



IPO PROSPECTUS

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1 Attachment



Wyatt-2014-Accounting_ & _Finance (1).pdf

Dear Mr Kouts

I am writing in response to the ASIC call for comments on prospectus disclosures.

In the information relating to the consultation process, I noticed that the terms of reference are quite wide. Accordingly, I am writing to provide some input on a specific area where there appear to be some issues that my research suggests could be quite easily addressed.

I undertook a research project in relation to 241 Australian IPOs over the time period 1994-2000. This project is an academic project using rigorous scientific and econometric methods.

The study focused on IPO use of proceeds disclosures and was motivated by the observation that some companies (both in Australia and internationally) provide very vague use of proceeds disclosures. The concern arising from this observation is that the nonspecific/nontransparent disclosures from the firms issuing the securities raises uncertainties for investors and the market regulator about the intentions of the issuers.

A small number of studies on this issue have been conducted in the US setting. As outlined in the paper (attached), Ljungqvist and Wilhelm (2003) suggest the firms disclosing vague information about the 'use of proceeds' exhibit higher underpricing consistent with information asymmetry of potentially two types: among investors and between the company and investors.

Another study finds that when more text space is devoted to the use of the proceeds disclosure in the prospectus, there is lower ex ante uncertainty and underpricing (Hanley and Hoberg 2012). Further, Beatty and Ritter (1986) suggest that the number of uses disclosed for the proceeds in the prospectus is a risk proxy

that is associated with higher underpricing.

However, the study by Beatty and Welch (1996) presents evidence that raises doubts about the status of the 'number of uses disclosed' as a risk proxy. Beatty and Welch (1996) argue instead that disclosing a higher number of uses for the proceeds is a more specific disclosure. Following on this possibility, Leone et al. (2007) investigate this issue and find lower underpricing for firms making disclosures that are more specific in the sense that more of the total dollars of expected proceeds are allocated to a 'use'.

However, there is a potential problem in the Leone et al. (2007) definition of specific disclosure in that some 'uses' classified as specific under their latter scheme are actually vague in the context of signaling the asset or projects to which the funds are to be applied.

My research builds on this literature focusing on the specific versus non-specific disclosure classification. What the paper does is develop a different classification of the 'use of proceeds' that is directed to uncovering the nature of the information embedded in the use of proceeds disclosures. This classification aims to identify the 'use of proceeds' disclosures according to their purpose (growth, production, financing activities) and the amount of the disclosed 'use' committed to specified assets and projects. The 'use of proceeds' (i.e., the non-specific disclosures) not earmarked for explicitly identified assets or projects is financing activities. The classification structure is illustrated in Figure 1 of the paper.

The results suggest the 'use of proceeds' disclosure categories developed in the paper (that are constructed using the actual use of proceeds disclosures from the 241 companies' prospectuses) convey incremental information over other sources of publicly available information about the company for underpricing, for predicting firm survival, and in the case of some disclosure categories, for investors' evaluation of the firms' future prospects and risks in the early years after listing.

The main takeaway is that the use of proceeds can convey important information to investors. However, the schemas used for the use of proceeds disclosures do not on average achieve this goal because companies can provide very vague disclosures.

What would assist investors is a reconfiguring of the use of proceeds disclosure requirements to ensure companies clearly disclose their intentions for the funds across three major categories - growth investment, production investment, and financing transactions - with a further relatively simple breakdown within these

categories as illustrated in Figure 1 and in the empirical tests reported in the paper.

Another benefit of this approach is that a simple schema such as the suggested one is also trackable in the future so that deviations can be observed. Algorithms can be coded to analyse whether the deviations relate to the normal course of business or whether they the deviations appear more sinister in nature.

Kind regards

Anne

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Is there useful information in the ‘use of proceeds’ disclosures in IPO prospectuses?

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Abstract

This study contributes evidence on the valuation relevance of the ‘use of proceeds’ disclosure in the initial public offering (IPO) prospectus. This article develops a classification of ‘use of proceeds’ disclosures that aims to capture information embedded in the disclosures relating to the *purpose* (growth, production, financing) and *amount* committed to *specific* assets. These measures are then related to IPO underpricing, survival prediction and expected and realised prospects of the IPOs. The results suggest the ‘use of proceeds’ disclosure categories have incremental information over other sources of information for underpricing, for predicting firm survival and in the case of some disclosure categories, for investors’ evaluation of the firms’ prospects and risks in the early years after listing.

Key words: Initial public offering; Intended use of the proceeds; Prospectus; Survival; Value and performance

JEL classification: G14, M21, D92

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1. Introduction

Security regulators in most jurisdictions require initial public offering (IPO) issuers to disclose the intended ‘use of proceeds’ in the IPO prospectus, including the purposes to which the funds will be applied and the allocation among these uses. At issue is the observation that some IPO prospectuses include only general statements about the issuers’ intended ‘use of proceeds’. The problem is that nonspecific/nontransparent disclosures for firms issuing securities raise uncertainties for investors and the market regulator about the intentions of the issuers. This study investigates this issue in the Australian setting where the security market regulator, the Australian Securities and Investment Commission (ASIC), has previously expressed concerns about nontransparent disclosures relating to the ‘use of proceeds’, particularly the practice of nominating ‘working capital’ as the primary use with few other details.¹

This study builds on a small-extant literature that examines the ‘use of proceeds’ disclosure primarily in the US setting.² Specifically, Ljungqvist and Wilhelm (2003) suggest the firms disclosing vague information about the ‘use of proceeds’ exhibit higher underpricing. When more text space is devoted to the use of the proceeds disclosure in the prospectus, Hanley and Hoberg (2012) find lower ex ante uncertainty and underpricing. Beatty and Ritter (1986) suggest the number of uses disclosed for the proceeds in the prospectus is a risk proxy that is associated with higher underpricing. However, Beatty and Welch (1996) present evidence raising doubts about the status of the ‘number of uses disclosed’ as a risk proxy. Instead, they argue that disclosing a higher number of uses for the proceeds is a more specific disclosure. Leone *et al.* (2007) investigate this issue and find lower underpricing for firms making disclosures that are more specific in the sense that *more of the total dollars of expected proceeds* are allocated to a ‘use’. However, some ‘uses’ classified as specific under the latter scheme are vague in the context of signalling the asset or projects to which the funds are to be applied. This study builds on this literature by developing a different classification of the ‘use of proceeds’ to investigate the nature of the information embedded in the disclosures. This

