different cost structures and revenue volatility. So that researchers estimate that industrial classification significantly affects the level accuracy of earnings forecast.

H_7 : industry classification has a significant effect on the accuracy of earnings forecast

Hot (Cold) IPO Market

The hot and cold market is a classification of the initial stock market cycle period based on activity levels and market optimism (Robinson &

Pangestuti, 2015). Market timing will be tested in a hot market and cold market conditions. Hot (Cold) IPO Market is when more (less) companies go public than usual. During a Hot IPO Market (Cold IPO Market) usually, the market is more careless (more prudent) regarding the future. And management tends to be more robust in predicting revenue forecast for deadlines IPO. The phenomenon of hot and cold IPO Market is also found in the Indonesian capital market. This hot and cold condition tends to last more than one year (Arifin, 2010).

H_8 : Hot IPO market have a negative effect on the accuracy of earnings forecast

3. Method, Data, and Analysis

The population in this study are companies listing and IPO on the Indonesia Stock Exchange (IDX) 2015-2018 period. This study uses secondary data, sourced from the prospectus and the company's annual financial reports obtained from the IDX official website and supporting data from securities research. The population is 125 companies listing and IPO on the Indonesia Stock Exchange in the 2015-2018 period, and only 107 companies presented earnings forecast data and had complete data needed by researchers.

Data analysis techniques used in this study began by presenting the regression model used in this research. Then proceed with testing the normality (Kolmogorov-Smirnov statistical test), multicollinearity (Variance Inflation Factor and tolerance) and heteroscedasticities data (Rank Spearman test). After the data is normally distributed, descriptive statistical analysis is performed to

explain the variables to be studied, end with the hypothesis test. Multiple regression analysis is used to determine the effect & direction of the relationship between earnings forecast and other external factors in the 4 year sample period. The regression model in this study is as follows:

$$FE = \beta_0 + \beta_1(FHZ) + \beta_2(UND) + \beta_3(AUD) + \beta_4(SIZE) + \beta_5(AGE) + \beta_6(LEV) + \beta_7(IND) + \beta_8(MKT) + e \quad (1)$$

4. Results

The classic assumption test is used to ensure that the regression model is free from classical assumptions, including the normality test, multicollinearity test, and heteroscedasticity test.

Based on Table 3, the classical assumption testing in this study were carried out using SPSS software. Based on the results of the Kolmogorov-Smirnov normality test on the unstandardized residual value for the multiple regression equation models, it is known that the asymp. Sig. (2-tailed) significance value of 0.062 is more than 0.05. From the results of this test, it can be concluded that the regression model has a normal distribution. Then the multicollinearity test results showed that the tolerance value of all variables above 0.1 and has VIF value below 10. So it can be concluded that there are no symptoms of multicollinearity between independent variables in this regression model. Heteroscedasticity testing using the rank Spearman test, the results obtained significance values (Sig.) for all variables more than 0.05. This means that there are no symptoms of heteroscedasticity in the regression model.

Table 1. Determination the number of research samples

Criteria	Amount
Companies listing and IPO on the Indonesia Stock Exchange for the period 2016-2018	125
Companies that do not publish prospectus & financial statements during IPO and post IPO	(3)
Companies that do not provide earnings forecast data	(10)
Companies that do not present complete data needed by researchers	(5)
Number of Samples	107

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After the data is normally distributed and free from classical assumptions problem, then the statistical values of each research data will be measured. Descriptive statistical test results as Table 4.

