Valuing IPOs using pro forma financials in the prospectus[*]

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ABSTRACT

Are pro forma financial statements as required by SEC Regulation S-X Article 11 informative? Do investors incorporate this information into stock prices? To test these questions, I perform valuation-relevance analysis on an IPO sample from 1997 to 2007. I focus on the IPO prospectus because it provides pro forma financial statements that are not available from other sources; other SEC filings (e.g., 8-Ks, 10-Ks) provide pro forma financial statements that might be accessed by investors from other sources (e.g., company websites, press releases), making interpretation of valuation-relevance analysis results difficult. I find that while future long-term earnings are correlated with pro forma earnings adjustments, IPO stock prices are not. I also find that pro forma earnings adjustments are able to predict post-IPO stock returns. Collectively, my findings suggest that investors fail to fully extract future earnings information captured by pro forma earnings adjustments in the IPO prospectus.

Keywords: Pro Forma Earnings Adjustments, Regulation S-X Article 11, Initial Public Offering, Market Inefficiency.

JEL classification: G12, G14, G17, G38

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1. Introduction

The Securities and Exchange Commission (SEC) requires managers of publicly traded companies that have experienced or are proposed to experience material transactions or events to furnish pro forma financial statements illustrating how the transactions or events would have affected historical financial statements if they had been consummated at an earlier time. Article 11 of Regulation S-X governs the disclosure of these pro forma financial statements.

The objective of pro forma financial statements is to assist investors in analysing a company's future prospects because it illustrates the possible scope of the change in the firm's historical financial statements. The difference between the historical and pro forma result reflects the potential synergies expected to result from the transaction or event and therefore can assist investors to have a clearer understanding about the firm's future prospects. Thus, pro forma financial statements are expected to be forward-looking.

Still, evidence on investors' use of pro forma financial statements is scarce. From SEC's perspective, such evidence is important as provision of valuation-relevance information to assist market participants' stock price formation is the main objective of SEC to regulate the disclosure of pro forma financial statements. In an effort to fill this gap in the literature, this study examines two research questions concerning the informativeness of pro forma financial statements focusing on general market participants. My first research question asks: Are pro forma financial statements forward-looking? While the objective of pro forma financial statements is to assist investors in analyzing a company's future prospects, the reliability of pro forma financial statements in predicting future performance depends on the accuracy of managers' assumptions for presenting the significant effect

directly attributable to the excluded (or added) transaction[1] (AICPA 2001). Evidence on to what extent pro forma financial statements can capture future firm information is scarce. My second research question asks: Do investors fully incorporate pro forma financial statements into stock prices? While research on investors' ability to process pro forma financial statements is only in its infancy, numerous studies have documented investors' failure to fully utilize quantitative information in a variety of circumstances. For example, academic studies have found that investors fail to fully incorporate the implications of earnings news into stock prices in a timely fashion (e.g., Foster et al. 1984; Bernard and Thomas 1990; Ball and Bartov 1996; Sloan 1996). The common explanation underlying the mispricing of earnings information is that investors appear to use simplified time-series models to forecast earnings and make decisions based on only a subset of the information available to them. The partial use of information may lead to a cognitive bias (e.g., Daniel et al. 1998; Barberis et al. 1998; Hirshleifer and Teoh 2003). The premise that investors make decisions based on normatively inappropriate simplifications, as well as findings in prior research showing mispricing of earnings information, motivates me to expect that investors are also likely to misprice pro forma financial statements due to cognitive bias.

One challenge in testing my two research questions concerns identifying a pro forma financial statement measure which meets the following three criteria: (1) it cannot be obtained from other sources; (2) it is a comprehensive measure of pro forma financial statements, and (3) its forward-looking characteristic can be easy to calibrate. The pro forma earnings provided in the IPO prospectus meets all three criteria, and thus offer a unique setting to investigate investors' use of pro forma financial statements. It is unlikely that this information is available from other sources because the amount of publicly available

[1] Pro forma adjustments would be to remove elements from historical financial statement. For example, if a company sells a business segment, it would remove that segment's operations from historical financial statement. Other adjustments are inclusions. For example, if a company acquires a new division or subsidiary, it would include that segment's operations in historical financial statement as if that segment had been acquired earlier.

information for IPOs is limited due to their short reporting history and regulatory requirements.[2] This assertion is supported by the ongoing debate on the reasons underlying the IPO stock price underperformance (see, Ritter and Welch 2002), implying that even in the academic literature IPO pricing is not well understood. Further, as the bottom-line measure of pro forma income statements, there is no doubt that pro forma earnings act as a comprehensive measure of pro forma financial statements. Finally, the accrual accounting system ensures a linear association between current and future years' earnings therefore making the forward-looking nature of pro forma earnings easy to calibrate.

Employing a sample of IPOs from 1997 to 2007, I document positive correlations between pro forma earnings and long-term (second and third years after the IPO listing date) earnings. These findings suggest that pro forma earnings serve as a reliable signal for future earnings performance in the post-IPO period. My results also demonstrate that pro forma earnings information is uncorrelated with short-term (one year after the IPO date) earnings and IPO market value. These results suggest that investors fail to incorporate pro forma earnings information into stock prices, possibly because they fail to extract the long-term earnings implication from pro forma earnings and thus hold a cognitive bias on pro forma earnings' failure to predict short-term earnings. In further support of the cognitive bias interpretation, I find that pro forma earnings information is also correlated with post-IPO abnormal stock returns. Apparently, investors fail to fully extract the long-term earnings information in pro forma earnings of the IPO prospectus when assessing issuing firms' future performance.

This paper makes two contributions to the literature. First and perhaps more important, it provides evidence on the informativeness of pro forma financial statements. From SEC's perspective, such evidence is important, as provision of valuation-relevance

[2] The Securities Act of 1933 mandates that the IPO prospectus is the only document investor should rely on before the "quiet period" ends.

information to assist market participants' investment decision is the main objective of SEC to regulate the disclosure of pro forma financial statements. The results find that pro forma earnings adjustments in the IPO prospectus predict future earnings performance and are incorporated by investors into stock prices, although this incorporation is not efficient. Thus, this finding has the potential to provide evidence on the benefit of maintaining and reporting pro forma financial statements according to the Article 11 of Regulation S-X.

Second, this study contributes to the literature on investors' use of earnings information. Prior research finds that investors fail to incorporate earnings information at the time when the information is available due to a cognitive bias. Consistent with this strand of literature, I find that investors behave as if they fail to extract the long-term earnings implications from pro forma earnings adjustments, as evidenced by their failure to incorporate pro forma earnings adjustments into their initial stock price formation.