¹ For example, ASIC identified problems with vague prospectus disclosures through the 1990s (Draft Policy Statement, 170.22; see ASIC, 2001b). Specifically cited was inadequate ‘use of IPO proceeds’ disclosures (ASIC, 2006a). One concern was IPOs allocating a significant amount of the use of proceeds to ‘working capital’. An example is Sydney IVF Limited, which sought to raise \$450 800. ASIC made stop orders on offer statements in September 2002 for alleged inadequate disclosure of risks relating to the medical service and biotechnology industry, the use of the proceeds and nature of the securities offered (<http://www.asic.gov.au/asic/asic.nsf/byheadline/02%2F404+ASIC+action+on+prospectuses?openDocument> accessed 25 May 2008).

² For example, Beatty and Ritter (1986), Beatty and Welch (1996), Leone *et al.* (2007) and Hanley and Hoberg (2012).

classification aims to identify the ‘use of proceeds’ disclosures according to their *purpose* (growth, production, financing activities) and the *amount* of the disclosed ‘use’ committed to specified assets and projects. The ‘use of proceeds’ not earmarked for explicitly identified assets or projects is financing activities. The classification structure is illustrated in Figure 1.

The starting point for the hypotheses is the three primary activities: investments in growth, production and financing. Growth investment involves an option over growth in future operating cash flows, while production investment relates to assets in place and the current cash flow stream (Myers, 1977). The growth options have the potential for uncertain future upside gains and downside risks; however, the investment in production relates to assets in place and a known and more certain, production process (Dosi, 1988). Information asymmetry models of underpricing suggest ex ante uncertainty about future cash flows is associated with higher underpricing (Ritter, 1999). Accordingly, a positive association is hypothesised between the (more uncertain) ‘use of proceeds’ for growth investment and underpricing. The results are generally consistent with this prediction. In contrast, the ‘use of

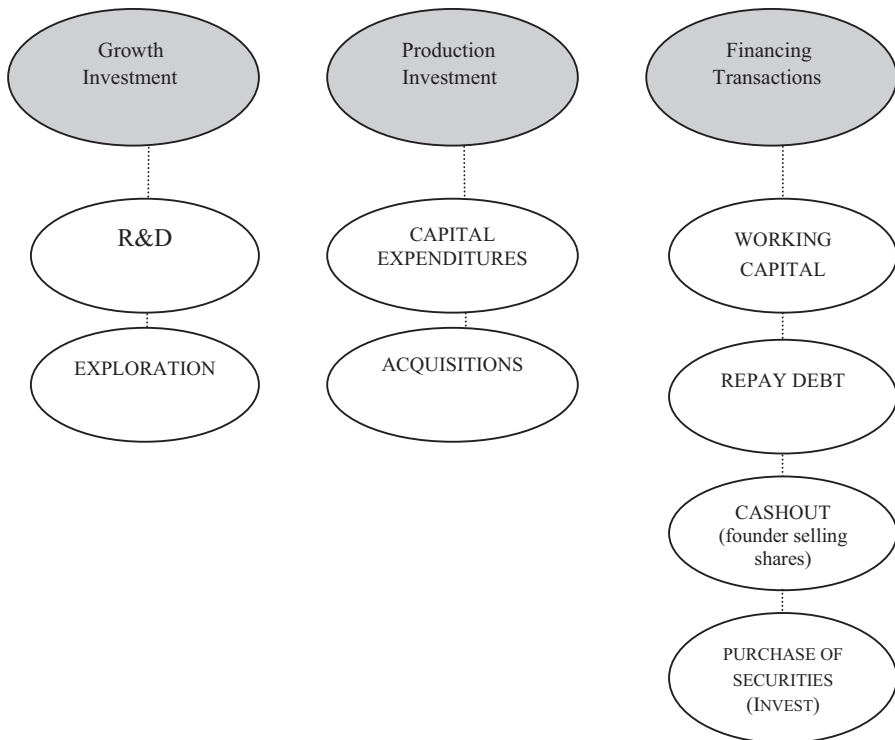


Figure 1 Classifications of the purpose and specific commitment of the intended ‘use of proceeds’ in the prospectus.

proceeds' for financing transactions are not signals of expected future cash flows and may convey negative signals (e.g. difficulty servicing debt and insiders cashing out; Leland and Pyle, 1977; Stulz, 1990) that elevate the ex ante uncertainty of future cash flows. A positive relation is therefore hypothesised between the financing 'use of proceeds' and underpricing and empirical tests tend to support this prediction.

The next analysis first tests and finds confirmatory evidence that the 'use of proceeds' disclosures provide incremental information relative to other information available at the time of going public, which helps predict the IPO firms' survival. Subsequent tests examine whether the 'use of proceeds' disclosures are associated with the surviving firms' future value and operating performance. The results suggest the 'use of proceeds' for exploration, capital expenditures and acquisitions are negatively associated with the market value of equity in the early years after listing. The 'use of proceeds' for financing transactions is negatively associated with future value, for up to 7 years after going public. However, further tests suggest information relating to industry conditions subsumes incremental information embedded in the financing 'use of proceeds' for assessing value, after the third post-listing year. Finally, the findings in relation to the association between the 'use of proceeds' disclosures and future operating performance suggest firm size and growth objectives at the listing date are conditioning factors that explain operating performance in the early years after going public. As the sample composition changes over time due to firm growth and failure, the initial size advantage appears to decline for all except the *RD* 'use of proceeds' category.

This study builds on prior research that investigates the underpricing and post-listing performance of IPOs (Jain and Kini, 1994; Loughran and Ritter, 1995; Lee *et al.*, 1996; Pagano *et al.*, 1998; and Ritter and Welch, 2002).³ A commonality across these studies is incomplete information surrounding the incentives and prospects of the issuers, prompting the search for contextual information to alleviate this uncertainty. The take-away from this article is evidence consistent with investors using information in the 'use of proceeds' disclosure from the prospectus to distinguish IPOs with different uncertainties and prospects at the listing date and to assess firm value in the early years after going public.