Based on Table 4, the company with the lowest forecast error is Mitra Keluarga Karyasehat Tbk (FE: 0.16 percent). While the company with the highest forecast error is M Cash Integration Tbk (FE:

Tabel 2. Operational definitions of variables

Variables	Operational Definition	Measurement	Source
<i>Accuracy of Earning Forecast (FE) (Y)</i>	The level of forecast accuracy projected by management about company profits	Forecast Error (FE _i) $FE_i = \frac{(AP_i - FP_i)}{FP_i}$ FP _i = forecast profit company i AP _i = actual profit company i	Jelic (2014), Hammami & Sioud (2014) & Amer & Ahmad-Zaluki (2017)
<i>Forecast Horizon (FHZ) (X₁)</i>	The length of time between the forecast issue date and the end of the period the forecast is made	Ln the fiscal year ends in the post IPO period - the number of months from the publication date of the prospectus	Hasan, Hadad, & Ahmed (2016) & Amer & Ahmad-Zaluki (2017)
<i>Underwriter Reputation (UND) (X₂)</i>	A measure of the quality underwriter that guarantees company's issuer's stock	Top 10 Underwriter from 20 most active brokerage = 1, Otherwise = 0	Lismawati & Munawaroh (2015)
<i>Auditor reputation (AUD)(X₃)</i>	The scale of quality or expertise and audit experience of an auditor in a particular industry field	Partner the Big Four auditor=1 Non partner from the Big Four auditor = 0	Krismasary (2015)
<i>Company size (SIZE) (X₄)</i>	Company's ability to generate cash flow, assets and wider information access	Ln total assets (in billion rupiah) Ln = Natural Log	Ahmad Zaluki & Wan Hussin (2010)
<i>Company Age (AGE) (X₅)</i>	The ability and company experience to survive & compete in business	Ln the number of years from the incorporation of the firm to its prospectus date	Hasan, Hadad, & Ahmed (2016)
<i>Leverage (LEV) (X₆)</i>	The level of liability that represents the financial risk of the company	$LEV = \frac{Total\ liability}{Total\ assets}$	Hammami & Sioud (2014) & Amer & Ahmad-Zaluki (2017)
<i>Industry Classification (IND) (X₇)</i>	The type of industry that more accurate in preparing earnings forecast	Manufacture (3 sector) = 1 Non-manufacture (6 sector) = 0	Jelic (2014)
<i>IPO Market (MKT) (X₈)</i>	Hot (Cold) IPO Market is when more (less) companies go public than usual	Hot IPO Market (2017 & 2018) = 1 Cold IPO Market (2015 & 2016) = 0	Warganegara (2014)

104.76 percent). The average forecast error from all samples is 28.86 percent. This result is better than in other countries. Like the mean forecast error reported in Bangladesh 48 percent (Karim, Ahmed, & Hasan, 2013), Greece 39.72 percent (Boubaker et al., 2016) and Australia 34.49 percent (Firth, Gounopoulos, & Pulm, 2012). This result is worse than the results of Hasan, Hadad, & Ahmed (2016) that study of IPO companies in Indonesia from 1999 to 2007, with a mean forecast error of 19 percent. There has been a decrease in the accuracy of the earnings forecast projected by IPO companies in the last 4 years.

The mean forecast error is also higher than Hong Kong, 7.26 percent (Mc Guinness, 2005), Singapore 10.4 percent (Firth et al., 1995), the UK 10.70 percent (Jelic, 2014) and Malaysia 23.76% (Amer & Ahmad-Zaluki, 2017). This indicates the accuracy of the earnings forecast for IPO companies in Indonesia during that period was still quite low.

Although it is better than our neighboring country Australia. Companies with the farthest forecast horizon (11 months) are Bank Yudha Bakti Tbk and LCK Global Kedaton Tbk. While the companies with the shortest forecast horizon (1 month) are Bintang Oto Global Tbk, Dua Putra Utama Makmur Tbk, Campina Ice Cream Industry Tbk, Jasa Armada Indonesia Tbk, and Prima Cakrawala Abadi Tbk. With an average level of the forecast horizon, the company's sample studied was 5.5 months.

