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AUSTRALIAN SCHOOL OF BUSINESS™
THE UNIVERSITY OF NEW SOUTH WALES

Australian Journal of Management
36(2) 267–286

DOI: 10.1177/0312896211405569
aum.sagepub.com
SAGE

Dividend initiations and long-run IPO performance

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Abstract

Dividend initiations are an economically significant event that has important implications for a firm's future financial capacity. Given the market's expectation of a consistent payout, managers of IPO firms must approach the initial dividend decision cautiously. We compare the long-run performance of IPO firms that initiated a dividend with that of similarly matched non-payers, and find robust results that firms which initiated a dividend perform significantly better up to five years after the initiation date. Further tests show that the post-initiation firm performance is explained mostly by dividend theory of signalling rather than free cash flow.

Keywords

Dividend initiation, free cash flows, IPOs, long-run performance, signalling

1. Introduction

The poor long-run performance of IPO firms is a well-documented phenomenon in the literature. In the US, Ritter (1991) documents stock returns of seasoned firms that almost double those of newly listed firms within three years of the IPO listing. Similar findings of poor long-run performance of IPO firms are observed elsewhere including Australia (Lee et al., 1996), the UK (Levis, 1995), and Spain (Alvarez and Gonzalez, 2005). Despite the voluminous work on IPO long-run performance, the literature has yet to converge on the true underlying reason for this phenomenon.

Recent developments in the IPO literature focus on corporate actions undertaken by newly listed firms to explain the long-run performance. These undertakings include secondary equity offerings (SEOs), acquisitions, and share repurchases. For example, Levis (1995) finds the poor

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long-run performance is less severe in IPO firms that subsequently return to the market to raise additional equity. In contrast, the poor long-run performance is exacerbated after a company acquires a target firm (Brau et al., 2008) or repurchases shares shortly after listing (Bessler et al., 2009; Chen and Wang, 2007).

Our study adds to this line of IPO literature by examining whether and how the initiation of dividend payments explains the long-run performance. Similar to SEOs, acquisitions, and share repurchases, we argue that dividend policy is a significant company undertaking that distinguishes firms due to the implications of a distribution scheme. In particular, dividends are sticky as there is a strong expectation for a stable distribution scheme (Lintner, 1956) and there exists an asymmetrically worse market reaction to dividend reductions than to dividend increases (Liu et al., 2008; Michaely et al., 1995). Therefore, firms approach the dividend decision cautiously since, once initiated, they must operate within an inflexible world that responds harshly to dividend reductions and omissions (Brav et al., 2005). For this reason, the act of paying the first dividend, or dividend initiation, is an economically significant corporate event.[1]

Although past studies have analysed the relationship between dividend policy and firm performance, little attention has been paid to the same for IPO firms. Michaely et al. (1995) and Boehme and Sorescu (2002) both analyse the long-run implications of initial dividends but confine their studies to firms that have been listed for at least two years prior to the first dividend announcement. The two-year cutoff, however, limits the generality of their results to newly listed firms since 65% of dividend initiations in the US occur within the first year after the IPO (Kale et al., 2006). This percentage is expected to be even higher in a dividend imputation tax system like in Australia, which effectively eliminates the double taxation of dividends.[2] Indeed, in tracking down the dividend history of our sample of 743 Australian IPOs from 1992 to 2004 for a period of up to five years after listing we document that 75% of the 332 dividend initiations occurred during the first anniversary of listing; in the second year, the percentage drops markedly to 5%. Applying the above two-year cut-off to our sample would therefore mean that only 20% of IPO firms that have initiated a dividend will be captured.

In light of the importance of the dividend initiation decision and its proximity to the IPO listing in Australia, we test whether the act of dividend initiation is a distinguishing feature that can explain why some newly listed firms perform better or worse than other (similar) firms in the long run. Due to the 'seasoning' of IPO firms over time, we expect that the dividend signal is most important in the period immediately after the IPO when the information asymmetry problem is at its peak. Although Kale et al. (2006) examine the determinants of the dividend decision, the timing of the payment, and the amount paid by IPO firms, they do not examine the long-run repercussions. This is where our study fills the void. In addition, we empirically discriminate the signalling and free cash flow explanations for dividends.

Our main academic contributions are therefore twofold. First, we contribute to the long-run IPO performance research by showing IPO firms that initiated a dividend payment are able to distinguish themselves from firms that did not, where the act of commencing a distribution scheme influences long-run performance. Specifically, we find dividend initiators have significantly better stock returns than non-payers, matched by listing date and firm size, in periods following the initial dividend announcement. Our results, which are robust to the calendar time Fama and French (1995) portfolio regression approach, various variable specifications, and whether or not a management forecast of dividend was provided in the prospectus, are consistent with Michaely et al. (1995) and Boehme and Sorescu (2002).

Second, we contribute to our understanding of the corporate dividend decision by investigating the underlying reason that motivates an IPO firm to initiate a dividend as, once commenced, there is an expectation for consistent distributions (Brav et al., 2005). By comparing the post-initiation operating performance with post-initiation stock returns following the method in Nohel and Tarhan

(1998) and Grullon and Michaely (2002), we are able to empirically discriminate between dividend signalling and free cash flow arguments. Results support dividend signalling theories, indicating that dividend payers are more profitable and more likely to report increases in profitability in periods following the dividend initiation.

The rest of this paper is structured as follows. Section 2 develops our hypotheses and data are described in Section 3. Section 4 specifies the research method and Section 5 discusses the empirical results. Section 6 summarises and concludes.

2. Hypotheses

Under the signalling theory, initial dividend announcements act as a positive signal to the market, reducing the information asymmetry problem which in turn decreases total and systematic risk (Dyl and Weigand, 1998). This should translate into greater investor demand and a positive drift in returns following the dividend announcement. The positive post-announcement drift is expected to be more pronounced for newly listed firms than for seasoned firms due to the pervasive nature of information asymmetry in the IPO market (Bessler et al., 2009). Signals have empirically been known to induce a greater market response in firms with greater ambiguity (Dewenter and Warther, 1998).

The signalling theory also suggests that dividend initiations are an indication of the firm's confidence in current and future profitability (Brav et al., 2005) since the commencement of a dividend distribution implies a long-run commitment to consistent payouts. Increases in operating performance following a dividend initiation would therefore have positive implications for the present and long-run value of the firm, which would be reflected in the stock price. Lipson et al. (1998) find direct evidence of this and document that earnings increases are more common in firms that have initiated a dividend. Consequently, we expect that IPO firms that initiated a dividend payment will experience better returns in equity value, reflecting greater expected profitability, than firms that did not initiate a dividend.

Under the free cash flow theory, dividend payouts reduce the amount of cash that managers control and can potentially waste on inefficient investments. By committing to a dividend stream, the reduction in potential agency conflict is extended indefinitely, implying that the initial dividend announcement is expected to have a positive impact on firm value. The free cash flows hypothesis thus also predicts that IPO firms that initiate a dividend payment will have better stock performance following this corporate initiative.

Therefore, both signalling and free cash flow theories predict better long-run stock returns for firms that initiated a dividend payment:

H1: Firms that initiated a dividend payment have better long-run stock returns than firms that did not initiate a dividend payment.