The remainder of this article is organised as follows. Section 2 develops the theory framework and hypotheses. Section 3 outlines the research design and summary statistics. Section 4 provides the empirical analysis, and Section 5 concludes the study.

³ Factors previously considered include the market-to-book ratio, age and size (Ritter, 1999); information asymmetry (Rock, 1986), and the bargaining power of underwriters (Fishe, 2002; Daniel, 2002; Derrien, 2006).

2. Theoretical framework and hypothesis development

Security market regulators act as certifiers for prospectus disclosures, monitoring the clarity and transparency of prospectus disclosures.⁴ However, there are few formal constraints on the issuers' application of the proceeds from a security issue. Because conflicts of interest can arise between the IPO issuers and new shareholders, an information transfer from the issuers to the investors that explains how the issuers intend to use the issue proceeds is an important element of the listing process.⁵ The few studies in the area suggest the completeness and specificity of the IPO firms' intended 'use of proceeds' disclosures varies widely. For example, in the US setting, Leone *et al.* (2007) document wide variation in the number of dollars of expected proceeds for which specific uses are nominated in the prospectuses of IPOs.⁶ This article revisits the issue of the usefulness to investors of the 'use of proceeds' disclosure. Hypotheses developed below centre on three economic activities to which IPO proceeds are applied: growth activities, production activities and financing transactions.

2.1. 'Use of proceeds' for growth and production activities

Growth activities involve discretionary investment in options over future operating cash flows (Myers, 1977; Chung and Charoenwong, 1991). In contrast, production activities are a response to mature growth options (Lach and Shankerman, 1989), involving capital expenditures and acquisitions of bundles of assets, that expand assets in place and contribute to the current cash flow stream (Myers, 1977). Uncertainty is relatively greater for growth investments because the firm listing to grow value tends to be a further distance from a steady-state cash flow stream, compared to the IPO expanding in the context of a known production function (Dosi, 1988). However, the 'expansion' seeking IPO also faces negative effects from operating leverage and

⁴ For example, the United Kingdom Financial Services Authority (2005) issued *Implementation of the Prospectus Directive—Feedback* on CP 04/16 and CP 05/7 and final *Prospectus Rules*. ASIC (2006a) issued *Better Prospectus Disclosure* after earlier exposure drafts of this document (ASIC, 2001b, 2006b). The United States Securities and Exchange Commission (1998) issued *A Plain English Handbook: How to create clear SEC disclosure documents*.

⁵ For example, Bates (2005) finds evidence of both efficiencies and inefficiencies associated with the allocation of proceeds from the sale of subsidiaries. Nini *et al.* (2009) find that conflicts of interest between creditors and borrowers affect the use of the proceeds from private debt raisings.

⁶ A question arising is the motive for going public. Studies suggest benefits from mispricing motivate some IPOs (Loughran and Ritter, 1995; Pagano *et al.*, 1998; Baker and Wurgler, 2000; Kim and Weisbach, 2008).

uncertain demand that are often large enough to ensure the company can only generate a normal profit (Carlson *et al.*, 2004).

2.1.1. Underpricing implications

Hence, while all IPOs encounter some form of operational uncertainty, firms investing in growth activities tend to be more uncertain in terms of expected future cash flows from their investments (Myers, 1977). Ex ante uncertainty about future cash flows can be associated with a smaller offer price than would otherwise be expected, and a higher level of underpricing of the stock (e.g. Rock, 1986; Ritter, 1999; Ritter and Welch, 2002).

Higher levels of underpricing can also occur if the stock price at the listing date experiences a significant positive surge relative to the offer price at which the stock listed. Ambarish *et al.* (1987) show analytically that stock price responses to new issues are positive when accompanied by growth opportunities and negative when the dominant source of information is assets in place. Similarly, Pilotte (1992) finds the stock price response to new financing is positively related to proxies for growth opportunities. Barclay and Litzenberger (1988) provide corroborating evidence that the stock price response to new issues is not related to Tobin's Q, while Jung *et al.* (1996) report a negative price response to equity issues when the issuer has few growth options. Accordingly, a positive association is hypothesised only between the 'use of proceeds' for growth (not production) investment and underpricing.

2.1.2. Usefulness of the 'use of proceeds' disclosures for predicting survival and future value

If the 'use of proceeds' disclosures convey information that helps predict firm survival, incrementally to other information available at the listing date, the growth 'use of proceeds' disclosures may embed longer-term growth information that is positively associated with future value. This possibility is first investigated using a survival prediction model that includes the 'use of proceeds' information, Altman (1968) information known at the listing date and industry effects. If the survival prediction analysis is confirmatory, the subsequent analysis examines whether the 'use of proceeds' for growth engenders positive longer run growth expectations, as evidenced by a positive association between the 'use of proceeds' for growth activities and the post-listing market value of equity. The arguments in this section lead to the following hypothesis.

H1: The 'use of proceeds' for growth activities (but not the 'use of proceeds' for production activities) is positively associated with underpricing, and the post-listing market value of equity.

2.2. 'Use of proceeds' for financing transactions

A key assumption underlying the Modigliani and Miller (1958) irrelevance proposition is that the financing and operating/investment functions are separable and independent. However, an exception may arise if proposed financing activities convey negative signals, which elevate the uncertainty of expected future cash flows. Under these conditions, there may be implications for higher underpricing in the short-run. Depending on the depth of the signal, there may also be implications for future value. This section develops the intuition for the financing 'use of proceeds' disclosures.

2.2.1. 'Use of proceeds' to repay debt

Pagano *et al.* (1998) and Leone *et al.* (2007) find IPOs using the proceeds to repay debt tend to be large, mature companies with few growth opportunities that have already grown and are listing to exploit mispricing. Further, Jensen (1986) and Stulz (1990) suggest debt in the capital structure disciplines managers to make operating decisions that enable the company to meet its financial commitments. Taking these factors together, using the proceeds to pay *down* debt is a potentially negative signal that may increase the ex ante uncertainty of the offer, and the subsequent uncertainty associated with expected future cash flows. Therefore, a positive (negative) association is predicted between the 'use of proceeds' to repay debt and underpricing (the post-listing market value of equity).