The next section provides the background on the Article 11 of Regulation S-X and the motivation for the study. Section 3 presents the research design, including computation of pro forma earnings adjustments, and development of the earnings forecasting, valuation and stock return equations. Section 4 describes the sample and data, and Section 5 presents the findings. Section 6 summarizes my main findings and concludes.

2. Background and Motivation

2.1. Background

As required by SEC Regulation S-X Article 11, publicly listed companies that have experienced or are about to experience a significant transaction or event[3] are required to

[3] Rule 11-01 of Article 11 provides a list of situations that might call for pro forma financial statements, including business combinations and dispositions, security offerings, purchases of property or real estate operation, autonomous transactions, and roll-up transactions. The SEC also advises that because a comprehensive list of situations that might call for pro forma financial statements is not incorporated in Rule 11-01, managers need to exercise judgment in determining whether the disclosure of pro forma financial statements will be useful (Trautmann et al. 2008).

report in their SEC filings side-by-side historical and pro forma financial statements that are comparable so that investors can understand how the company's performance would have appeared if the transaction or event had occurred at an earlier time.

A pro forma financial statement generally includes a pro forma condensed balance sheet at the end of the most recent period for which a balance sheet is required and a pro forma condensed statement of income for the most recent fiscal year.[4] It is ordinarily in columnar form showing condensed historical statements, pro forma adjustments[5], and the pro forma results.

Consider, for example, excerpts from the IPO prospectus of Entropic Communications Inc that went public on December 6th, 2007, exhibited a pro forma statement of operations for the year ended December 31st, 2006 as below:

	Entropic	RF Magic	Notes	Pro Forma Adjustments	Pro Forma Combined
				(unaudited)	
Net revenues	$41,471	$26,183		$ —	$67,654
Cost of net revenues	31,099	10,579	(a)(c)	7,897	49,575
Gross profit	10,372	15,604		(7,897)	18,079
Operating expenses:					
Research and development	11,601	11,182	(c)	1,396	24,179
Sales and marketing	4,112	3,682	(c)	528	8,322
General and administrative	2,192	1,927	(c)	1,225	5,344
Amortization of purchased intangible assets	—	—	(b)	3,533	3,533
Total operating expenses	17,905	16,791		6,682	41,378
Loss from operations	(7,533)	(1,187)		(14,579)	(23,299)
Interest income (expense), net	883	(241)	(e)	30	672
Loss on fair value of preferred stock warrant liabilities	(401)	—		—	(401)
Loss before income taxes	(7,051)	(1,428)		(14,549)	(23,028)
Provision for income taxes	—	(49)		—	(49)
Net loss	(7,051)	(1,477)		(14,549)	(23,077)
Accretion of redeemable convertible preferred stock	(126)	—		—	(126)
Net loss attributable to common stockholders	$(7,177)	$(1,477)		$(14,549)	$(23,203)
Net loss per share attributable to common stockholders—basic and diluted	$(1.66)				$(2.27)
Weighted average number of shares used to compute loss per share attributable to common stockholders	4,325			5,898	10,223
Pro forma net loss per common share—basic and diluted	$(0.20)				$(0.42)
Weighted average number of shares used to compute pro forma net loss per share—basic and diluted	35,886			18,941	54,827

The pro forma statement of operations is

[4] Rule 11-02 of Article 11 allows a narrative description of the pro forma effects of the transaction in lieu of the pro forma statement in certain circumstances where a limited number of pro forma adjustments are required and those adjustments are easily understood.

[5] Pro forma adjustments are generally accompanied with explanatory notes that describe the significant assumptions used in developing and computing the pro forma adjustments.

"based on the historical statements of operations of Entropic and RF Magic giving effect to our acquisition of RF Magic on June 30, 2007 as if the acquisition had occurred on January 1, 2006."

The pro forma statement of operations is presented side-by-side with the historical statement of operations of Entropic Communications Inc by consolidating the historical statement of operations of RF Magic with adjustments related to

(a) "cost of net revenues for amortization of developed technology and the inventory step-up from January 1, 2006 over their estimated useful lives."
(b) "amortization of purchased intangible assets from January 1, 2006 over their estimated useful lives."
(c) "stock-based compensation expense related to the following: (1) reversal of SFAS 123R compensation expense included in the historical financial statements of RF Magic and (2) unvested stock options assumed in the acquisition based on a value as determined by the Black-Scholes pricing model in accordance with SFAS 123R."
(e) "interest expense to reflect the fair value of RF Magic's debt that was assumed in the acquisition and related effective interest rate."

It is interesting to note that because Entropic's acquisition of RF Magic takes place on June 30, 2007, which is after the most recent interim period for which a balance sheet is required (i.e., September 30, 2007), the company did not include a pro forma balance sheet in its IPO prospectus.[6] Reviewing the computation of pro forma results, I note two salient points. First, pro forma adjustments are computed to reflect the continuing impact of the acquisition on Entropic's operating performance.[7] Second, pro forma adjustments are computed based on management's estimations as stated in the accompanying explanatory notes.

[6] Rule 11-02 of Article 11 indicates that companies are only required to prepare pro forma balance sheet when the significant transaction (or event) occurs after the most recent interim period for which a balance sheet is required.
[7] Rule 11-02 of Article 11 outlines that pro forma adjustments related to the pro forma condensed income statement should include adjustments which give effect to the significant transaction or (event) that are (i) directly attributable to the transaction, (ii) expected to have a continuing impact on the registrant, and (iii) factually supportable.

2.2. Motivation

This study is motivated because evidence on the informativeness of pro forma financial statements and how investors use such information is scarce. From SEC's perspective, such evidence is important, as provision of valuation-relevance information to assist market participants' investment decision is the main objective of SEC to regulate the disclosure of pro forma financial statements.[8] Thus, this investigation has the potential to provide evidence on the benefit of maintaining and reporting pro forma financial statements according to Regulation S-X Article 11.

3. Research design

3.1. Pro forma financial statement measure

One challenge in testing my two research questions concerns identifying a pro forma financial statement measure which meets the following three criteria: (1) it cannot be obtained from other sources; (2) it is a comprehensive measure of pro forma financial statements, and (3) its forward-looking characteristic can be easy to calibrate. The pro forma earnings provided in the IPO prospectus meet all three criteria, and thus offer a unique setting to investigate investors' use of pro forma financial statements. It is unlikely that this information is available from other sources because the amount of publicly available information for IPOs is limited due to their short reporting history and regulatory requirements. This assertion is supported by the ongoing debate on the reasons underlying the IPO stock price underperformance (see, Ritter and Welch 2002), implying that even in the

[8] Rule 11-02 of Article 11 states SEC's objective of regulating pro forma financial statements in a company's filing as follows: "Pro forma financial statements should provide investors with information about the continuing impact of a particular transaction by showing how it might have affected historical financial statements if the transaction had been consummated at an earlier time. Such statements should assist investors in analyzing the future prospects of the registrant because they illustrate the possible scope of the change in the registrant's historical financial position and results of operations caused by the transaction."

academic literature IPO pricing is not well understood. Further, as the bottom-line measure of pro forma income statements, there is no doubt that pro forma earnings provide a comprehensive picture of pro forma financial statements. Finally, the accrual accounting system ensures a linear association between current and future years' earnings therefore making the forward-looking nature of pro forma earnings easy to calibrate.