This has support in Michaely et al. (1995) and Boehme and Sorescu (2002) who report a positive post-announcement drift in returns following dividend initiations in seasoned firms, although their findings are not robust to different benchmarks.

Our second objective is to discriminate signalling theory from the free cash flow theory of dividends. Signalling theory attributes the reason for the initiation of dividends to the firm's desire to distinguish itself as a more profitable firm (Nohel and Tarhan, 1998). Under the view that dividends are indicators of improving prospects, dividend payers are expected to be more likely to report tangible increases in operating performance following the initiation of dividends (Grullon and Michaely, 2002). In contrast, the free cash flow hypothesis does not predict this since, under this theory, dividend payments only provide a means of reducing the potential for managers to squander free cash flows (Jensen, 1986). That is, the free cash flow argument predicts firms that initiated a dividend payment are neither more profitable nor more likely to report an increase in profitability than non-payers. Therefore,

> *H2a: IPO firms that initiated a dividend payment are neither more profitable nor more likely to report increases in long-run profitability than non-dividend payers.*

A rejection of hypothesis *H2a* will thus indicate evidence of dividend signalling:

> *H2b: IPO firms that initiated a dividend payment are more profitable and more likely to report increases in long-run profitability than non-dividend payers.*

3. Data and variable measurement

Our primary data source is the IPO prospectuses, which we obtain from Connect-4, the Australian Securities Exchange (ASX), and the firms themselves. The final sample consists of 743 Australian IPO firms listed between 1992 and 2004 after excluding firms that were previously listed on the ASX or another stock exchange; and firms that offer hybrid, stapled or quasi-equity security with debt and equity components – the latter selection criterion ensures that our sample firms have similar propensities for paying a dividend since issuers of hybrid securities are obliged to pay consistent interest payments.

To determine if the IPO sample has initiated a dividend payment, we track down the dividend history of each firm using Bloomberg for a period of up to five years after listing. If no dividend history was found for a firm, we denote the firm as not having paid a dividend and classify it as a non-payer. For firms with at least one recorded dividend payment, the first dividend payment is noted as the initial dividend and the announcement date of the initial dividend as the initiation date. All these data were cross-checked with the Aspect Huntley Data Analysis database.

Table 1 presents the frequency distribution of dividend initiators (Panel A) and non-payers (Panel B) by the listing year and industry classification. In our sample of 743 Australian IPOs, 44.7% (332 firms) initiated a dividend payment. IPO volume in each of the years 1994, 1999, 2000, and 2003 contributes to more than 10% of the aggregate sample IPOs. Added together, these IPO-intensive years account for over half the IPOs listed from 1992 to 2004. We also observe several industry-specific trends. For example, the combined number of IPOs from the metals and mining industry contributes a significant proportion, about one-fifth (N=160), of our sample. Coinciding with the technology bubble of 2000, 70% (N=52) of all IPOs from the software and services sector went public in 1999 and 2000. All the IPO firms from the banking and insurance sectors initiated a dividend but it is rare for companies from the pharmaceuticals and biotechnology, metals and mining, and energy industries to do so.

Similar to Kale et al. (2006), we report a high percentage of firms that initiated a dividend immediately after the IPO listing. As Table 2 shows, one in three firms initiated a dividend within the first year of listing. This represents three-quarters of the entire sample of firms that initiated a dividend within five years of the IPO (N=332). The percentage of dividend initiators drops significantly to 5.4% in the second year of listing. Therefore, our data show that if firms were to initiate a dividend, they were more likely to do so within the first year of listing.[3]

We measure long-run firm performance using both stock returns and operating performance over a time horizon of one, three, and five years after the initiation date.[4] We apply the matched firm approach, which yields well-specified test statistics in studies of long-run returns (Barber and Lyon, 1997), as follows. First, we match each of the 332 firms that have initiated a dividend with each of the 411 non-initiating firms by the listing date, where the non-payer must list within six

Table 1. Frequency distribution of dividend initiating and non-initiating firms

This table reports the frequency distribution by IPOs, listing year and industry for firms that initiated a dividend (Panel A) within five years of IPO listing and non-payers (Panel B).

	Listing Year													N	%
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004		
Panel A: Dividend initiators															
Energy	0	1	2	1	0	1	0	0	0	0	1	0	0	6	0.80
Materials	1	3	1	0	1	1	0	1	4	0	0	0	0	12	1.60
Metals and Mining	1	4	8	1	1	1	1	2	0	3	1	1	1	25	3.40
Capital Goods	2	6	6	0	1	2	0	1	1	0	1	3	1	24	3.20
Commercial Services & Supplies	2	4	5	0	0	1	1	8	7	3	4	2	1	38	5.10
Transportation	0	3	1	0	0	1	0	2	0	0	0	1	0	8	1.10
Automobile and Components	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0.30
Consumer Durables & Apparel	1	0	0	0	0	0	0	0	4	1	0	0	0	6	0.80
Consumer Services	0	3	2	2	2	1	1	4	0	1	1	4	0	21	2.80
Media	0	1	3	0	2	0	0	2	5	0	1	0	0	14	1.90
Retailing	0	3	1	1	1	2	2	2	0	1	1	2	1	17	2.30
Food & Staples Retailing	0	0	2	0	0	0	0	0	0	2	0	0	0	4	0.50
Food, Beverage and Tobacco	2	2	3	0	1	1	0	4	3	2	0	1	0	19	2.60
Healthcare Equip. & Services	0	0	1	1	1	1	1	1	3	0	0	1	0	10	1.30
Pharmaceuticals & Biotech.	0	0	1	0	0	0	0	0	1	1	0	1	0	4	0.50
Banks	1	0	0	0	0	0	0	0	0	1	1	0	0	3	0.40
Diversified Financials	0	2	5	0	0	0	1	3	8	3	2	8	7	39	5.20
Insurances	1	1	1	0	0	0	0	0	1	0	0	1	0	5	0.70
Real Estate (excl. REITs)	0	2	3	1	0	5	0	1	1	0	0	2	0	15	2.00
REITs	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0.30
Software and Services	0	3	4	0	0	3	1	9	12	4	0	0	0	36	4.80
Tech. Hardware & Equipment	0	1	0	0	0	0	0	2	3	0	0	1	1	8	1.10
Telecomm. Services	0	0	0	0	0	2	2	2	3	1	0	0	0	10	1.30
Utilities	0	2	0	0	0	0	1	0	0	1	0	0	0	4	0.50
Number of payers	**11**	**42**	**50**	**7**	**11**	**22**	**11**	**44**	**56**	**24**	**14**	**28**	**12**	**332**	

(Continued)

Table 1. (Continued)