The largest company size with total assets of IDR 13,512.84 billion, namely Cikarang Listrindo Tbk whereas the smallest company size is Arkadia Digital Media Tbk with total assets IDR 13.52 billion. With an average total asset (size) sample of companies studied IDR 1,361.68 billion. The company that has the longest operating history (Age) is Ateliers Mecaniques D'Indonesie Tbk (43 years). While the companies with the shortest operating history (2 years) are Yelooo Integra Datonet Tbk, PP Properti

Table 3. Classical assumption test results

Variables	Collinearity Statistics		
	Tolerance	VIF	Sig.
<i>Forecast Horizon</i>	0.894	1.118	0.883
<i>Underwriter Reputation</i>	0.888	1.126	0.351
<i>Auditor Reputation</i>	0.774	1.293	0.378
<i>Company Size</i>	0.708	1.412	0.395
<i>Company Age</i>	0.882	1.134	0.765
<i>Leverage Ratio</i>	0.899	1.112	1.000
<i>Industry Classification</i>	0.820	1.219	0.792
<i>IPO Market</i>	0.910	1.099	0.840

Table 4. Descriptive statistics test results

	Description	N	Min.	Max.	Mean	Std. Dev.
<i>Y.FE</i>	Forecast Error	107	0.16	104.760	28.862	25.585
<i>X1.FHZ</i>	Forecast Horizon	107	0.00	2.398	1.553	0.603
<i>X2.UND</i>	Underwriter Reputation	107	0.00	1.00	0.177	0.383
<i>X3.AUD</i>	Auditor Reputation	107	0.00	1.00	0.130	0.338
<i>X4.SIZE</i>	Company Size	107	2.60	9.51	6.375	1.396
<i>X5.AGE</i>	Company Age	107	0.69	3.76	2.611	0.810
<i>X6.LEV</i>	Leverage Ratio	107	0.03	0.98	0.528	0.235
<i>X7.IND</i>	Industry Classification	107	0.00	1.00	0.252	0.436
<i>X8.MKT</i>	IPO Market	107	0.00	1.00	0.760	0.431

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Tbk, Waskita Beton Precast Tbk, and Alfa Energi Investama Tbk. With an average operating history (Age) of the sample of companies studied, it is 17.86 years.

Then the company with the highest leverage level is Dafam Property Indonesia Tbk with DAR ratio 0.97. While the company with the lowest level of leverage is Sanurhasta Mitra Tbk with DAR ratio 0.03. With an average level of leverage (DAR) is 0.53. Underwriter reputation variables, auditor reputation, and industry classification are not described, because they are dummy variables and will be described in the hypothesis testing results.

Based on Table 5, the highest mean forecast error is 34.60 percent in 2016 (12 issuers). Then the lowest mean forecast error rate is 19.98 percent in 2015 (14 issuers). In 2018, the number of issuers that IPO was the highest in the history of the Indonesia Stock Exchange, with total of 57 issuers (49 samples). During the Hot IPO Market (2017 & 2018), the level of mean forecast error was 30.02% compared to the level of mean forecast error during the Cold IPO Market (2015 & 2016) was 27.79 percent.

Output Regression Analysis

From the classical assumption deviation test, it is known that the data are normally distributed, not affected by heteroscedasticity, free from multicollinearity and uncorrelated residuals. With

the fulfillment of the above assumptions, it is expected that the regression model can be used as an unbiased estimation model or called BLUE (best linear unbiased estimator). The following are the results of the regression analysis:

$$FE = 67.652 - 0.845(FHZ) - 13.521(UND) - 2.815(AUD) - 5.527(SIZE) + 1.282(AGE) + 2.898(LEV) - 3.878(IND) - 0.485(MKT) + e \quad (2)$$

From the test results, the value of F-calculate > F-table (2.421 > 2.03) and the value of Sig = 0.020 (<0.05). This means that all independent variables (forecast horizon, underwriter reputation, auditor reputation, company size, company age, leverage ratio, industry type, and IPO market) together have a significant effect on the accuracy of earnings forecast.