To measure the incremental effect of pro forma earnings relative to historical earnings, I consider pro forma earnings adjustments (*PFEA*) as the test variable. Specifically, I compute *PFEA* as pro forma earnings before extraordinary items minus historical earnings before extraordinary items (Compustat data item 18) for the year before IPO.

3.2. Earnings forecasting tests

The expected role of pro forma earnings adjustments is to measure the continuing impact of transaction (or event) on current year's earnings and therefore deliver future earnings implications not currently recognized in earnings. To examine how pro forma earnings adjustments can assist forecasting future earnings, I adopt the earnings forecasting equation from Richardson *et al*. (2005), which is based on the mean reverting process of financial performance.[9] To ensure that *PFEA*'s incremental effects on the forecast of future earnings are not impacted by variables shown by prior research to explain cross-sectional variation in a firm's earnings performance, I also include eight previously documented determinants of earnings performance: negative earnings (Brown 2001), total accruals (Teoh et al. 1998a; Fan 2007; Ball and Shivakumar 2008), book-to-market ratio (Fama and French 1993; Lakonishok et al. 1994; Penman 1996), firm size (Fama and French 1993), firm age (Ritter 1991), high technology (Loughran and Ritter 2004), underwriter reputation (Carter et al. 1998), and venture capital backing (Brav and Gompers 1997; Bergstrom et al. 2006).

[9] It is well established that the mean reversion of financial performance is due to the dissipation of economic returns of competitive forces (see e.g., Palepu and Healey 2007).

Finally, I scale *FE*, *PFEA*, *E*, and *TACC* by average book value of total assets (Compustat data item 6) and winsorize all continuous variables at 1% and 99% to remove the influential observations. This results in the following equation:

$$FE_1\ (FE_{2\text{-}3}) = \alpha_0 + \alpha_1 PFEA_i + \alpha_2 E_i + \alpha_3 NegE_i + \alpha_4 TACC_i + \alpha_5 BTM_i + \alpha_6 LnMVE_i + \alpha_7 LnAge_i + \alpha_8 HITECH + \alpha_9 Underwriter_i + \alpha_{10} VC_i + \varepsilon_i, \quad (1)$$

where:

FE_1 = Historical earnings before extraordinary items (Compustat data item18) for one year after IPO.

$FE_{2\text{-}3}$ = Average historical earnings before extraordinary items (Compustat data item18) for the second and third year after IPO.

PFEA = Pro forma earnings before extraordinary items minus historical earnings before extraordinary items (Compustat data item 18) for the year before IPO.

E = Historical earnings before extraordinary items (Compustat data item 18) for the year before IPO.

NegE = one if historical earnings before extraordinary items (Compustat data 18) for the year before IPO is negative and zero otherwise.

TACC = Total accruals for the year before IPO, calculated as earnings before extraordinary items (Compustat data item 18) less cash flow from operations (Compustat data item 308).

BTM = Book value of total equity (Compustat data item 60) at year end before IPO scaled by market value of IPO firm immediately after the offering, calculated as total number of shares outstanding after the offer multiplied by closing price on the first day of trading.

LnMVE = Natural logarithm of market value of IPO firm immediately after the offering, calculated as total number of shares outstanding after the offer multiplied by closing price on the first day of trading.

LnAge = Natural logarithm of one plus years from founding date to IPO date, where founding date of IPOs are obtained from Jay Ritter's website: http://bear.warrington.ufl.edu/ritter/ipodata.htm.

HITECH = one if an IPO firm belongs to a technology industry, and zero otherwise.

Underwriter = underwriter prestige ranking obtained from Jay Ritter's website: http://bear.warrington.ufl.edu/ritter/ipodata.htm;

VC = one if an IPO issue is backed by venture capitalists and zero otherwise.

Equation (1) is also consistent with the residual income model of Ohlson (1995), where *PFEA* is additional information that is related to future earnings but not recognized into current year's earnings. In Equation (1), α_1 reflects the incremental effects on the forecast of future earnings knowing pro forma earnings adjustments. As a result, I test the alternative hypothesis that $\alpha_1 \neq 0$ against the null $\alpha_1 = 0$.

3.3. Valuation tests

Having examined the predictive ability of pro forma earnings adjustments for future earnings, I next examine to what extent investors price this information at the time of IPO. I adopt the IPO equity valuation equation from Klein (1996). To ensure that *PFEA*'s incremental effects on IPO market value are not impacted by variables shown by prior research to explain cross-sectional variation in a IPO firm's market value of equity, I also include control variables that are previously documented determinants of IPO market value: negative earnings (Aggarwal et al. 2009), ownership retention (Leland and Pyle 1977; Fan 2007), high technology (Loughran and Ritter 2004; Bartov et al. 2002), underwriter

reputation (Beatty and Ritter 1986), venture capital backing (Barry et al. 1990; Megginson and Weiss 1991), and price update (Hanley 1993). Finally, to mitigate heteroskedasticity problem, I use the logarithm transformation following Aggarwal et al. (2009): L(W) = $\log_e(1+W)$ when $W \geq 0$; L(W) = $-\log_e(1-W)$ when $W < 0$. This results in the following equation:

$$L(MVE_i) = \alpha_0 + \alpha_1 L(PFEA_i) + \alpha_2 L(E_i) + \alpha_3 NegE_i + \alpha_4 L(BVE_i) + \alpha_5 Ownership\ retention_i + \alpha_6 HITECH + \alpha_7 Underwriter_i + \alpha_8 VC + \alpha_9 Price\ update + \varepsilon_i \quad (2)$$

where:

MVE = Market value of IPO firm immediately after the offering, calculated as total number of shares outstanding after the offer multiplied by closing price on the first day of trading.

PFEA = Pro forma earnings before extraordinary items minus historical earnings before extraordinary items (Compustat data item 18) for the year before IPO.

E = Historical earnings before extraordinary items (Compustat data item 18) for the year before IPO.

NegE = one if income before extraordinary items prior to the IPO date (Compustat Annual data18) is negative and zero otherwise;

BVE = Book value of total equity (Compustat data item 60) at year end before IPO.