	Listing Year													N	%
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004		
Panel B: Non-Dividend initiators															
Energy	1	0	2	2	2	4	2	1	4	2	3	3	5	31	4.20
Materials	0	0	2	0	0	0	0	0	0	1	1	0	0	4	0.50
Metals and Mining	0	16	16	4	13	9	1	0	14	11	23	34	19	160	21.50
Capital Goods	0	2	1	0	0	1	0	1	1	0	0	2	1	9	1.20
Commercial Services & Supplies	0	1	0	0	0	0	3	1	4	2	4	0	0	15	2.00
Transportation	1	0	1	0	0	1	0	0	0	0	0	0	0	3	0.40
Automobile and Components	0	0	0	0	0	0	0	1	0	0	1	0	0	2	0.30
Consumer Durables & Apparel	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.10
Consumer Services	0	1	2	0	0	0	0	1	2	1	0	0	0	7	0.90
Media	0	1	1	0	0	0	0	9	3	0	1	0	0	15	2.00
Retailing	0	1	0	0	0	0	0	2	3	0	0	0	0	6	0.80
Food & Staples Retailing	0	0	1	0	0	0	0	0	0	0	0	0	1	2	0.30
Food, Beverage and Tobacco	1	3	0	0	0	1	2	1	1	0	1	1	1	12	1.60
Healthcare Equip. & Services	0	1	0	0	0	1	0	3	6	1	3	3	4	22	3.00
Pharmaceuticals & Biotech.	0	0	2	1	2	0	0	5	8	5	1	4	3	31	4.20
Banks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Diversified Financials	0	0	2	0	1	2	0	0	6	2	0	0	1	14	1.90
Insurances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Real Estate (excl. REITs)	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.10
REITs	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.10
Software and Services	0	2	0	1	1	2	2	11	20	1	1	0	0	41	5.50
Tech. Hardware & Equipment	0	1	7	0	0	0	1	3	6	0	0	2	0	20	2.70
Telecomm. Services	0	0	0	2	0	2	0	1	4	0	0	0	0	9	1.20
Utilities	0	0	0	0	0	0	0	0	2	1	2	0	0	5	0.70
Number of non-payers	**3**	**29**	**37**	**10**	**19**	**24**	**11**	**40**	**85**	**27**	**42**	**49**	**35**	**411**	**553**
Number of all firms	**14**	**71**	**87**	**17**	**30**	**46**	**22**	**84**	**141**	**51**	**56**	**77**	**47**	**743**	
Percentage of sample	**1.90**	**9.60**	**11.70**	**2.30**	**4.00**	**6.20**	**3.00**	**11.30**	**19.00**	**6.90**	**7.50**	**10.40**	**6.30**	**100**	

Table 2. Timing of dividend initiation
This table shows the statistics for the time lapse between the date of IPO listing and the announcement date of the first dividend within five years of listing by sample firms.

Time from listing	No. Firms	As a percentage of total sample	As a percentage of dividend payers
<1 year	248	33.40	74.70
1–2 years	18	2.40	5.40
2–3 years	14	1.90	4.20
3–5 years	52	7.00	15.70

months of the listing date of the dividend-paying firm. We then choose the matched firm that is closest in size, measured by market capitalization. Matching by the listing date controls for the stage of development of the IPO firms (Lipson et al., 1998) and the hot issue market, whereas matching by size controls for differences in performance (Fama and French, 1995) and propensity for dividend-paying (DeAngelo et al., 2006) due to firm size.[5]

Our stock performance measures are computed using monthly return data from the Share Price and Price Relative (SPPR) database. The cumulative abnormal return is defined as

$$CAR_T = \sum_{t=1}^{T} \overline{AR_t} \tag{1}$$

where $\overline{AR_t} = \sum_{i=1}^{n} w_{i,t} AR_{i,t}$; $w_{i,t}$ represents the weight of firm *i* in month *t*; and $AR_{i,t} = (R_{i,t} - R_{control,t})$. $R_{i,t}$ and $R_{control,t}$ are, respectively, the monthly return on payer *i* and its matched firm in month *t*, measured from the first month after the announcement of the initial dividend.[6] $\overline{ARs}$ are both equally weighted and value-weighted. The buy-and-hold abnormal return (BHAR)[7] is computed as

$$BHAR_{i,T} = \prod_{t=1}^{T}\left[1 + R_{i,t}\right] - \prod_{t=1}^{T}\left[1 + R_{control,t}\right] \tag{2}$$

and the average buy-and-hold total return is given by

$$\overline{BHAR_T} = \sum_{i=1}^{n} (w_{i,T} BHAR_{i,T}) \tag{3}$$

where $w_{i,T}$ represents the weight of firm *i* in month *T*. $\overline{BHARs}$ are also both equally weighted and value-weighted. Statistical inferences are performed via the bootstrapped skewness-adjusted *t*-statistic of Lyon et al. (1999).

To account for the cross-sectional correlations of the individual event firm returns (Mitchell and Stafford, 2000), we also compute the long run abnormal stock performance using the calendar time portfolio approach. Here, the portfolio excess returns $(R_{p,t} - R_{f,t})$, equally and value-weighted, are regressed on the three domestic Fama and French (1995) factors, represented by the excess return on the market $(R_{m,t} - R_{f,t})$; the return on a zero investment portfolio formed by subtracting the return on a 'large' firm portfolio from the return on a 'small' firm portfolio (*SMB*); and the return on a zero investment portfolio formed by subtracting the return on a portfolio of 'low' book-to-market equity value (*BE/ME*) stocks from the return on a portfolio of 'high' *BE/ME* stocks (*HML*):[8]

$$R_{p,t} - R_{f,t} = \alpha_p + b_p(R_{m,t} - R_{f,t}) + s_p SMB_{p,t} + h_p HML_{p,t} + \varepsilon_{p,t}. \quad (4)$$

For the adjusted regression, a control firm calendar time portfolio (based on size and year of listing) is subtracted from the event firm portfolio and this difference is also regressed on the domestic Fama and French factors:

$$R_{p,t} - R_{control,t} = \alpha_p + b_p(R_{m,t} - R_{f,t}) + s_p SMB_{p,t} + h_p HML_{p,t} + \varepsilon_{p,t}. \quad (5)$$

The intercept, α_p, measures the average monthly abnormal return, given the model. We run both OLS and WLS regressions where, in the latter, the monthly returns are weighted by the square root of the number of firms in the month. This is to overcome the potential deficiency in the Fama and French results arising from a correlation between stock performance and the number of IPOs in our portfolio (Gompers and Lerner, 2003).

Operating performance is proxied by the rate of return on assets (ROA) and the rate of return on equity (ROE), measured as total earnings divided by total assets and total earnings divided by market capitalization, respectively (Grullon and Michaely, 2004; Jain and Kini, 1995; Nohel and Tarhan, 1998). These profitability figures are used to empirically discriminate dividend signalling and free cash flow hypotheses, and are extracted from Aspect Huntley Financial Analysis database.

Table 3 shows how firms that initiated a dividend differ from non-dividend payers matched by listing date and size. Dividend initiators are significantly larger in size and have a significantly lower retained ownership, measured by the percentage of shares retained by the firm after the IPO. IPO firms that initiated a dividend are on average older and less underpriced on the first day of trading on the market. However, no significant difference is found for the pre-event momentum − measured by the market-adjusted buy-and-hold return from the first trading date to one month prior to the announcement date of the initial dividend- and growth potential − measured by one minus the ratio of net tangible assets per share to the offer price. Although the dividend-initiating group comprises 19.3% financial firms and 11.1% mining companies, these firms make up 2.4% and 22.6% of the benchmark group respectively.