2.2.2. 'Use of proceeds' for IPO insiders selling shares in the IPO

Leland and Pyle (1977) argue that insider selling conveys a negative signal about the firm's quality. Accordingly, the 'use of proceeds' to pay exiting insiders may increase the ex ante uncertainty of the offer and the subsequent uncertainty associated with expected future cash flows. Therefore, a positive (negative) association is predicted between the 'use of proceeds' for exiting insiders and underpricing (the post-listing market value of equity).

2.2.3. 'Use of proceeds' for working capital (with no specific commitment) and purchases of securities

Designating the 'use of proceeds' for working capital, in cases where the firm does not disclose specific information about how the monies will be spent, is a potentially opaque disclosure (*ceteris paribus*). While some proceeds are legitimately directed to working capital, a natural question arising in the circumstances is the issuer's motives for going public. Pagano *et al.* (1998) address this question. The findings suggest that their sample of Italian IPOs went public to recapitalize debt and benefit from mispricing, rather than to raise capital for investment. Loughran and Ritter (1995) and Baker and

Wurgler (2000) present evidence from seasoned offers of an apparent desire to benefit from mispricing. Kim and Weisbach (2008) present findings for a sample of IPO and seasoned offers from 38 countries, which suggests some firms issue securities for investment purposes, while others appear motivated by opportunities to benefit from mispricing.

Accordingly, opaque disclosure may be associated with higher ex ante uncertainty of the offer and the expected future cash flows. Further, nominating the ‘use of proceeds’ as purchases of securities is also not informative about operations and cash flows. Taken together, the designation of the proceeds for working capital, where the firm provides no information about how the monies will be spent, and also security purchases, is expected to relate positively to underpricing and negatively to the post-listing market value of equity.

Overall, the arguments relating the categories of ‘use of proceeds’ disclosures for financing to underpricing and the future value lead to the following hypothesis.

H2: The ‘use of proceeds’ for financing transactions, including repaying debt, paying exiting insiders, working capital and security purchases, is positively associated with underpricing and negatively associated with the post-listing market value of equity.

2.3. Future operating performance

There is a demand for information able to discriminate potential good and poor performers, given evidence the IPOs underperform relative to expectations after going public (Jain and Kini, 1994; Loughran and Ritter, 1995; Lee *et al.*, 1996; and Pagano *et al.*, 1998; Ritter and Welch, 2002; Fama and French, 2004; Demers and Joos, 2007). However, identifying public disclosures that are persistent indicators of operating performance has proved elusive.

One problem is the measurement of earnings is subject to conventions such as accounting conservatism, which may affect earnings quality (e.g. Dichev and Tang, 2009). Another element of the problem is the difficulty evaluating the probability of success, which depends on a frequently unknown set of possible outcomes and subjective probabilities. In fact, IPO underperformance is likely due in part to a concentration of early-stage firms (Ritter, 1999) that must grow to survive, with some unable to grow fast enough to prosper. In relation to the growth process, Jovanovic (1982) proposes a model in which the early life cycle years reflect a process of learning about efficiency. Several empirical regularities arise from this latter process. First, small firms grow faster than other firms do. Second, firms fail at a much higher rate during these early ‘learning’ years compared to later years; and third, small firms are more prone to failure compared to larger and older firms (Evans, 1987a,b; Mata, 1994; Audretsch, 1995). In the IPO setting, Fama and French (2004) find small IPOs have become increasingly prevalent over the 30 years prior to their study. In line

with the life cycle process mentioned previously, Fama and French (2004) find a lowering of the average profitability for IPOs, increases in growth rates and a sharp decline in IPO survival rates.

In the current context, this evidence suggests the smallest IPOs at the listing date that are issuing a large amount of stock relative to assets in place, have growth as a primary objective but are at a relatively greater risk of poor operating performance compared to more established IPOs. Hence, the signs and significance of the *unconditional* association between the ‘use of proceeds’ disclosures and future operating performance may turn on the composition of the ‘use of proceeds’ categories, in terms of the proportions of firms with small/large size and high/low growth attributes. Specifically, larger firms at the listing date are expected to outperform smaller, less established firms, in the early years after going public. This large-firm operating advantage should decline over time as the smaller firms grow and catch up, or else disappear (through delisting, failure and so forth). The following hypothesis arises from these arguments.

H3: Firm size and growth objectives at the listing date are a conditioning factor in the association between the ‘use of proceeds’ disclosures and operating performance in the years after going public.

As outlined in Section 2.1, the logical precursor to Hypothesis 3 and the earlier hypotheses relating to future value is the estimation of a survival prediction model evaluating whether the ‘use of proceeds’ disclosures provide incremental information that can help to predict the firms’ survival in the years after going public. If so, then a reasonable extension is to examine the ‘use of proceeds’ disclosure links to future performance and value.

3. Setting and sample statistics

3.1. Sample and data

The initial sample comprises the 241 Australian IPOs listing between June 1994 and December 2000 with a prospectus available on the Connect 4 database. To ensure only ‘unseasoned’ issues are included, the IPO sample excludes foreign owned or affiliated companies, companies either previously listed on, or registered on, a foreign stock exchange before listing on the ASX and trust companies. The data set was compiled to allow tests after the listing year.

In addition to the ‘use of proceeds’ disclosures, other hand-collected data from the prospectuses include intangible assets, operating and financial characteristics of the firm at the time of IPO, the details of the offer, the identity of the underwriter and auditor and investigating accountant, and management earnings forecasts. Share price data are from the CRIF Share Price Relatives database and SIRCA. Post-listing data are obtained from Aspect Huntley databases. The Intellectual Property Research Institute of Australia in collaboration with IP

Australia provided firm-level registered intellectual property data to proxy for growth options. Table 1 summarises the variables.