Ownership retention = Shares outstanding after offering minus primary and secondary shares issued, scaled by shares outstanding after offering.

HITECH = one if an IPO firm belongs to a technology industry, and zero otherwise.

Underwriter = underwriter prestige ranking obtained from Jay Ritter's website: http://bear.warrington.ufl.edu/ritter/ipodata.htm;

VC = one if an IPO issue is backed by venture capitalists and zero otherwise.

Price update = The difference between the final offer price and the mid-point of initial price range scaled by the mid-point of initial price range.

Equation (2) is also consistent with the residual income model of Ohlson (1995), where *PFEA* is additional information that is related to market value of equity but not recognized into current year's earnings. In Equation (2), α_1 reflects the valuation-relevance of pro forma earnings adjustments. If investors view pro forma earnings adjustments as earnings of the firm, I predict α_1 is positive.

3.4. Stock return tests

Next, I employ the stock return tests to complement the earnings forecasting and valuation tests. In particular, if the earnings forecasting and valuation tests yield evidence of mispricing, then post-IPO stock returns will have a predictable relation with pro forma earnings adjustments. Alternatively, if the earnings forecasting and valuation tests yield no evidence of mispricing, then there should be no significant relation between post-IPO stock returns and pro forma earnings adjustments. I study the incremental effect of pro forma earnings adjustments on the post-IPO stock returns by including control variables that are previously documented determinants of post-IPO stock returns: negative earnings (Balakrishnan et al. 2010), total accruals (Teoh et al. 1998b; Fan 2007), book-to-market ratio (Fama and French 1993; Lakonishok et al. 1994), firm size (Fama and French 1993), firm age (Ritter 1991), high technology (Loughran and Ritter 2004; Bartov et al. 2002), underwriter reputation (Carter et al. 1998), venture capital backing (Brav and Gompers 1997; Bergstrom et al. 2006), and underpricing (Ritter and Welch 2002). Finally, I winsorize all continuous variables, except for *BHAR*, at 1% and 99% to remove the influential observations. This results in the following equation:

$$BHAR_i = \alpha_0 + \alpha_1 PFEA_i + \alpha_2 NegE_i + \alpha_3 TACC_i + \alpha_4 BTM_i + \alpha_5 Ln(MVE)_i + \alpha_6 Ln(Age)_i + \alpha_7 HITECH_i + \alpha_8 Underwriter_i + \alpha_9 VC_i + \alpha_{10} Underpricing_i + \varepsilon_i, \quad (3)$$

where:

BHAR = Three-year buy-hold abnormal returns relative to CRSP equal-weighted market return index in months 2-37 subsequent to the month of IPO issuance. For firms that are delisted before the 37th month, I calculate the remaining return by first using CRSP's delisting return and then reinvest any remaining proceeds in the equal-weighted market portfolio.

PFEA = Pro forma earnings before extraordinary items minus historical earnings before extraordinary items (Compustat data item 18) for the year before IPO.

NegE = One if historical earnings before extraordinary items (Compustat data 18) for the year before IPO is negative and zero otherwise.

TACC = Total accruals for the year before IPO, calculated as earnings before extraordinary items (Compustat data item 18) less cash flow from operations (Compustat data item 308).

BTM = Book value of total equity (Compustat data item 60) at year end before IPO scaled by first-day IPO market value of equity, calculated as IPO first-day market price times shares outstanding.

LnMVE = Natural logarithm of market value of IPO firm immediately after the offering, calculated as total number of shares outstanding after the offer multiplied by closing price on the first day of trading.

LnAge = Natural logarithm of one plus years from founding date to IPO, where founding date of IPOs are obtained from Jay Ritter's website: http://bear.warrington.ufl.edu/ritter/ipodata.htm.

HITECH = One if an IPO firm belongs to a technology industry, and zero otherwise.

Underwriter= underwriter prestige ranking obtained from Jay Ritter's website: http://bear.warrington.ufl.edu/ritter/ipodata.htm.

VC = One if an IPO issue is backed by venture capitalists and zero otherwise.

Underpricing = The difference between the first trading day closing price and final offer price scaled by the final offer price.

In Equation (3), α_1 reflects the predictive ability of pro forma earnings adjustments for future stock returns. If the earnings forecasting and valuation tests yield evidence of mispricing, then I expect α_1 to be significant. Alternatively, if the earnings forecasting and valuation tests yield no evidence of mispricing, then I expect α_1 to be insignificant.

4. Sample and data

4.1. Sample Selection

My sample covers the eleven-year period, 1997 to 2007. The sample period begins in January 1997 because 1997 is the first year that offering prospectus, Form S-1, became widely available from the SEC's EDGAR site, www.sec.gov/edgar.shtml.[10] The sample period ends in December 2007 because of a requirement that data (stock returns and earnings) will be available in a three-year period after the IPO date. Table 1 summarizes the effects of the sample-selection criteria on the sample size. The initial sample of 3,536 IPOs consists of all domestic U.S. IPOs extracted from the Securities Data Corporation (SDC)

[10] According to Ljungqvist and Wilhelm (2003), since early May of 1996 all companies, foreign and domestic, are required to file SEC registration statements, periodic reports, and other forms electronically through EDGAR. Section 5(b) of the Securities Act of 1933 requires issuing firms to file an S-1 registration form with the SEC prior to the sale of securities to the public. The first part of Form S-1 is the offering prospectus.

database during the period, 1997-2007. Along the lines of prior studies of IPO pricing, I then exclude certain types of IPOs and certain sectors in order to obtain a more homogeneous sample. Specifically, I eliminate financial firms (SIC codes between 6000 and 6999, inclusive). This reduces the sample size to 2,581 IPOs. The requirement that Form S-1 is available in EDGAR further reduces the sample size to 2,056 IPOs. I lose 36 IPOs that are unavailable in the Center for Research on Security Prices (CRSP) database, and 65 IPOs that are non-ordinary or common shares, further reducing the sample size to 1,955 IPOs. I download 424B forms of these IPOs and search for the terms "pro forma/pro-forma/proforma". I drop 89 IPOs that have no one prior year financial statements, 328 IPOs that have no pro forma financial statements and 738 IPOs that have pro forma earnings adjustment related to only "below the bottom line" items, including pro forma adjustments related to extraordinary items, discontinued operations, cumulative effect of changes in accounting principles, dividends on preference shares, and the calculation of weighted average outstanding shares, resulting in a final sample size of 800 IPOs. However, since my tests use a number of dependent and control variables that are not part of the sample selection procedure, the actual sample size ranges from 621 IPOs to 799 IPOs.