The efficacy of our matching procedure is thus limited, due to the relatively small Australian equity market and the greater propensity for Australian firms, particularly those in the industrial sector, to initiate a dividend. The latter is driven by Australia's imputation tax system which encourages active dividend policies (Balachandran and Nguyen, 2004).

4. Results

4.1 Univariate

We begin our analysis with univariate tests of difference in the long-run stock performance of dividend payers and non-payers. Table 4 reports both the equally and value-weighted CARs and BHARs for a period of up to five years from the first month of dividend initiation. Relative to the matched non-dividend payers, the return measures for dividend payers are all positive in the one, three, and five post-initiation years irrespective of the weighting scheme used. For example, the equally weighted (value-weighted) BHAR in one, three, and five years subsequent to the initial dividend is 23.27% (42.36%), 51.31% (158.41%), and 79.65% (351.79%) respectively. Similarly, the equally weighted (value-weighted) CAR in the one, three, and five post-dividend initiation years is 26.75% (46.41%), 35.80% (73.87%), and 32.55% (88.20%) respectively. The greater magnitude of this overperformance is observed for the value-weighted return metrics, suggesting that

Table 3. Differences in firm characteristics between dividend payers and non-payers

This table reports descriptive characteristics for IPO firms that initiated a dividend within five years of listing and non-payers matched by listing date and size. Firm size is the market capitalization, measured by share price times the number of shares outstanding. Retained ownership is the percentage of shares retained after the IPO. Underpricing is the initial IPO return. Pre-event momentum is the buy-and-hold stock return from the first trading date to one month prior the announcement date of the initial dividend. Firm age is the number of years from the date of incorporation to the IPO listing date. Growth is measured as one minus the ratio of net tangible assets per share to the offer price. Finance and Mining show the percentage of firms in the financial and mining sector respectively. Tests of equality in the mean and median between dividend-paying and non-paying groups are applied using *t*-tests and Wilcoxon-ranked tests. Significance levels at 1%, 5% and 10% are denoted by ***, ** and *, respectively. NR indicates non-relevance.

	Mean			Median		
	Payers	Non-Payers	*t*-stat	Payers	Non-Payers	Wilcoxon
Firm size ($ billion)	16.27	8.26	3.633 ***	4.27	4.03	1.990 **
Retained ownership (%)	50.45	54.86	2.244 **	56.10	60.00	1.701 *
Underpricing	0.22	0.32	−1.760 *	0.10	0.10	0.470
Pre-event momentum	0.28	0.41	−0.821	0.04	0.00	1.120
Firm age (years)	11.64	7.39	3.435 ***	5.00	4.00	1.151
Growth	0.56	0.54	0.490	0.62	0.57	1.360
Finance firms	0.19	0.02	7.250 ***	NR	NR	NR
Mining firms	0.11	0.23	−3.980 ***	NR	NR	NR

the superior performance of dividend initiators is due mainly to the larger dividend-paying firms. Of all the horizons examined, the five year horizon registers the greatest overperformance by dividend initiators.

Table 5 reassesses the reliability of the above abnormal return estimates using Fama and French calendar time portfolio regressions. For the equally weighted portfolio, results show the adjusted and unadjusted coefficients are all positive and significant in both OLS and WLS. For example, the mean monthly return for the equally weighted portfolio of divident payers is 2.80% higher than that for the portfolio of non-paying IPO firms. Over a three-year period after initiation, the total

Table 4. Long-run post-initiation buy-and-hold and cumulative stock returns

This table presents the equally and value-weighted cumulative abnormal returns (CARs) and buy-and-hold abnormal returns (BHARs) for each indicated post-dividend horizon measured from the first month after the initiation date. CARs are computed by subtracting the sum of the monthly returns of the matching control firms from the sum of the monthly returns of the corresponding dividend initiating firms. BHARs are computed by subtracting the buy-and-hold return of the control firms from the buy-and-hold return of the dividend-initiating firms. The control firm is matched by firm size and listing date. For BHARs, the *t*-statistics are skewness-adjusted with significance levels computed using the bootstrapping procedure of Lyon et al. (1999). Significance levels of 1%, 5% and 10% are denoted by ***, ** and *, respectively.

Post-initiation horizon	Equally Weighted		Value-weighted	
	CAR	BHAR	CAR	BHAR
1 year (N=314)	26.75 *** (5.876)	23.27 *** (8.070)	46.41 *** (9.964)	42.36 *** (10.027)
3 years (N=272)	35.80 *** (4.217)	51.31 *** (5.730)	73.87 *** (9.054)	158.41 ** (2.927)
5 years (N=223)	32.55 *** (2.713)	79.65 *** (6.740)	88.20 *** (7.612)	351.79 *** (4.954)

Table 5. Long-run post-initiation abnormal returns using Fama-French calendar time portfolio regressions

The dependent variable is the event portfolio returns, R_p, in excess of the risk-free rate, R_f. Each month, we form equally and value-weighted portfolios of all sample firms that have initated a dividend within five years of listing. The regression equation is as follows:

$$R_{p,t} - R_{f,t} = \alpha_p + b_p(R_{m,t} - R_f) + s_p SMB_{p,t} + h_p HML_{p,t} + \varepsilon_{p,t}$$

where the independent variables are the difference between a portfolio of 'small' stocks and 'large' stocks (*SMB*); and the difference between a porfolio of high book-to-market equity value (BE/ME) stocks and 'low' BE/ME stocks (*HML*). For the adjusted regression, a control firm calendar time portfolio (based on size and listing date) is subtracted from an event firm portfolio and this difference is regressed on the three domestic Fama and French factors:

$$R_{p,t} - R_{control,t} = \alpha_p + b_p(R_{m,t} - R_f) + s_p SMB_{p,t} + h_p HML_{p,t} + \varepsilon_{p,t}$$

The reported coefficient in the table is that for the intercept, α_p, which measures the average monthly abnormal return, given the model. Results from OLS and WLS regressions are shown. In WLS, the monthly returns are weighted by the square root of the number of firms in the month. Figures in parentheses are the *t*-statistic. ***, **, * represent 1%, 5% and 10% levels of significance, respectively.