Based on the standard error of the estimated value 24.31480 which is less than the standard dependent variable bound or $Y=25.585$ (Table 4). Then it can be concluded that the regression model is valid to be a prediction model. The correlation coefficient (R) is 0.406 and R-square is 0.097. Because the number of variables is more than 2, that is interpreted is adjusted R-square, which is equal to 0.097, meaning that the seven independent variables explain variation in forecast error changes by 9.7% while the other is explained by another factor outside the regression model that did not analyze in this study such as conditions economy, psychological aspects of

Table 5. Descriptive statistics test results based on IPO Market (year)

	N	Minimum	Maximum	Mean	Std. Deviation
2015	14	0.16	83.02	19.980	22.316
2016	12	0.57	97.56	34.603	30.657
2017	32	0.19	104.76	32.270	28.707
2018	49	0.33	92.67	27.768	22.866

Table 6. ANOVA test in linear regression

Model	F-calculate	F-table	Sig.
Regression	2.421	2.03	0,020
p = 0.05, DF1 = 8, DF2 = 99			
R = 0,406 R ² = 0,165 Adj R ² = 0,097 Std. Error of the Estimate = 24.31480			

investors, number of shares outstanding, percentage of share ownership, management optimism, etc.

Based on Table 7, only underwriter reputation and company size (variables have a significant effect on the accuracy of earnings forecast (Sig value <0.05). The correlation value of the underwriter reputation variable is negative (-0.271) which means the better underwriter reputation, the lower forecast error rate. And the correlation value of size (-0.359) means the larger company size, the lower the forecast error rate and the higher the accuracy of the company's earnings forecast. The correlation value of the IPO market is positive (0.082), it shows in the Hot IPO Market, the forecast error is higher. It means the accuracy of earnings forecast in the Hot IPO Market is lower than the Cold IPO Market.

5. Discussion

Forecast horizon

The time interval period does not affect the accuracy of the earnings forecast. The results of this study are consistent with research by Jelic (2014), Amer & Ahmad-Zaluki (2017) and Ammer & Alsahlawi (2018). In contrast to the results of the research of Boubaker et al. (2016) and Hasan, Hadad, & Ahmed (2016). The actual time interval period is the distance between the date of profit forecast making and the date of actual profit achievement.

But because the date of making the profit forecast is unknown, this study uses the date of issuance of the prospectus to calculate the time interval period. The insignificance of the results of this study may be due to the difference between the date of making a profit forecast and the date of issuance of the prospectus. Causing the data forecast horizon taken is less accurate.

Underwriter reputation

The underwriter reputation has a significant effect on the accuracy of earnings forecast. Then the correlation value of the underwriter reputation variable is negative (-0.271) which means the better underwriter reputation, the lower forecast error rate. Which means the higher accuracy of company's earnings forecast (H_2 received). The results of this study are consistent with Amer & Ahmad-Zaluki (2017). In contrast to the research results of Jelic (2014), Boubaker et al. (2016), Hasan, Hadad, & Ahmed (2016) and Ammer & Alsahlawi (2018). Underwriters play an important role in researching and analyzing company information before an IPO. To maintain its good name and credibility, underwriters will firmly reject companies that manipulate data and information on prospectuses. Because with the wrong information, investors and the public will suffer losses that should be the responsibility of the underwriter. The use of quality underwriter ser-

Table 7. Regression test results

Model	Unstandardized Coefficients		t	Sig.	Spearman Correlation	Sig.
	B	Std. Error				
(Constant)	64.652	15.187	4.257	0.000	1.000	
Forecast Horizon	-0.845	4.137	-0.204	0.839	-0.093	0.340
Underwriter Reputation	-13.521	6.526	-2.072	0.041	-0.271	0.005
Auditor Reputation	-2.815	7.925	-0.355	0.723	-0.175	0.071
Company Size	-5.527	2.009	-2.752	0.007	-0.359	0.000
Company Age	1.282	3.102	0.413	0.680	-0.040	0.679
Leverage Ratio	2.898	10.578	0.274	0.785	-0.083	0.393
Industry Classification	-3.878	5.976	-0.649	0.518	-0.094	0.335
IPO Market	-0.485	5.746	-0.084	0.933	0.082	0.400

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vices can be a positive signal to the value of an IPO company. Because qualified underwriters are needed to provide accurate results and information to potential investors.