(INSERT TABLE 1 ABOUT HERE)

I extract stock price and return data from CRSP, pre-IPO non-financial statement data from SDC and from sources identified in the text. I extract Pre- and post-IPO financial statement data from Compustat. If any financial statement data are missing, I try to hand collect them from IPO prospectuses and 10-K forms from EDGAR website, according to the Compustat definitions.

4.2. Summary Statistics

Table 2 presents the annual distribution of the sample in Panel A, descriptive statistics for variables in Panel B, and Pearson correlation among the variables in Panel C. Panel A reveals that during 1997-2000 the IPO market was booming, whereas 2001-2007 is characterized as a cold IPO market. Subperiod 1997-2000 accommodates more than 65 percent of the sample.

Table 2, Panel B provides descriptive statistics for all continuous variables used in the empirical tests. Reading across the table, I note four salient points. First, the means and medians of pro forma earnings adjustments are both negative, indicating that pro forma earnings adjustments have income-decreasing effect on historical earnings. Second, consistent with findings of prior research, IPOs generally exhibit poor post-IPO performance. For example, in the post-IPO period the means of short-term earnings (FN_1), long-term earnings (FN_{2-3}), and stock returns (*BHAR*) are all negative. Third, both mean and median of total accruals are negative, consistent with the recent evidence in the literature about the conservative pre-IPO reporting (See e.g. Ball and Shivakumar 2008). Fourth, consistent with prior research, the IPO sample experiences significant first-day underpricing. Both mean and median of underpricing are positive.

Table 2, Panel C, presents Pearson product-moment correlation among the dependent and test variables. Generally *PFEA* is significantly positively correlated with future earnings (both short-term and long-term). This means that, higher pro forma earnings adjustments imply higher future earnings performance, which may be considered prima facie evidence of the informativeness of pro forma earnings adjustments. Further, the correlation between pro forma earnings adjustment and market value of equity is insignificant, suggesting that investors may fail to incorporate pro forma earnings adjustments into IPO market value of equity. Finally, the significantly positive correlation between *PFEA* and future stock returns

is noteworthy, suggesting that investors may not fully consider the implications of the pro forma earnings adjustments when forming their expectations about the IPOs' future prospects.

(INSERT TABLE 2 ABOUT HERE)

5. Empirical results

5.1. Earnings forecasting tests

Table 3 displays the results from estimating Equation (1) using as the dependent variable short-term earnings and long-term earnings. Short-term earnings are the annual earnings for the first year after the IPO date, and long-term earnings are the average earnings over the second and third years after that date. Consider first the result for short-term earnings performance. The estimate on *PFEA* is insignificant. This finding indicates that the information captured by *PFEA* is not reflected in the annual earnings for the first year after the IPO date. Two possible answers may explain this result. One possibility is that pro forma earnings adjustments do not deliver future earnings implications. The other possibility is that future earnings information captured by pro forma earnings adjustments has not yet recognized in the annual earnings for the first year after the IPO. In an effort to distinguish between these two competing explanations for my findings, I examine the relation between long-term earnings performance and pro forma earnings adjustments. The result shows that the estimate on pro forma earnings adjustments is significantly positive (0.096, t-statistics 4.91), suggesting that pro forma earnings adjustments are related to long-term earnings performance.

Turn to the correlations between control and dependent variables, I note the following points: First, consistent with mean reverting hypothesis, the estimates on current year's earnings to forecast short-term and long-term earnings are both significantly positive and less than 1 (Richardson et al. 2005). Second, as suggested by Brown (2001), the future earnings

performance of loss IPOs is lower than that of profitable IPOs. Third, pre-IPO total accruals are significantly negatively associated with future years' earnings, indicating that IPO issuers tend to report unusually high levels of earnings prior to IPO by adopting accrual accounting adjustments (Teoh et al. 1998a; Fan 2007). Fourth, the estimates on book-to-market ratio are significantly negative, suggesting that IPOs with lower book-to-market ratios tend to be more profitable (Fama and French 1993; Lakonishok et al. 1994; Penman 1996). Fifth, consistent with Ritter (1991), the age of the firm is significantly positively associated with post-IPO earnings performance. Sixth, high technology IPOs tend to experience lower post-IPO earnings performance than non-high technology IPOs (Loughran and Ritter 2004). Finally, interestingly, the estimates on *Underwriter* and *VC* are insignificant, suggesting that there is little difference in post-IPO earnings performance between prestigious underwritten and nonprestigious underwritten IPOs as well as venture-backed and nonventure-backed IPOs, which is inconsistent with prior findings (See e.g. Carter et al. 1998; Bergstrom et al. 2006).

(INSERT TABLE 3 ABOUT HERE)

5.2. Valuation tests

Having demonstrated the predictive ability of pro forma earnings adjustments, I next examine to what extent investors incorporate this information into their price expectations. Table 4 displays the result from estimating Equations (2). The key variable of interest, *PFEA*, has an insignificant coefficient, suggesting that the information about future earnings performance captured by pro forma earnings adjustments is not reflected in investors' IPO price expectations. One possible explanation for this is that investors overlook important earnings information that is captured by pro forma earnings adjustments, especially given the fact that pro forma earnings adjustments only capture the long-term earnings performance. It is plausible that investors overlook this information because they are unlikely to do a good

job extracting long-term earnings information from pro forma earnings adjustments due to cognitive bias.

Reviewing the results displayed in Table 4, I note five salient points about the correlations between control and dependent variables. First, consistent with findings in prior research the estimates on current year's earnings and book value of equity are significantly positive, indicating that investors consider bottom-line accounting measures when they expect IPO equity value (Klein 1996). Second, it is interesting to note that the estimate on *NegE* is significantly positive. This contrasts with Aggarwal et al. (2009) finding that firms with more negative earnings have higher valuation than do firms with less negative earnings. Third, the estimate on *Ownership retention* is significantly positive, suggesting that IPO value increases when a firm retains more shares (as suggested by signaling theory) (Leland and Pyle 1977; Fan 2007). Fourth, the estimate on *Underwriter* is significantly positive, indicating that IPOs handled by more prestigious underwriters experience favorable valuation by the capital market, possibly because it signals issue quality and therefore reduces the perceived uncertainty about firm value (Beatty and Ritter 1986). Fifth, interestingly, the estimate on *VC* is significantly negative, which is inconsistent with the conjecture that market reacts favorably to the presence of venture capital financing at the time of an IPO (Barry et al. 1990; Megginson and Weiss 1991). Finally, *Price update* is significantly positively associated with IPO market equity value, indicating that IPOs with favorable information revealed prior to the IPO date receive high market valuation on the first day of public trading (Hanley 1993).