Calendar Portfolio Weighting	Model Estimated	Horizon = 1 year (No. Obs. = 183 months)				Horizon = 3 years (No. Obs. = 154 months)				Horizon = 5 years (No. Obs. = 154 months)			
		Unadjusted		Adjusted		Unadjusted		Adjusted		Unadjusted		Adjusted	
		Coefficient	R^2	Coefficient	R^2	Coefficient	R^2	Coefficient	R^2	Coefficient	R^2	Coefficient	R^2
Equally weighted	OLS	1.121 ***	0.350	3.340 ***	0.022	0.921 ***	0.508	2.804 ***	0.135	1.250 ***	0.484	2.581 ***	0.246
		(2.526)		(3.264)		(3.081)		(5.292)		(5.454)		(5.807)	
	WLS	1.197 ***	0.380	4.276 ***	0.072	0.907 ***	0.503	2.790 ***	0.164	1.226 ***	0.494	2.553 ***	0.247
		(2.732)		(4.413)		(3.256)		(5.010)		(5.038)		(5.678)	
Value-weighted	OLS	0.209	0.295	1.405 ***	0.043	–0.352 ***	0.566	0.662	0.218	–0.309 ***	0.624	2.527 ***	0.244
		(0.584)		(2.937)		(1.983)		(2.545)		(2.443)		(5.442)	
	WLS	0.048	0.354	1.375 ***	0.084	–0.396 ***	0.593	0.622 ***	0.198	–0.302 ***	0.642	0.453 ***	0.215
		(0.187)		(3.386)		(2.924)		(2.735)		(2.573)		(2.345)	

abnormal return for payers is 100.8% (100.8%=36×2.80%). For the value-weighted portfolio, the results are less striking, consistent with past studies (Gompers and Lerner, 2003). While the adjusted coefficients remain significantly positive, their magnitude is smaller than that for the equally weighted portfolio. The unadjusted coefficients are non-positive, suggesting an overall IPO underperformance in the long run (Ritter, 1991).

These results therefore support our prediction that firms which initiated a dividend payment have significantly better stock performance than non-payers in the long run. Boehme and Sorescu (2002) also document that dividend initiation positively influences long-run stock returns of seasoned firms. As with other significant company undertakings, such as an SEO (Levis, 1995), our univariate findings show that dividend policy indeed provides another significant company undertaking that can explain why some firms have better or worse stock performance than other (similar) firms.

4.2 Multivariate

To further test whether firms that initiated a dividend have better long-run stock performance than non-payers, we compute the long-run market-adjusted stock return ($CAR_{i,T}^{m}$ and $BHAR_{i,T}^{m}$) for each firm and run the following pooled OLS regression:

$$\begin{aligned} CAR_{i,T}^{m}(BHAR_{i,T}^{m}) = {} & \beta_0 + \beta_1 Dividend_i + \beta_2 Time\ lapse_i + \beta_3 Pre-momentum_i + \\ & \beta_4 Ln(Size)_i + \beta_5 Underpricing_i + \beta_6 Growth_i + \beta_7 Ln(Age)_i + \\ & \beta_8 Retention_i + \beta_9 Hot\ market_i + \beta_{10} Finance_i + \beta_{11} Mining_i + \varepsilon_i \end{aligned} \tag{6}$$

where *Dividend* is a dummy that takes the value of one for IPOs that initiated a dividend, and zero otherwise. We predict a significantly positive estimate of β_1 since firms that initiated a dividend are expected to have better stock performance in the long run than non-payers.

We include in the regression a number of other variables that past studies have found to be significant in explaining long-run IPO performance. The *Time lapse* (in months) between the IPO listing date and the dividend initiation announcement date controls for the downward trend in stock returns during at least the first three years of the IPO listing (Ritter, 1991). The *Pre-momentum* variable controls for stock performance prior to dividend initiations which may persist in the period subsequent to the initiation date (Boehme and Sorescu, 2002; Mitchell and Stafford, 2000).[9] Since our matching procedure does not fully control for firm size (Table 3), and to account for the correlation between firm size and returns (DeAngelo et al., 2006; Fama and French, 1995), we include *Size* in the regression. We control for *Underpricing*, growth potential (*Growth*), and retained ownership (*Retention*) since these factors may have an impact on the long-run performance of IPOs (Alvarez and Gonzalez, 2005; Ritter, 1991). Finally, industry dummies are included to control for industry-specific characteristics that may influence long run stock performance. To preserve the degree of freedom, we identify only the *Mining* and *Finance* sectors.

Table 6 reports the regression results. Consistent with our hypothesis and univariate results, the dividend initiation variable is statistically significant and positive in all specifications. In economic terms, the estimated coefficient on *Dividend* shows IPO firms that initiated a dividend payment on average outperform non-payers by 12.3% in the first year following the initiation, where performance is measured by the buy-and-hold market-adjusted returns. By the fifth year, dividend initiators outperform non-payers by 17.6%. Qualitatively similar results are reported when we use CAR (market-adjusted) to measure stock performance. Therefore, the initial dividend decision is a corporate initiative that has a positive impact on IPO long-run stock returns for a period of up to five years after the initial dividend announcement. Our results are thus in line with Michaely et al. (1995) and Boehme and Sorescu (2002), who report evidence of a sustained positive market reaction to initial dividends.

Looking at the control variables, the time lapse between listing and dividend initiation (*Time lapse*) is significantly positive, suggesting firms that choose to delay their dividend decision have better long-run performance. Given the typically high attrition rate amongst IPO firms (Ritter, 1991), firms that delay their dividend decision are likely to be the more profitable and better performing ones. Kale et al. (2006) also report that firms with higher research and

Table 6. Regression results for long-run stock returns and dividend initiation
This table presents results from the regression of long run stock returns measured over one, three and five years following the announcement date of the initial dividend within five years of listing. Non-paying firms are matched by listing date and firm size. BHAR and CAR are respectively the market-adjusted buy-and-hold return and the cumulative market-adjusted return. Dividend is a dummy variable which equals one for IPOs that initiated a dividend, and zero otherwise. Time lapse is the number of months between the date of IPO listing and the announcement date of dividend initiation. Pre-momentum is the market-adjusted return prior to dividend initiation date. Size is the market capitalization at the initial dividend announcement date. Underpricing is the IPO initial return, calculated as the percentage difference between the offer price and the closing price on the first day of trade. Age is the number of years from the date of incorporation to the IPO listing date. Growth is measured as one minus the ratio of net tangible assets per share to the offer price. Retention is the percentage of shares retained after the IPO. Finance and Mining take a value of one if the IPO firm belongs to the finance or mining industry respectively, and zero otherwise. Figures in parentheses are the *t*-statistic. ***, **, * represent 1%, 5% and 10% levels of significance, respectively.

	BHAR			CAR		
	1 year	3 years	5 years	1 year	3 years	5 years
Dividend	0.123 **	0.199 **	0.176 **	0.184 ***	0.235 ***	0.196 **
	(2.310)	(1.778)	(1.761)	(2.974)	(2.441)	(1.849)
Ln(Time lapse)	0.050	0.143 **	0.147 ***	0.059 **	0.110 ***	0.164 ***
	(1.568)	(2.253)	(2.376)	(1.963)	(2.575)	(3.513)
Pre-momentum	0.124 **	0.266 **	0.216	0.063 **	0.062	0.061
	(1.919)	(1.804)	(1.649) **	(1.711)	(0.963)	(0.886)
Ln(Size)	0.003	–0.058	–0.013	–0.013	–0.065 **	–0.044
	(0.152)	(–1.505)	(–0.389)	(–0.541)	(–1.950)	(–1.102)
Underpricing	–0.024	–0.004	–0.012	–0.034	–0.086	–0.046
	(–0.817)	(–0.056)	(–0.157)	(–0.892)	(–1.416)	(–0.771)
Growth	–0.022	–0.060	0.088	–0.022	0.005	0.052
	(–0.193)	(–0.298)	(0.415)	(–0.203)	(0.028)	(0.249)
Ln(Age)	0.010	0.018	0.029	0.018	–0.006	0.019
	(0.716)	(0.911)	(1.465)	(0.977)	(–0.212)	(0.661)
Retention	–0.252	–0.359 **	–0.568 ***	–0.291 ***	–0.466 ***	–0.680 ***
	(–2.175) **	(–1.824)	(–2.641)	(–2.639)	(–2.587)	(–3.019)
Finance	–0.066	–0.135	–0.207 **	–0.109	–0.081	–0.222
	(–0.580)	(–0.948)	(–1.691)	(–1.065)	(–0.507)	(–1.127)
Mining	–0.055	0.155	–0.038	0.029	0.459 ***	0.378 ***
	(–0.620)	(0.801)	(–0.262)	(0.362)	(3.735)	(2.795)
Constant	–0.316 **	–1.005 ***	–1.210 ***	–0.450 ***	–0.836 ***	–1.368 ***
	(–1.699)	(–3.478)	(–4.858)	(–1.893)	(–2.551)	(–3.823)
Adjusted R^2	0.052	0.068	0.052	0.038	0.063	0.053