Table 2 provides summary statistics for the sample of IPOs. Table 2 Panel A presents the distribution of the IPOs across the GICS industries. The largest concentrations of IPOs are in information technology, materials, industrial and consumer discretionary. The last three columns of Panel A illustrate the survivorship characteristics of the sample for up to 7 years after the listing year. One hundred and seventy-two of the 241 companies listing between 1994 and 2000 are still listed companies 7 years after the listing year. Forty-five of the IPOs are taken over within 7 years following the listing year, with some of these still listed and others delisted. Forty-three of the 241 IPOs change their company names (sometimes multiple times) and change their core businesses, effectively using the listed company as a shell to start a new business. In the process of collecting the data for these statistics, I found that the IPOs often encountered financial difficulties, which could take years to resolve. The resolution process frequently involves voluntary administrations and schemes of arrangement, and companies often spend years in limbo while maintaining their listed status. Accordingly, there are companies included in the 172 ostensibly ‘surviving’ companies for which some post-listing data may not be available because the shares are suspended from trading and/or the companies are not operating (despite their listed status).

Summary statistics presented in Table 2 Panel B indicate the age of the IPOs ranges from just formed companies at the time of prospectus registration, to companies incorporated 93 years prior to the prospectus registration (34 264 days). Retained ownership is a mean 55 per cent (median 57 per cent). There is a mean delay of 56 days (median 52 days) from the prospectus registration until the company commences trading, with a minimum of 21 days and a maximum 174 days delay until trading commences. The offer size ranges from 0.337 million to 400 million dollars.

The underpricing variable comprises the closing stock price, P_1 , on the first day of listing minus the offer price, P_0 , divided by the offer price, P_0 . This variable has a mean of 22 per cent and a wide range with a maximum of 342 and a minimum (overpricing) of -75 per cent. This large range is consistent with that found in Lee *et al.* (1996). Given this significant dispersion, the underpricing variable is transformed resulting in a mean of 19 per cent, a maximum of 183 per cent and a minimum of -72 per cent. The transformation for this variable and all the other variables employed involves identifying and removing outliers, using regression diagnostics and influence statistics, so that the regression residuals are within four standard deviations.

3.2. ‘Use of proceeds’ disclosures from the prospectus

The ‘use of proceeds’ disclosures are collected directly from prospectuses including the nominated use(s) of the proceeds, the dollar amount allocated to

Table 1
Measurement of variables

Variable	Denoted by	Measured as
<i>Intended use of proceeds disclosures in the prospectus (Dollar amount of the use of proceeds divided by the offer proceeds expected to be raised)</i>		
<u>Use of proceeds for growth activities</u>		
Research and development	<i>RD</i>	Intended use of issue proceeds is an explicit commitment to undertake research and development
Exploration	<i>EXPLORE</i>	Intended use of issue proceeds is an explicit commitment to exploration, evaluation and development in extractive industry
<u>Use of proceeds for production activities</u>		
Capital expenditures	<i>CAPEX</i>	Intended use of issue proceeds is an explicit commitment to capital expenditures
Acquisition	<i>ACQUIRE</i>	Intended use of issue proceeds is an explicit commitment to make acquisitions of businesses or companies
<u>Use of proceeds for financing transactions</u>		
Working capital	<i>WC</i>	Intended use of issue proceeds is working capital with no explicit commitment to specific assets or projects
Repayment of debt	<i>REPAY</i>	Intended use of issue proceeds to pay down designated debt
Investment in securities	<i>INVEST</i>	Intended use of issue proceeds to purchase securities
Founders cashing out	<i>CASHOUT</i>	Intended use of issue proceeds is to enable the founder(s) to cash out of their company
<i>Characteristics of the IPO</i>		
IPO firm age	<i>AGE</i>	Calendar days from incorporation to prospectus registration
Size of the offer	<i>OFFER</i>	The product of offer price times the number of ordinary shares offered in the issue, in 2000 Dollars
Retained ownership	<i>RETAIN</i>	One minus the number of shares offered in the prospectus as a percentage of total shares outstanding after the IPO
Demand for the issue	<i>DELAY</i>	Number of days from prospectus registration to the listing date

Table 1 (continued)

Variable	Denoted by	Measured as
Joint offerings of common shares and options	<i>PIPO</i>	Dummy variable equal to one for IPOs that are joint offerings of common shares and options (i.e. package IPOs) and zero otherwise
Hot issue period	<i>HOT</i>	Dummy variable indicator of market state taking a value of one for the period, October 1996 to June 2000, and zero otherwise
Underwriter's reputation	<i>UWRITER</i>	Dollar value of all shares underwritten by a given underwriter divided by the dollar value of all IPOs. The measure is weighted to the extent that an IPO has more than one underwriter
Auditor and investigating accountants' quality	<i>AUDQUAL</i>	Fees paid by the sample companies audited or investigated by a given auditor or accounting firm divided by the dollar value of all fees paid by the IPO firms for these services
Earnings forecast	<i>FORECAST</i>	Earnings forecasts reported in the prospectus or zero otherwise
Intangible assets in the prospectus	<i>CAP</i>	Dummy variable taking a value of one for firms recording intangible assets in the prospectus pro forma balance sheet and zero otherwise
Intellectual property	<i>IPLIST</i>	Count of the patents, patent applications, trademarks and designs held by the firm at the listing date
Size and growth objectives	$ASSET^{Pro}/OFFER$	Prospectus pro forma assets divided by the offer proceeds
Underpricing of the offer	<i>UND</i>	Equals $(P_1 - P_0)/P_0$ where P_1 is the closing price on the first day of listing and P_0 is the offer price
Market value of equity	$MVE/ASSET$	Number of common shares at the end of the fiscal year multiplied by balance date closing stock price and divided by total assets

Table 1 (continued)

Variable	Denoted by	Measured as
Operating performance	<i>NI/ASSET</i>	Net profit divided by total assets from the annual financial report
Other information (not already defined previously) available at the listing date	<i>OPERATING CF</i> <i>RETAIN EARN</i> <i>LIAB</i> <i>SALES</i>	Prospectus data comprising operating cash flows, retained earnings, liabilities and sales, employed for Altman (1968) variables in the survival analysis in Section 4.2

each use and the total expected proceeds.⁷ In approximately 75 per cent of the sample firms' prospectuses, the intended uses of proceeds are disclosed in a dedicated section. In the remaining prospectuses, some reading was required to find the disclosures.