(INSERT TABLE 4 ABOUT HERE)

5.3. Stock return tests

The earnings forecasting and valuation tests results have provided evidence that investors are likely to overlook future earnings information captured by pro forma earnings adjustments and thus fail to incorporate such information into IPO stock prices. Next, I perform stock return tests to further examine this issue. Table 5 displays the results from estimating Equations (3). The estimate on *PFEA* is significantly positive (0.094, t-statistics 3.65), indicating that investors fail to incorporate future earnings information captured by pro forma earnings adjustments into stock prices at the time when the pro forma earnings adjustments are available.

A review of results displayed in Table 5 also provides the following points regarding the correlations between control variables and *BHAR*. First, consistent with prior research, the future return performance of loss IPOs is lower than that of profitable IPOs (Balakrishnan et al. 2010). Second, interestingly, pre-IPO total accruals are insignificantly correlated with future stock returns. This is inconsistent with Teoh et al. (1998b) finding that IPO firms use pre-IPO accruals to opportunistically overstate earnings but consistent with Fan (2007) finding that IPO firms use pre-IPO accruals to signal high quality to investors. Third, consistent with the well-documented book-to-market anomaly, book-to-market ratio is significantly and positively related with stock returns (Fama and French 1993; Lakonishok et al. 1994). Fourth, the estimate on *Underwriter* is significantly positive, indicating that IPOs handled by more prestigious underwriters experienced less severe underperformance (Carter et al. 1998), and the estimate on *VC* is insignificant, suggesting there is little difference in post-IPO stock-price performance between venture-backed and nonventure-backed IPOs once firm size is controlled for (Brav and Gompers 1997). Finally, the estimate on *Underpricing* is significantly negative, consistent with the IPO underpricing anomaly widely documented in the literature (See e.g. Ritter and Welch 2002). Collectively, the picture that

emerges from the results in Tables 3-5 is that *PFEA* captures firm specific earnings information, which is not fully reflected at the time of the IPO in stock prices.

(INSERT TABLE 5 ABOUT HERE)

5.4. Sensitivity tests

Finally, to assess the robustness of my findings to time periods I replicate my regression analyses reported above after partitioning my sample period into two subperiods: 1997-2000, and 2001-2007. I select 2000 as the cutoff year due to the fact that during 1997-2000 the IPO market was booming, whereas 2001-2007 is characterized as a cold IPO market.

Panels A and B of Table 6 report the results for the early and late subperiods, respectively. Clearly, my results are insensitive to the level of activity in the IPO market. As before, *PFEA* is significantly positively related to long-term earnings and future stock returns, and is unrelated to short-term earnings and IPO market value. Thus, in both periods pro forma earnings adjustments capture future earnings information that is not reflected in stock prices at the IPO date.

(INSERT TABLE 6 ABOUT HERE)

6. Conclusion

In this paper, I investigate two research questions regarding the informativeness of pro forma financial statements as required by SEC regulation S-X. The first question asks if pro forma financial statements deliver forward-looking information. The second question examines whether investors fully incorporate pro forma financial statements into stock prices. To test these questions, I use a sample of IPOs spanning from 1997 to 2007.

I find a significantly positive correlation between pro forma earnings adjustments in the IPO prospectus and long-term earnings (average second and third year earnings after IPO). I find that pro forma earnings adjustments are not correlated with IPO value. These findings suggest that investors behave as if they fail to incorporate future earnings information that is captured by pro forma earnings adjustment contained in the IPO prospectus into their price formation.

Does this failure reflect market inefficiency? To address this question I examine the ability of pro forma earnings adjustments to predict post-IPO stock returns and find that pro forma earnings adjustments are significantly positively correlated with post-IPO stock returns. This finding suggests that investors do not fully incorporate pro forma earnings adjustments into stock prices.

My results contribute to the existing literature along two main dimensions. First, I provide evidence on the informativeness of pro forma financial statements. I find that pro forma earnings adjustments in the IPO prospectus predict a company's future earnings performance and are priced by investors. Investors would benefit if managers keep reporting pro forma financial statements in their SEC filings. Second, I find that investors initially underreact to pro forma financial statements. Investors fail to extract the long-term earnings implications from pro forma earnings adjustments in the IPO prospectus and consequently fail to incorporate pro forma earnings adjustments into their initial stock price formation. This evidence contributes to the strand of literature that finds investors fail to fully incorporate the implications of earnings news into stock prices in a timely fashion due to a cognitive bias.

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Appendix: Variable Definitions

Pro Forma Financial Statement Variable	
PFEA	Pro forma earnings before extraordinary items minus historical earnings before extraordinary items (Compustat data item 18) for the year before IPO.
Dependent Variables	
FE_1	Historical earnings before extraordinary items (Compustat data item18) for the year after IPO.
FE_{2-3}	Average historical earnings before extraordinary items (Compustat data item18) for the second and third year after IPO.
MVE	Market value of IPO firm immediately after the offering, calculated as total number of shares outstanding after the offer multiplied by closing price on the first day of trading.
BHAR	Three-year buy-hold abnormal returns relative to CRSP equal-weighted market return index in months 2-37 subsequent to the month of IPO issuance. For firms that are delisted before the 37th month, I calculate the remaining return by first using CRSP's delisting return and then reinvest any remaining proceeds in the equal-weighted market portfolio.
Control Variables	
E	Historical earnings before extraordinary items (Compustat data item 18) for the year before IPO.
NegE	One if historical earnings before extraordinary items (Compustat data 18) for the year before IPO is negative and zero otherwise.
TACC	Total accruals for the year before IPO, calculated as earnings before extraordinary items (Compustat data item 18) less cash flow from operations (Compustat data item 308).
BTM	Book value of total equity (Compustat data item 60) at year end before IPO scaled by first-day IPO market value of equity, calculated as IPO first-day market price times shares outstanding.
LnMVE	Natural logarithm of market value of IPO firm immediately after the offering, calculated as total number of shares outstanding after the offer multiplied by the first trading day closing price.
LnAge	Natural logarithm of one plus years from founding date to IPO, where founding date of IPOs are obtained from Jay Ritter's website: http://bear.warrington.ufl.edu/ritter/ipodata.htm.
HITECH	One if an IPO firm belongs to a technology industry, and zero otherwise.
Underwriter	Underwriter prestige ranking obtained from Jay Ritter's website: http://bear.warrington.ufl.edu/ritter/ipodata.htm.
VC	One if an IPO issue is backed by venture capitalists and zero otherwise.
BVE	Book value of total equity (Compustat data item 60) at year end before IPO.
Ownership retention	Shares outstanding after offering minus primary and secondary shares issued, scaled by shares outstanding after offering.
Price update	The difference between the final offer price and the mid-point of initial price range scaled by the mid-point of initial price range.
Underpricing	The difference between the first trading day closing price and final offer price scaled by the final offer price.