development expenditures are more likely to postpone dividend initiation. By postponing the dividends, these firms are able to capitalize on profitable investment opportunities. Mining stocks, on the other hand, perform better, particularly in the third and fifth years subsequent to the dividend decision, consistent with the evidence in How (2000). Firms with a higher retained ownership and lower pre-event momentum perform worse in the long run. We note that the constant term is negative and decreasing through time, in consonance with the well-documented poor IPO long-run performance phenomenon.

4.3 Discriminating signalling and free cash flow theories

Results from our univariate and regression analyses provide evidence that dividend initiations have a positive impact on the long-run stock performance of IPO firms. In this section, we aim to empirically discriminate the signalling from the free cash flow theory of dividends. To do this, we compute excess profitability measures for each firm that initiated a dividend by taking the difference between its profitability ratios (ROA and ROE) and those of its matched non-dividend initiating firm; as before, the matching is done by listing date and firm size. We compute these excess profitability measures for each year up to five years following the dividend initiation announcement:

$$Excess\ ROA_{i,t} = ROA_{i,t} - ROA_{control,t} \tag{7}$$

$$Excess\ ROE_{i,t} = ROE_{i,t} - ROE_{control,t} \tag{8}$$

where *i* and *control* subscripts represent firm *i* that initiated a dividend and its matched control non-paying firm, respectively. Findings of dividend initiators reporting positive excess profitability following the initial dividend announcement would support the signalling theory, while no change or a reduction in profitability more likely indicates evidence in support of the free cash flow hypothesis (Nohel and Tarhan, 1998).

Table 7 shows both the mean and median excess ROAs are positive and statistically significant in all the years. Although the average excess ROE is significantly positive only in the second year, the median excess ROE is significantly positive in every year. These results provide preliminary evidence that dividend initiators are overall more profitable than non-initiators in the years (up to five years) following the initiation date. These excess profitability measures therefore support the dividend signalling argument that the firm's initial dividend decision is to distinguish itself as a more profitable company.

However, if IPO firms that initiated dividends were already more profitable prior to the initiation date and were simply maintaining this profitability level, excess ROA and ROE computed above would still be significantly positive. Therefore, a stronger test would be to compare excess *changes* in ROA and ROE since signalling theories predict an *increase* in profitability in the post-dividend initiation period. Support for the signalling theory would see initiating firms reporting significantly more positive changes in profitability following the initiation date. Following Grullon and Michaely (2002), we calculate the excess change in ROAs and ROEs as the yearly change in profitability of the dividend-initiating firm minus the yearly change in profitability of the matched non-paying firm, where this difference is captured within the same calendar year:

Table 7. Dividend initiation and long-run profitability performance
Post-event profitability performance is measured each year for up to five years after the announcement date of the initial dividend within five years of listing, where profitability performance is based on accounting rates of return on assets (ROA) and equity (ROE). Excess ROAs and ROEs are calculated as:

$$Excess\ ROA_{i,t} = ROA_{i,t} - ROA_{control,t}$$

$$Excess\ ROE_{i,t} = ROE_{i,t} - ROE_{control,t}$$

and the excess change in the profitability measures are:

$$Excess\ \Delta\ ROA_{i,t} = (ROA_{i,t} - ROA_{i,t-1}) - (ROA_{control,t} - ROA_{control,t-1})$$

$$Excess\ \Delta\ ROE_{i,t} = (ROE_{i,t} - ROE_{i,t-1}) - (ROE_{control,t} - ROE_{control,t-1})$$

where *t* represents the year after the dividend initiation date; and *i* and *control* subscripts respectively denote firm *i* that initiated a dividend and its matched firm that did not initiate a dividend (the matching is by listing date and size). Figures in parentheses represent the *t*-statistic. Significance levels (one-tailed) of 1%, 5% and 10% are denoted by *, ** and ***, respectively.

	Post-dividend initiation period				
	Year 1	Year 2	Year 3	Year 4	Year 5
Excess ROA					
Mean	0.346 ***	0.469 ***	1.196 *	0.463 ***	0.454 **
	(7.470)	(3.240)	(1.480)	(3.690)	(1.870)
Median	0.156 ***	0.150 ***	0.135 ***	0.154 ***	0.139 ***
	(13.410)	(10.770)	(9.980)	(8.370)	(7.100)
Excess ROE					
Mean	0.547	0.302 ***	0.631	–0.219	–0.062
	(1.210)	(2.790)	(1.100)	(0.460)	(0.080)
Median	0.243 ***	0.234 ***	0.194 ***	0.172 ***	0.235 ***
	(12.100)	(9.790)	(5.500)	(5.260)	(5.940)
Excess Δ ROA					
Mean	0.154 ***	0.144	0.688	–0.828	–0.053
	(2.650)	(0.960)	(0.815)	(0.890)	(0.180)
Median	0.051 ***	0.017	0.000	–0.009	0.018
	(4.210)	(0.310)	(0.690)	(0.100)	(0.740)
Excess Δ ROE					
Mean	0.208	–0.405	0.328	–1.074 *	0.302
	(0.360)	(0.803)	(0.560)	(1.330)	(0.300)
Median	0.068 ***	0.020	–0.007	–0.008	0.053 **
	(2.860)	(0.540)	(1.030)	(0.190)	(1.740)

$$Excess\ \Delta ROA_{i,t} = (ROA_{i,t} - ROA_{i,t-1}) - (ROA_{control,t} - ROA_{control,t-1}) \tag{9}$$

$$Excess\ \Delta ROE_{i,t} = (ROE_{i,t} - ROE_{i,t-1}) - (ROE_{control,t} - ROE_{control,t-1}) \tag{10}$$

Table 7 shows that the excess change in profitability is significant only in the first year following dividend initiation; the exception is the mean excess change in ROE. Therefore, IPO firms that initiated a dividend are more likely to report increases in profitability in the first year following the initiation, but not after that. Our results thus suggest that the dividend signal is most informative in the 12-month period following the initiation. Boehme and Sorescu (2002) also report that abnormal returns for initiators are most evident in the first 12 months following the dividend announcement.