As indicated earlier, the current study builds on the prior literature by classifying the 'use of proceeds' disclosures into categories based on (i) the purpose (growth, production, financing activities); and (ii) whether specific assets are identified for the 'use of proceeds' designated for growth or production investments. Under the schema, growth or production 'use of proceeds' that do not specifically identify the assets in which the firm intends to invest are included in the working capital category; on the assumption that the absence of an identified investment means the expenditures will be period expenses of operations. As shown in Figure 1 earlier, and below, this process generates three major 'use of proceeds' categories and eight subcategories of activities as follows.

Growth	Production	Financing
R&D investment (<i>RD</i>)	Capital expenditures (<i>CAPEX</i>)	Working capital (<i>WC</i>)
Exploration investment (<i>EXPLORE</i>)	Acquisitions (<i>ACQUIRE</i>)	Repayment of debt (<i>REPAY</i>)
		Cashing out (founders selling stock) (<i>CASHOUT</i>)
		Purchases of securities (<i>INVEST</i>)

The major difference between this schema and approaches in prior studies (e.g. Leone *et al.*, 2007) is the requirement for the asset to be identified when the intended 'use of proceeds' is an investment, with all other general commitments

⁷ Given the focus is the usefulness of the 'use of proceeds' disclosures, the measurement of the use of proceeds variables centres on the expected offer rather than the actual proceeds raised to avoid a look ahead bias.

Table 2
Descriptive statistics

Panel A Distribution of IPOs by GICS industry codes										
GICS Code	Industry	Sample count	Sample per cent	Survive as a listed company*	Taken Over*	Change Business*				
10	Energy	10	4.15	9	1	2				
15	Materials	45	18.67	34	8	9				
20	Industrial	38	15.77	28	6	8				
25	Consumer discretionary	33	13.69	22	8	5				
30	Consumer staple	13	5.39	4	6	1				
35	Healthcare	16	6.64	13	2	2				
40	Financial	18	7.47	13	3	3				
45	Information technology	50	20.75	37	7	8				
50	Telecommunications	16	6.64	11	3	5				
55	Utilities	2	0.83	1	1	0				
	Total	241	100.00	172	45	43				

Panel B IPO characteristics										
	UND	AGE (days)	RETAIN	DELAY	UWRITER	AUDQUAL	FORECAST	IPLIST	OFFER	
Mean	0.22	2261	0.55	56.05	0.02	0.07	3.52	2.64	21.3	
Median	0.09	912	0.57	52.00	0.01	0.04	0.00	0.00	8	
Max.	3.42	34264	1.00	174.00	0.09	0.22	25.00	72.00	400	
Min.	-0.75	0.00	0.00	21.00	0.00	0.00	-12.70	0.00	0.337	
Std.Dev.	0.53	3942	0.21	19.78	0.02	0.07	5.51	7.22	46.8	

Table 2 (continued)

Panel B IPO characteristics									
	<i>PIPO warrants</i>	<i>Capitalise intangibles</i>							
# With attribute	54	138	57%						
# Without attribute	187	103	43%						
Panel C Use of proceeds measures in dollars deflated by the expected offer proceeds									
	Use of proceeds for growth			Use of proceeds for production			Use of proceeds for financing		
	<i>RD</i>	<i>EXPLORE</i>	<i>CAPEX</i>	<i>ACQUIRE</i>	<i>WC</i>	<i>REPAY</i>	<i>CASHOUT</i>	<i>INVEST</i>	
Mean	0.027	0.130	0.053	0.065	0.507	0.100	0.119	0.017	
Median	0.000	0.000	0.000	0.000	0.451	0.000	0.000	0.000	
Max.	0.700	0.892	0.944	1.000	1.000	0.963	1.000	1.000	
Min.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Std. Dev.	0.101	0.260	0.139	0.186	0.325	0.193	0.262	0.121	
#With	22	52	59	44	232	93	52	6	
#Without	219	189	182	197	9	148	189	235	

Table 2 (continued)

Panel D Survival as a listed company, takeovers, and changes of business					
	Survived* (still listed 7 years after listing)	Taken over† (within 7 years after listing)	Still listed but changed business* (within 7 years after listing)		
<i>RD</i>	16	1	1	4.6%	4.6%
<i>EXPLORE</i>	45	4	23	7.7%	44.2%
<i>CAPEX</i>	42	14	13	23.7%	22.0%
<i>ACQUIRE</i>	29	4	5	9.1%	11.4%
<i>WC</i>	167	41	43	17.7%	18.5%
<i>REPAY</i>	60	19	14	20.4%	15.1%
<i>CASHOUT</i>	36	13	3	25.0%	5.8%
<i>INVEST</i>	3	3	1	50.0%	16.7%
# Obs.	1 = 172; 0 = 69	1 = 45; 0 = 196	1 = 43; 0 = 198		

Panel E Other information available at the listing date

	<i>OPERATING CF/ASSET</i>	<i>RETAIN EARN/ASSET</i>	<i>NI/ASSET</i>	<i>LIAB/ASSET</i>	<i>SALES/ASSET</i>	<i>Log(MVE)</i>
Mean	-0.073	-0.099	-0.094	0.457	0.732	16.661
Median	-0.033	-0.004	-0.022	0.161	0.315	16.440
Max.	0.431	0.252	0.343	17.439	8.151	20.506
Min.	-2.557	-5.916	-3.009	0.000	0.000	13.702
Std.Dev.	0.268	0.446	0.325	1.265	1.185	1.423
# Obs.	234	234	234	231	234	237

†The percentage figure is a percentage of the sample firms with this use of proceeds. Variables are defined in Table 1. Survived means survived as a listed company for up to 7 years after the listing year. Taken over means the company has been acquired in a merger or acquisition and is delisted or remains listed. Changed business means the company's name changes (multiple times in some cases) and the shell of the company is used for a new business. All the accounting information is obtained from the IPO prospectus. Variation in observation numbers arises from missing data and removal of outliers.

to make operating expenditures included in working capital. In contrast to this approach, Leone *et al.* (2007) classify the ‘use of proceeds’ disclosures as a *specific* disclosure when a higher proportion of the expected proceeds are allocated to a ‘use’ in the ‘use of proceeds’ disclosure, despite some of these disclosures lacking specific commitments. The objective of the current approach is to avoid commingling precise and vague disclosures within the ‘use of proceeds’ categories. The classification schema is illustrated for the Australian Tourism Group Limited in Figure 2.