Table 1
Sample selection process

Population of US IPOs from Securities Data Corporation, 1997-2007		3,536
Exclusions:		
Financial firms	(955)	
Non S-1 form registers	(525)	
No matching firm in CRSP database	(36)	
Non-ordinary stock	(65)	
S-1 IPOs by US non-financial firms listed on NYSE, NASDAQ, or AMEX		1,955
Less:		
No one prior year financial statement data in prospectus	(89)	
No pro forma financial statements in prospectus	(328)	
Pro forma earnings adjustment related to "below the bottom line" items	(738)	
Pro forma adjustments related to earnings income extraordinary items		800

Note: Financial firms are firms with SIC codes in the range 6000-6999. Non-ordinary/common shares issues are identified based on CRSP share code (not equal to 10 and 11). Examples of pro forma earnings adjustments related to "below the bottom line" items include, e.g., pro forma adjustments related to extraordinary items, discontinued operations, cumulative effect of changes in accounting principles, dividends on preference shares, and the calculation of weighted average outstanding shares.

Table 2
Summary statistics

Panel A: Annual distribution

Issuing year	Number of IPOs	Frequency in Sample (1)	Frequency in SDC (2)	Ratio of (1) to (2)
1997	179	22.38	17.80	1.26
1998	109	13.63	10.69	1.27
1999	137	17.13	20.61	0.83
2000	109	13.63	16.37	0.83
2001	33	4.13	3.32	1.24
2002	23	2.88	2.66	1.08
2003	20	2.50	2.30	1.09
2004	49	6.13	7.06	0.87
2005	60	7.50	6.45	1.16
2006	51	6.38	6.19	1.03
2007	30	3.75	6.55	0.57
	800	100.00	100.00	

Panel B: Descriptive statistics

Variable	**N**	**Mean**	**Std. Dev.**	**5%**	**25%**	**Median**	**75%**	**95%**
PFEA	767	-0.127	0.709	-0.555	-0.062	-0.003	0.024	0.180
FE_1	794	-0.074	0.308	-0.752	-0.100	0.016	0.079	0.237
FE_{2-3}	647	-0.066	0.247	-0.645	-0.108	0.023	0.071	0.157
MVE ($ Million)	800	715	1199	58	152	317	714	2615
BHAR	800	-0.379	0.955	-1.355	-1.051	-0.657	0.043	1.385
E	767	-0.141	0.554	-1.343	-0.125	0.016	0.088	0.295
TACC	767	-0.116	0.249	-0.545	-0.170	-0.073	-0.011	0.183
BVE ($ Million)	767	148	808	-102	-5	7	42	641
BTM	767	0.118	0.373	-0.202	-0.019	0.029	0.145	0.615
Age (Years)	794	21	26	2	4	11	24	88
Price Update	800	0.018	0.234	-0.333	-0.125	0.000	0.121	0.423
Underpricing	800	0.251	0.454	-0.074	0.005	0.110	0.283	1.262
Ownership retention	800	0.644	0.227	0.080	0.569	0.704	0.800	0.892

Panel C: Pearson correlation

Variable	***FE_1***	***FE_{2-3}***	***LnMVE***	***BHAR***
PFEA	0.285***	0.415***	-0.054	0.098**
FE_1		0.723***	-0.069*	0.197***
FE_{2-3}			-0.058	0.365***
LnMVE				0.039

Note: *PFEA*, FE_1, FE_{2-3}, *E*, and *TACC* are scaled by average book value of total assets (Compustat data item 6). In order to remove the influential observations, all continuous variables except *BHAR* are winsorized at 1% and 99%. *, ** and *** indicate significance at the 10%, 5% and 1% levels (two-sided tests).

Table 3
Predicting post-IPO earnings using pro forma earnings adjustments and controls

Equation (1): $FE_1\,(FE_{2\text{-}3}) = \alpha_0 + \alpha_1 PFEA_i + \alpha_2 E_i + \alpha_3 NegE_i + \alpha_4 TACC_i + \alpha_5 BTM_i +$

$\alpha_6 LnMVE_i + \alpha_7 LnAge_i + \alpha_8 HITECH + \alpha_9 Underwriter_i + \alpha_{10} VC_i + \varepsilon_i$

Variable	Exp. Sign	FE_1	$FE_{2\text{-}3}$
Intercept		-0.017	-0.048
		(-0.42)	(-1.12)
PFEA	(?)	0.016	0.096
		(0.95)	(4.91)***
E	(+)	0.376	0.241
		(13.31)***	(8.40)***
NegE	(-)	-0.053	-0.064
		(-3.89)***	(-3.84)***
TACC	(-)	-0.198	-0.150
		(-2.94)***	(-3.58)***
BTM	(-)	-0.031	-0.024
		(-2.23)**	(-2.33)**
LnMVE	(+)	0.006	-0.002
		(0.88)	(-0.32)
LnAge	(+)	0.019	0.019
		(2.98)***	(2.78)***
HITECH	(-)	-0.022	-0.042
		(-1.79)*	(-3.41)***
Underwriter	(+)	-0.000	0.006
		(-0.00)	(0.98)
VC	(+)	-0.028	-0.024
		(-1.52)	(-1.37)
Year Fixed Effects		Included	Included
Observations		756	621
Adj. R-squared		63.08%	58.62%

Note: FE_1, $FE_{2\text{-}3}$, *PFEA*, *E*, and *TACC* are scaled by average book value of total assets (Compustat data item 6). In order to remove the influential observations, all continuous variables are winsorized at 1% and 99%. T-statistics are white heteroscedasticity-consistent and presented in brackets. *, ** and *** indicate significance at the 10%, 5% and 1% levels (two-sided tests).

Table 4
Regression of IPO market value on pro forma earnings adjustments and controls

Equation (2): $L(MVE_i) = \alpha_0 + \alpha_1 L(PFEA_i) + \alpha_2 L(E_i) + \alpha_3 NegE_i + \alpha_4 L(BVE_i) + \alpha_5 Ownership\ retention_i + \alpha_6 HITECH + \alpha_7 Underwriter_i + \alpha_8 VC + \alpha_9 Price\ update + \varepsilon_i$

Variable	Exp. Sign	*L(MVE)*
Intercept		1.609
		(9.78)***
L(PFEA)	(?)	-0.012
		(-0.71)
L(E)	(+)	0.047
		(1.68)*
NegE	(-)	0.295
		(2.62)***
L(BVE)	(+)	0.053
		(4.82)***
Ownership retention	(+)	1.382
		(9.54)***
HITECH	(+)	0.006
		(0.09)
Underwriter	(+)	0.314
		(17.63)***
VC	(+)	-0.230
		(-3.67)***
Price update	(+)	1.506
		(12.51)***
Year Fixed Effects		Included
Observations		799
Adj. R-squared		61.22%

Note: L(.) indicates that the natural log is taken of the variable. To retain negative values of variables, I use the transformation proposed by Aggarwal et al. (2009): $L(W) = \log_e(1+W)$ when $W \geq 0$; $L(W) = -\log_e(1-W)$ when $W < 0$. T-statistics are white heteroscedasticity-consistent and presented in brackets. *, ** and *** indicate significance at the 10%, 5% and 1% levels (two-sided tests).