Using ROAs and ROEs as alternative measures of performance, we rerun the regression model in equation (6). Table 8 shows that, in all our regressions, the dividend initiation variable is positive and significant. Therefore, a firm's decision to commence a distribution scheme is positively related to its future operating performance up to five years following the initiation date. This reinforces results reported earlier for stock performance, and provides statistically consistent evidence in support of signalling theory.

Table 8. Regression results for dividend initiation and long-run profitability performance
This table presents results from the regression of long-run profitability performance measured over one, three and five years following the announcement of the initial dividend within five years of listing. Non-paying firms are matched by listing date and firm size. ROA and ROE are respectively the accounting rate of return on assets and equity. Dividend is a dummy variable which equals one for IPOs that have initiated a dividend, and zero otherwise. Time lapse is the number of months between the date of IPO listing and the announcement date of dividend initiation. Pre-momentum is the market-adjusted return prior to dividend initiation date. Size is the market capitalization at the initial dividend announcement date. Underpricing is the IPO initial return, calculated as the percentage difference between the offer price and the closing price on the first day of trade. Age is the number of years from the date of incorporation to the IPO listing date. Growth is measured as one minus the ratio of net tangible assets per share to the offer price. Retention is the percentage of shares retained after the IPO. Finance and Mining take a value of one if the IPO firm belongs to the finance or mining industry respectively, and zero otherwise. Figures in parentheses are the *t*-statistic. ***, **, * represent 1%, 5% and 10% levels of significance, respectively.

	ROA			ROE		
	Year 1	Year 3	Year 5	Year 1	Year 3	Year 5
Dividend	0.364 ***	0.394 **	0.352 ***	0.076	1.386 **	0.290
	(7.537)	(2.094)	(4.774)	(0.324)	(2.218)	(0.334)
Ln(Time lapse)	0.002	0.109	–0.020	–0.168 **	–0.794 **	–0.475
	(0.146)	(0.671)	(–0.731)	(–2.027)	(–1.749)	(–1.125)
Pre–momentum	0.005	0.350	0.024	0.067	–0.763	0.216
	(0.302)	(1.081)	(1.445)	(1.019)	(–1.057)	(1.644)
Ln(Size)	–0.008	–0.208	0.064 **	0.002	0.226	0.054
	(–0.444)	(–1.029)	(2.200)	(0.023)	(1.116)	(0.255)
Underpricing	0.034 **	0.171	–0.051	0.020	–0.373	–0.105
	(1.685)	(0.672)	(–1.024)	(0.347)	(–0.975)	(–0.322)
Growth	–0.047	2.455	0.232 **	–0.050	0.028	1.110
	(–0.647)	(1.070)	(1.736)	(–0.090)	(0.012)	(0.934)
Ln(Age)	0.009	0.206	–0.002	–0.081	–0.237	0.072
	(0.538)	(1.112)	(–0.091)	(–0.905)	(–0.884)	(1.026)
Retention	0.000	0.971	0.064	0.813	–1.198	–0.456
	(0.001)	(0.915)	(0.754)	(1.083)	(–0.628)	(–0.506)
Finance	0.026	5.211	0.023	0.318 **	–2.181	0.601
	(0.728)	(1.025)	(0.408)	(1.823)	(–0.935)	(1.040)
Mining	–0.144 **	0.594	–0.051	0.650	–0.159	–1.270
	(–1.819)	(1.095)	(–0.463)	(0.755)	(–0.098)	(–0.733)
Constant	–0.318 **	–3.729	–0.375 **	0.857	4.816	1.424
	(–1.702)	(–1.053)	(–1.762)	(1.021)	(0.990)	(0.534)
Adjusted R^2	0.105	0.016	0.067	–0.009	0.012	–0.001

4.4 Additional robustness

A potential problem that may compromise the validity of our findings is the presence of management dividend forecasts in some prospectuses. Unlike in the US, where dividend projections by management in the prospectus are rare (How and Yeo, 2001), it is common in Australia. Brown et al.(2000) document that 40% of Australian IPOs listed between 1987 and 1997 provided a management dividend forecast in their offer document. In our sample, 32% of firms issued a dividend forecast in their IPO prospectus; of these, the vast majority (87%) subsequently initiated a dividend. However, within the sample of firms that eventually initiated dividends, 38% of them did not provide a management forecast of dividends.

To the extent that management forecasts of dividends pre-empt the firm's dividend decision, the post-initiation drift in stock returns observed in our study may be due to management forecasts. Our univariate tests (untabulated) show little evidence that the presence of a management dividend forecast influences the long-run stock performance of dividend initiators and non-initiators. The regression results in Table 9 corroborate this, showing an insignificant coefficient on *Forecast*, which takes a value of one for firms that provide a management dividend forecast in the prospectus and zero otherwise. Therefore, the long-run stock returns of firms that provide a management dividend forecast are statistically inseparable from those of non-forecasters. More importantly, we note that the estimated coefficient on *Dividend* is mostly significant after controlling for management dividend forecasts and other variables. That is, management dividend forecasts (and other control variables) have little influence on the relationship between the initial dividend decision and long-run IPO performance.

5. Summary and conclusions

We have two research aims in this paper. First, we test whether the dividend decision of newly listed firms can explain the well-documented IPO long-run performance. Although the influence of other corporate actions including SEOs, acquisitions, and repurchases on IPO long-run performance have been analysed in the literature, dividend initiations have been somewhat overlooked; those studies that do examine dividend decisions focus only on dividend initiations by firms that have been listed for at least two years. This two-year cut-off would have eliminated 80% of our Australian IPO sample, thus limiting the generality of the results.

Our findings support the hypothesis that dividend-initiating firms perform significantly better than non-initiating firms up to five years following the initiation. This finding is robust to whether we measure firm performance by stock returns (BHARs and CARs) or profitability ratios (ROA and ROE); the presence of control variables in the regression; whether or not a management forecast of dividend was provided in the prospectus; and, more importantly, the use of the calendar time Fama and French (1995) three-factor portfolio regression approach. Our findings therefore suggest that the initial dividend decision is a corporate initiative that has a positive impact on IPO long-run performance. Naturally, we cannot rule out the possibility that the observed price drifts could result merely from chance or misspecified asset pricing models (Boehme and Sorescu, 2002; Mitchell and Stafford, 2000).

Our second aim is to empirically discriminate between dividend signalling and free cash flow arguments through an examination of post-initiation profitability ratios. Results support dividend signalling theories, indicating that dividend payers are more profitable and more likely to report increases in profitability in the years following dividend initiation.

Table 9. Regression results for dividend initiation and long-run stock returns in the presence of management dividend forecasts

This table presents results from the regression of long-run stock returns measured over one, three and five years following the initial dividend, controlling for the provision of management dividend forecasts. Non-paying firms are matched by listing and firm size. BHAR and CAR are respectively the market-adjusted buy-and-hold return and the cumulative market-adjusted return. Dividend is a dummy variable which equals one for IPOs that have initiated a dividend within five years of listing and zero otherwise. Time lapse is the number of months between the date of IPO listing and the announcement date of dividend initiation. Pre-momentum is the market-adjusted return prior to dividend initiation date. Size is the market capitalization at the initial dividend announcement date. Underpricing is the IPO initial return, calculated as the percentage difference between the offer price and the closing price on the first day of trade. Forecast takes a value of one if management forecasts of dividends are provided in the prospectus and zero otherwise. Age is the number of years from the date of incorporation to the IPO listing date. Growth is measured as one minus the ratio of net tangible assets per share to the offer price. Retention is the percentage of shares retained after the IPO. Finance and Mining take a value of one if the IPO firm belongs to the finance or mining industry respectively, and zero otherwise. Figures in parentheses are the *t*-statistic. ***, **, * represent 1%, 5% and 10% levels of significance, respectively.