Auditor reputation

The auditor's reputation does not affect the accuracy of the earnings forecast. Based on the negative correlation coefficient sign (-0.175), it means the better auditor's reputation, the lower forecast error. This means that the average company audited by reputable KAP (Big Four), has earnings forecast data with a lower error rate (more accurate), but the effect is not significant. The results of this study are in accordance with the research of Ahmad Zaluki & Wan Hussin (2010) and Ammer & Alsahlawi (2018). In contrast to the research results of Karim, Ahmed, & Hasan (2013) and Amer & Ahmad-Zaluki (2017). From the data taken only 13.08 percent of issuers to use Big Four KAP, the rest use Non-Big Four KAP. This shows that the auditor's reputation benchmark is not only seen from the big names of affiliates behind a KAP but depends on their track record and audit experience. So the performance of the two categories of auditor groups is relatively equal. This variable does not affect the accuracy of earnings forecast, because all auditors work using the same accounting standards in the assessment of financial statements. The auditor only guarantees the fairness of financial statements, not on the earnings forecasting data.

Company size

The company size has a significant effect on the accuracy of earnings forecast. The results of this study are in accordance with a research by Jelic (2014) and Boubaker et al. (2016). In contrast to the results of the study of Hammami & Sioud (2014), Amer & Ahmad-Zaluki (2017), and Ammer & Alsahlawi (2018). Based on the negative correlation coefficient sign (-0.359) means the larger company

size, the lower the forecast error rate and the higher the accuracy of the company's earnings forecast. Companies with a large scale of business and assets tend to be more in control of the market and less affected by fluctuations in the market. This condition causes the profit they get is more stable than small companies. A more stable profit will be more predictable than a fluctuating profit. So that stable earnings make it possible to make a more accurate earnings forecast. With the capabilities, a company with a larger size will have bright prospects in the future. Because the available resources make management confident and work harder to achieve the predicted profit.

Company age

The company age does not affect the accuracy of the earnings forecast. Based on the negative regression coefficient sign (-0.040) means the longer company age (operating history), the lower forecast error rate and the higher level of accuracy the company's earnings forecast, but the effect is not significant. This means that on average companies operating longer can provide more detailed and more information compared to newly established issuers (Marofen & Khairunissa, 2015). So that it can present earnings forecast data with a smaller error rate (more accurate), but the effect is not significant. The results of this study are in accordance with the research of Hammami & Sioud (2014), Hasan, Hadad, & Ahmed (2016), Amer & Ahmad-Zaluki (2017), and Ammer & Alsahlawi (2018). But it is not in accordance with the results of research by Jelic (2014) and Boubaker et al. (2016).

Leverage ratio

The leverage ratio does not affect the accuracy of the earnings forecast. The results of this study are consistent with research by Jelic (2014), Amer & Ahmad-Zaluki (2017) and Ammer & Alsahlawi (2018). But it is not in accordance with

the results study of Hammami & Sioud (2014). The high leverage ratio is not necessarily because of the low-level accuracy of the company's earnings forecast. From the data studied by Bank Ganesha Tbk with a leverage ratio of 89.34 percent, the forecast error rate 0.57 percent (estimated profit IDR 39.42 billion, Actual profit IDR 39.19 billion). Then Dua Putra Utama Makmur Tbk with a leverage ratio of 81.70 percent has forecast error rate 8.18 percent (estimated profit IDR 71.98 billion, actual profit IDR 77.87 billion). While M Cash Integration Tbk with leverage ratio 14.44 percent turned out to have forecast error level 104.76 percent (estimated profit IDR 4.2 billion, actual profit IDR 8.6 billion). Then Protech Mitra Perkasa Tbk with leverage ratio 8 percent has a forecast error rate of 97.56 percent (Estimated profit IDR 9 billion, actual profit IDR 0.22 billion). The high leverage ratio, if followed by qualified experience from management to manage the company's finances, will produce an accurate level of earnings forecast.