Table 5
Predicting post-IPO returns using pro forma earnings adjustments and controls

Equation (3): $BHAR_i = \alpha_0 + \alpha_1 PFEA_i + \alpha_2 NegE_i + \alpha_3 TACC_i + \alpha_4 BTM_i + \alpha_5 Ln(MVE)_i + \alpha_6 Ln(Age)_i + \alpha_7 HITECH_i + \alpha_8 Underwriter_i + \alpha_9 VC_i + \alpha_{10} Underpricing_i + \varepsilon_i$

Variable	Exp. Sign	*BHAR*
Intercept		-0.876
		(-4.56)***
PFEA	(?)	0.094
		(3.65)***
NegE	(-)	-0.245
		(-3.17)***
TACC	(-)	-0.059
		(-0.52)
BTM	(+)	0.193
		(1.96)**
LnMVE	(-)	-0.019
		(-0.47)
LnAge	(+)	0.016
		(0.46)
HITECH	(-)	0.046
		(0.58)
Underwriter	(+)	0.070
		(3.22)***
VC	(+)	0.015
		(0.18)
Underpricing	(-)	-0.190
		(-2.56)**
Year Fixed Effects		Included
Observations		761
Adj. R-squared		10.37%

Note: *PFEA* and *TACC* are scaled by average book value of total assets (Compustat data item 6). In order to remove the influential observations, all continuous variables except for *BHAR* are winsorized at 1% and 99%. T-statistics are white heteroscedasticity-consistent and presented in brackets. *, ** and *** indicate significance at the 10%, 5% and 1% levels (two-sided tests).

Table 6
Predicting post-IPO earnings, IPO market value, and post-IPO returns using pro forma earnings adjustments and controls: sub period analysis

Panel A: Sub period 1997-2000

Variable	FE_1	FE_{2-3}	*L(MVE)*	*BHAR*
Intercept	-0.009	-0.030	1.744	-0.971
	(-0.17)	(-0.59)	(9.02)***	(-4.11)***
PFEA	0.024	0.099	-0.038	0.085
	(1.43)	(4.44)***	(-1.45)	(3.14)***
E	0.388	0.230	0.055	
	(13.34)***	(6.99)***	(1.37)	
NegE	-0.065	-0.074	0.315	-0.178
	(-3.61)***	(-3.02)***	(2.26)**	(-1.70)*
BVE			0.051	
			(3.00)***	
Ownership retention			1.435	
			(7.36)***	
TACC	-0.258	-0.154		0.069
	(-3.60)***	(-3.03)***		(0.58)
BTM	-0.015	0.005		0.220
	(-0.89)	(0.27)		(1.36)
LnMVE	0.005	-0.001		-0.023
	(0.61)	(-0.11)		(-0.43)
LnAge	0.020	0.021		0.012
	(2.81)***	(2.15)**		(0.28)
HITECH	-0.035	-0.066	-0.076	0.057
	(-2.23)**	(-3.68)***	(-0.97)	(0.54)
Underwriter	-0.000	0.003	0.292	0.085
	(-0.02)	(0.44)	(14.26)***	(3.20)***
VC	-0.042	-0.030	-0.108	-0.008
	(-1.79)*	(-1.20)	(-1.43)	(-0.07)
Price update			1.497	
			(11.37)***	
Underpricing				-0.179
				(-2.21)**
Year Fixed Effects	Included	Included	Included	Included
Observations	501	392	534	505
Adj. R-squared	68.04%	57.81%	63.39%	4.98%

Note: *PFEA*, *E*, and *TACC* are scaled by average book value of total assets (Compustat data item 6). In order to remove the influential observations, all continuous variables are winsorized at 1% and 99%. T-statistics are white heteroscedasticity-consistent and presented in brackets. *, ** and *** indicate significance at the 10%, 5% and 1% levels (two-sided tests).

Table 6 (Cont'd)
Predicting post-IPO earnings, IPO market value, and post-IPO returns using pro forma earnings adjustments and controls: sub period analysis

Panel B: Sub period 2001-2007

Variable	FE_1	FE_{2-3}	L(MVE)	BHAR
Intercept	-0.149	-0.080	2.249	-0.765
	(-1.69)*	(-1.04)	(6.51)***	(-1.80)*
PFEA	-0.049	0.087	0.015	0.148
	(-1.87)*	(4.23)***	(0.68)	(2.98)***
E	0.271	0.252	0.039	
	(3.07)***	(6.34)***	(0.93)	
NegE	-0.037	-0.046	0.235	-0.351
	(-2.10)**	(-2.98)***	(1.14)	(-3.12)***
BVE			0.054	
			(4.06)***	
Ownership retention			1.408	
			(6.87)***	
TACC	0.032	-0.145		-0.637
	(0.20)	(-2.32)**		(-1.91)*
BTM	-0.030	-0.034		0.186
	(-1.49)	(-3.03)***		(1.49)
LnMVE	0.022	-0.003		-0.018
	(1.47)	(-0.42)		(-0.29)
LnAge	0.016	0.014		0.032
	(1.42)	(1.89)*		(0.50)
HITECH	-0.008	-0.003	0.154	0.026
	(-0.41)	(-0.19)	(1.48)	(0.24)
Underwriter	-0.004	0.013	0.375	0.028
	(-0.37)	(1.33)	(12.18)***	(0.81)
VC	0.033	-0.010	-0.532	0.041
	(1.24)	(-0.60)	(-4.73)***	(0.27)
Price update			1.474	
			(5.72)***	
Underpricing				-0.384
				(-1.31)
Year Fixed Effects	Included	Included	Included	Included
Observations	255	229	265	256
Adj. R-squared	22.84%	44.60%	48.77%	11.00%

Note: *PFEA*, *E*, and *TACC* are scaled by average book value of total assets (Compustat data item 6). In order to remove the influential observations, all continuous variables are winsorized at 1% and 99%. T-statistics are white heteroscedasticity-consistent and presented in brackets. *, ** and *** indicate significance at the 10%, 5% and 1% levels (two-sided tests).