	BHAR			CAR		
	1 year	3 years	5 years	1 year	3 years	5 years
Dividend	0.156 ***	0.213 **	0.156	0.216 ***	0.323 ***	0.268 **
	(2.538)	(1.714)	(1.411)	(3.144)	(2.848)	(2.197)
Time lapse	0.044	0.141 **	0.151 **	0.054 **	0.093 **	0.148 ***
	(1.245)	(2.089)	(2.312)	(1.625)	(1.983)	(2.919)
Pre-momentum	0.124 **	0.266 **	0.217 **	0.063 **	0.062	0.060
	(1.907)	(1.798)	(1.645)	(1.700)	(0.947)	(0.864)
Ln(Size)	0.003	−0.058	−0.013	−0.013	−0.066 **	−0.045
	(0.144)	(−1.509)	(−0.386)	(−0.548)	(−1.966)	(−1.113)
Underpricing	−0.024	−0.003	−0.011	−0.034	−0.087	−0.049
	(−0.818)	(−0.051)	(−0.151)	(−0.871)	(−1.436)	(−0.831)
Forecast	−0.062	−0.024	0.037	−0.056	−0.161	−0.143
	(−0.938)	(−0.208)	(0.440)	(−0.746)	(−1.373)	(−1.109)
Growth	−0.009	−0.055	0.081	−0.011	0.039	0.082
	(−0.077)	(−0.260)	(0.367)	(−0.096)	(0.208)	(0.392)
Ln(AGE)	0.010	0.018	0.029	0.018	−0.006	0.019
	(0.693)	(0.912)	(1.461)	(0.965)	−(0.220)	(0.649)
Retention	−0.270 ***	−0.367 **	−0.557 **	−0.310 ***	−0.515 ***	−0.716 ***
	(−2.382)	(−1.927)	(−2.644)	(−2.821)	(−2.899)	(−3.144)
Finance	−0.075	−0.139	−0.202 **	−0.117	−0.105	−0.244
	(−0.681)	(−1.013)	(−1.715)	(−1.139)	(−0.647)	(−1.240)
Mining	−0.062	0.152	−0.033	0.023	0.440 ***	0.358 ***
	(−0.710)	(0.783)	(−0.238)	(0.286)	(3.534)	(2.626)
Constant	−0.262	−0.987 ***	−1.242 ***	−0.403	−0.703 **	−1.242 ***
	(−1.311)	(−3.295)	(−4.657)	(−1.591)	(−1.964)	(−3.197)
Adjusted R^2	0.053	0.067	0.050	0.039	0.067	0.054

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Acknowledgements

We are grateful for helpful comments and suggestions made by seminar participants at Queensland University of Technology and an anonymous referee. Janice How and Peter Verhoeven are respectively Professor of Finance and Associate Professor at Queensland University of Technology. Kian Ngo is an analyst with FKP Limited (Brisbane).

Notes

1 Asquith and Mullins (1983) find a significantly stronger market reaction to announcements of initial dividends than subsequent dividends. Arguing from an information signalling perspective, they suggest initial dividends capture a more accurate market response to dividend policy than consecutive dividends due to the absence of prior distributions to gauge expectations.

2 Refer to Cannavan et al. (2004) for a discussion of the Australian dividend imputation tax system.

3 We note that 88% of firms that initiated a dividend in the first year of listing continue the dividend stream in the second year. The percentage of firms that sustain the dividend payment decreases to 80% in the third year, 68% in the fourth year and 61% in the fifth year.

4 Empirical studies are conflicted on the most accurate time frame that reflects the long run. Although many studies only use a three-year horizon (Asquith and Mullins, 1983; Liu et al., 2008; Ritter, 1991), other studies report results one- and five-year periods after the event of interest (Bessler et al., 2009; Loughran and Ritter, 1995; Spiess and Affleck-Graves, 1995). The shorter window length of one year is arguably less prone to outside variables influencing results within the period that can weaken the causality argument. On the other hand, one- and three-year horizons may not be sufficient to capture the long-run effects, thus providing some justification for the five-year timeframe.

5 We also extend the matching criteria to include industry, as industry-specific events can influence stock returns (Rajan and Servaes, 1993; Ritter, 1991). If no matches were found within the same industry and six months of listing, we relax the listing date criterion by extending it to 12 months and then 24 months. A small percentage of dividend-initiating firms (7%) could still not be matched and so, for these firms, we match only by industry before choosing the closest market capitalization. The results (unreported) are robust to this alternative matching procedure. Due to the small Australian IPO market, it is inevitable that some of the control firms are recycled, that is, chosen more than once. About 22% of the control firms are used more than once in the matching process irrespective of the matching criteria used - listing date and size or listing date, size, and industry sector.

6 The aftermarket period is truncated from the end for firms that are delisted prior to the 60 months and the final return is determined by the reason for delisting. If the delisting was due to negative reasons such as liquidation, financial distress or violation of any trading regulation, investors are assumed to suffer a full loss. In this case, a -100% terminal return is assigned to the firm. In our sample, 13 firms were delisted by the third year and 26 by the fifth year for negative reasons. If a firm was delisted for positive reasons, such as a merger, investors are assumed to receive the closing price on the last trading day. Seven firms were delisted for positive reasons by the third year and 17 by the fifth year.

7 Differences in CAR and BHAR methods stem from the effect of monthly compounding in that CARs ignore compounding while BHARs incorporate it (Barber and Lyon, 1997). Fama (1998) and Mitchell and Stafford (2000) are both in favour of the CAR measure and suggest the compounding of returns is less likely to yield spurious results when compared to BHARs. CARs are also subject to less severe skewness bias than BHARs which produce more overinflated test statistics (Barber and Lyon, 1997). However, the cumulative nature of the CAR approach implies that they are subject to strong biasness which leads to misspecified test statistics (Barber and Lyon, 1997). Lyon et al. (1999) suggest that each of these techniques analyses a different perspective of performance − the cumulative nature of CARs answers the question of persistent abnormal performance while BHARs determine overall outperformance. The literature remains divided on which method is the most effective in analysing long-run performance.

8 We are grateful to Kenneth French for providing the data on the risk factor for *HML* for Australian firms. We compute the *SMB* factor using the ASX Small Ord (XSO) and ASX 50 (XFL).

9 We compute *Time lapse* and *Pre-momentum* for each of the control firms (non-dividend initiators) based on the dividend initiation date of the firm that they are matched with.

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Date of acceptance of final transcript: 28 February 2011.
Accepted by Associate Editor, Garry Twite (Finance).