Industry classification

The type of industry does not affect the accuracy of the earnings forecast. The results of this study are consistent with the research of Hasan, Hadad, & Ahmed (2016). But it is not in accordance with the results of research by Jelic (2014), Boubaker et al. (2016). Amer & Ahmad-Zaluki (2017). Based on data, the more accurate sector is the consumer goods industry sector (22.20 percent), then followed by the miscellaneous industry sector (23.75 percent) and the Trade, Services & Investment sector (27.81 percent). This shows that the basic & chemical industry sector is no longer a benchmark for sectors with a high degree accuracy of earnings forecast. The trade, services & investment sector also has a stable level of cost and income structure, so it is easier to predict. The less accurate sector is the agriculture sector (74.50 percent) and the mining sector (38.99 percent).

IPO Market

The eight hypothesis tests whether the hot IPO market has a negative effect on the accuracy of earnings forecast. Based on the positive correlation coefficient sign (0.082), it shows in the Hot IPO Market, the forecast error is higher. It means the accuracy of earnings forecast in the Hot IPO Market is lower than the Cold IPO Market (have a negative effect). Because during the Hot IPO Market (Cold IPO Market) the market is more careless (wiser) about the future.

6. Conclusion, Limitation, and Suggestions

Conclusion

The earnings forecast projected by management often does not match the company's actual profits. This study aims to analyze what variables affect the accuracy of the earnings forecast. The variables tested have an effect on the accuracy of earnings forecast like forecast horizon, underwriter reputation, auditor reputation, company size, company age, leverage ratio, industry type, and IPO market. The results of 107 sample companies who's IPO on the Indonesia Stock Exchange in 2015 - 2018, showed mean forecast error 28.86%. From a total of 107 companies, 55 issuers (51.40%) provided underestimate earnings forecast data (forecasted earnings < actual earnings). Whereas 52 companies (48.60%) provide overestimated underestimated profit forecast data (forecasted earnings > actual earnings). Hypothesis test results show all independent variables (time interval period, underwriter reputation, auditor reputation, company size, company age, leverage ratio, industry type, and IPO market) together have a significant effect on the accuracy of earnings forecast. Then partially, only the underwriter reputation variable and company size have a significant positive effect on the accuracy of earnings forecast. This means the better the underwriter reputation and the larger company size,

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the higher the accuracy rate of the company's earnings forecast (the lower the level of forecast error). And the hot IPO market has a negative effect on the accuracy of earnings forecasts. It means the accuracy of earnings forecast in the Hot IPO Market is lower than the Cold IPO Market (have a negative effect). Because during the Hot IPO Market (Cold IPO Market) the market is more careless (wiser) about the future.

Limitation and suggestions

This study has several limitations that require improvement and development in subsequent studies. This research sample is limited to all companies listed on the Indonesia Stock Exchange. Therefore, the generalization power of this study is limited to

the Indonesian state. This study only focuses on seven variables that are thought to have an influence on the accuracy of earnings forecast.

Based on the limitations of research, suggestions that can be considered for improvement and development in subsequent studies: (1) the research sample is not only all companies listed on the Indonesia Stock Exchange but can be expanded to all companies listed on the Stock Exchange of other countries in the world such as the New York Stock Exchange, the London Stock Exchange, the Singapore Stock Exchange and others. (2) Further research can be expanded to add different independent variables, which are thought to influence the accuracy of earnings forecast with a longer observation period.

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