In total, the Australian Tourism Group expects to raise \$50 million. Repayment of debt is the primary intended ‘use of proceeds’, comprising a \$30.7 million financing transaction, which is 61.4 per cent of the expected proceeds. Payments for unit securities are classified as working capital financing transactions but could also be classified as financing transactions relating to securities. The outcome is the same as both working capital and purchases of securities are included in financing transactions. Ten per cent of the proceeds are flagged as capital expenditure (\$5.2 million). However, there is no explicit asset or project assigned to this proposed expenditure. Therefore, the \$5.2 million proposed operating expenditure is classified as working capital along with period expenses relating to the issue and stamp duty. A further \$4.7 million is flagged specifically for capital expenditures to upgrade a building in Mudgee and is classified as capital expenditures.

Table 2 Panel C provides summary statistics for the ‘use of proceeds’ measures. Consistent with prior evidence (Pagano *et al.*, 1998), 93 firms, comprising a substantial 38.6 per cent of the sample, plan to repay debt (*REPAY*) with the issue proceeds. The maximum dollar amount of debt repayment is 96.3 per cent of the total issue. Consistent with Zingales’ (1995) proposal that ‘going public’ is a step in the sale of a company by its initial owner, 52 firms (21.6 per cent of the sample) have insiders selling shares (*CASHOUT*). Untabulated statistics indicate that four companies had

Australian Tourism Group Limited		
Purpose of the issue – raise \$50 million in new funds to enable ATF and ATC to do the following:		
Repay bank debt	\$30.7 m	<i>REPAY</i>
Develop the existing asset portfolio through addition of rooms and refurbishment	\$5.2 m	<i>WC</i>
Fund the purchase and upgrading of Country Comfort Inn Mudgee (refer Section 11.9)	\$4.7 m	<i>CAPEX</i>
Pay final call on partly paid units in Reef Casino Trust due on 1 April 1995 (refer Section 6.2)	\$4.8 m	<i>WC</i>
Meet issue expenses	\$3.8 m	<i>WC</i>
Pay stamp duty on leases	\$0.8 m	<i>WC</i>
Total	\$50.0 m	

Figure 2 Illustration of the ‘use of proceeds’ classification process.

founders selling 100 per cent of their shares while 29 companies (12 per cent of the sample) have founders selling 50 per cent or more of the shares on offer. ‘Use of proceeds’ for research and development (*RD*) has a mean comprising 2.7 per cent of the expected offer proceeds and ranging from a minimum of zero dollars up to 70 per cent of the total proceeds. While 232 of the IPOs have a portion of the expected proceeds allocated to working capital (*WC*), most of these companies have only a small, residual amount of the expected proceeds allocated to working capital, as indicated by the relatively high standard deviation of 32.5 per cent. Untabulated statistics reveal that 37 of the 241 IPOs proposed to use 100 per cent of the issue proceeds for working capital. For example, Mobile Communication Holdings Limited disclosed the following.

Directors intend to utilise the cash to pay the costs of the issue, to provide working capital for the Company and through it, Mobiletronics, MDT and United Telecommunications (Section 1 Investment Review).

Table 2 Panel D illustrates the survivorship, takeover and changes of business characteristics of the sample by the ‘use of proceeds’ categories, for up to 7 years following the listing year. The first column shows the number of firms still listed in the seventh year after the listing year (as also discussed previously in Section 3.1), and this number as a percentage of the number going public in the ‘use of proceeds’ category. The second column reports the companies taken over through mergers and acquisitions. The third column reports estimates of the companies in each ‘use of proceeds’ category still listed up to 7 years after the listing year, which have discontinued the IPO core business and effectively used the company as a shell for a new business.⁸ The ‘use of proceeds’ for exploration stands out in these latter companies with 44 per cent of the extractive industry companies leaving the sample because they are reborn through a name and industry/business change, without delisting.

Table 3 provides Spearman correlations.

Panel A presents correlations between the ‘use of proceeds’ classifications and the independent variables. The offer amount is higher for the acquisition (*ACQUIRE*), cashing out (*CASHOUT*) and investment (*INVEST*) uses of proceeds. Correlations with firm age reveal that the oldest companies at the listing date are in the ‘use of proceeds’ categories, ‘debt repayment’ and ‘insiders cashing out’. The youngest companies at the listing date are in the exploration ‘use of proceeds’ category.

The highest (lowest) retained ownership by insiders is for companies in the research and development, working capital and repayment of debt (exploration) ‘use of proceeds’ categories. The longest (shortest) delay from the

⁸ The numbers in column 3 of Table 2 Panel D are conservative estimates because it is not always clear at which point in time the company reincarnates as a completely new business (while maintaining the listed status).

Table 3
Spearman correlations

Panel A Spearman correlations for characteristics of the IPOs across 'use of proceeds' categories												
	Growth use of proceeds			Production use of proceeds			Financing use of proceeds					
	RD	EXPLORE	CAPEX	ACQUIRE	WC	REPAY	CASHOUT	INVEST	UWRITER	AUDQUAL	FORECAST	CAP
OFFER	-0.02	-0.26**	0.04	0.14*	-0.32**	0.08	0.41**	0.16*				
AGE (at listing date)	0.05	-0.16*	-0.01	-0.07	-0.08	0.17*	0.30**	-0.04				
RETAIN	0.15*	-0.36**	-0.04	-0.01	0.45**	0.13*	-0.09	-0.12				
DELAY	-0.03	0.24**	-0.03	-0.05	0.01	0.02	-0.24**	0.04				
PIPO	0.06	0.18**	0.03	0.07	0.03	-0.08	-0.18**	0.04				
HOT	0.07	-0.32**	-0.11	0.03	0.25**	-0.06	0.104	-0.03				
UWRITER	-0.13	-0.10	0.09	0.07	-0.22**	0.03	0.20**	0.08				
AUDQUAL	0.05	-0.16*	-0.01	0.01	0.00	0.03	0.08	-0.07				
FORECAST	-0.16*	-0.37**	0.09	0.15*	-0.29**	0.23**	0.40**	-0.07				
NI/ASSET	-0.21**	-0.23**	0.01	0.06	-0.37**	0.20**	0.49**	0.03				
(from prospectus)												
MVE/ASSET	0.12	-0.18**	-0.05	-0.01	-0.01	-0.08	0.31**	0.01				
(at listing date)												

Panel B Spearman correlations for IPO characteristics												
	UND	AGE	RETAIN	DELAY	PIPO	HOT	UWRITER	AUDQUAL	FORECAST	CAP		
AGE	0.07											
RETAIN	0.13	0.24**										
DELAY	-0.33**	-0.12	-0.02									
PIPO	-0.28**	-0.22**	-0.14*	0.23**								

Table 3 (continued)

Panel B Spearman correlations for IPO characteristics

	UND	AGE	RETAIN	DELAY	PIPO	HOT	UWRITER	AUDQUAL	FORECAST	CAP
HOT	0.19**	0.01	0.22**	-0.13	-0.16*					
UWRITER	-0.01	0.16*	0.00	-0.13	-0.15*	0.03				
AUDQUAL	0.08	-0.04	0.02	-0.17*	-0.09	0.15*	0.00			
FORECAST	0.11	0.30**	0.06	-0.18*	-0.19**	0.02	0.24**	0.07		
CAP	0.18*	0.06	0.23**	-0.16*	-0.17*	0.21**	0.00	-0.02	0.21**	
IPLIST	0.09	0.19**	0.24**	-0.06	-0.18*	0.17*	0.17*	0.13*	0.05	0.28**

Panel C Spearman correlations for survival, takeover, changes of business, and other available information at the listing date

	SURVIVAL	TAKENOVER	CHANGE BUSINESS	OPERATING CF/ASSET	RETAIN EARN /ASSET	LIAB /ASSET	SALES /ASSET
OPERATING CF/ASSET	-0.10	0.19**	-0.23**				
RETAIN EARN/ASSET	-0.15*	0.20**	-0.23**	0.46**			
NI/ASSET	-0.10	0.18**	-0.31**	0.75**	0.59**		
LIAB/ASSET	-0.17*	0.11	-0.12	0.21**	0.29**	0.26**	
SALES/ASSET	-0.12	0.19**	-0.23**	0.45**	0.47**	0.54**	
Log(MVE)	-0.18**	0.25**	-0.34**	0.50**	0.36**	0.16*	0.46**

Two-tailed significance tests are reported for which ** denotes significance at less than 1 per cent and * denotes significance at less than 5 per cent.

prospectus registration until the first day of trading relates to companies in the exploration (insiders cashing out) category. The literature suggests the shorter the delay from prospectus registration to the listing date, the higher the demand for the stock, and the more underpricing is needed to overcome the information advantage of informed investors (Lee *et al.*, 1996). The ‘use of proceeds’ for exploration is associated with a greater use of warrants attached to shares and less likelihood of listing in a hot market, while the cashing out ‘use of proceeds’ has lower use of warrants. This greater tendency for the use of warrants by extractive industry companies adds to the evidence on warrant usage provided by How and Howe (2001). Working capital ‘use of proceeds’ is positively associated with a hot market, which is circumstantially consistent with ASIC concerns that some companies nominating ‘working capital’ for the primary ‘use of proceeds’ are intentionally opaque in their disclosures. The *RD*, exploration (*EXPLORE*), and working capital (*WC*) ‘use of proceeds’ tend to have less prestigious underwriters, while the cashing out (*CASHOUT*) ‘use of proceeds’ is positively associated with underwriter quality.

The second last row of Table 3 Panel A reports correlations for net income to assets in the listing year. The positive operating performance appears dominated by the debt repayment (*REPAY*) and insider selling (*CASHOUT*) ‘use of proceeds’ categories, which tend to include more established companies at the time of going public (as indicated by the positive correlation with *AGE*). These latter ‘use of proceeds’ categories along with the *ACQUIRE* category also have positive management earnings forecasts (*FORECAST*). Negative operating performance is dominated by the working capital (*WC*), *RD* and explore (*EXPLORE*) categories, which tend to include more of the smaller, uncertain companies.

4. Empirical analyses

4.1. ‘Use of proceeds’ disclosures and underpricing

Equation (1) is employed to test Hypotheses 1 and 2 that relate the ‘use of proceeds’ for growth, production and financing activities to the level of IPO underpricing.

$$\begin{aligned}
 UND_i = & \sum \chi_u USE\ of\ PROCEEDS_{i,u} + \chi_9 Age_i + \chi_{10} RETAIN_i \\
 & + \chi_{11} DELAY_i + \chi_{12} PIPO_i + \chi_{13} HOT_i + \chi_{14} UWRITER_i \\
 & + \chi_{15} AUDQUAL_i + \chi_{16} FORECAST_i + \chi_{17} CAP_i + \chi_{18} IPLIST_i \\
 & + \sum \chi_j INDUSTRY_{ij} + \varepsilon_i
 \end{aligned} \quad (1)$$

Equation (1) is estimated using ordinary least squares regressions. The dependent variable for Equation (1) is underpricing (*UND*) which is the closing stock price, P_1 , on the first day of listing minus the offer price, P_0 ,

divided by the offer price, P_0 . The ‘use of proceeds’ measures are as defined in Section 3.2 and Table 1 and comprise growth (*RD* and *EXPLORE*), production (*CAPEX* and *ACQUIRE*) and financing (*WC*, *REPAY*, *CASHOUT*, *INVEST*). No intercept is included in the regressions because the ‘use of proceeds’ variables sum to one, and an intercept would require one of the use of proceeds variables to be omitted; which is an unattractive option given these are the experimental variables of interest. The Utilities industry dummy variable is also omitted to enable the regression to be estimated.

Equation (1) includes variables for IPO characteristics previously related to underpricing. Firm age and size indicate the life cycle stage of the IPO and the amount of ex ante uncertainty relating to the expected future cash flows (Clarkson, 1994; Audretsch, 1995). Firm age (*AGE*) is the number of days from incorporation to listing date. Because the offer size is correlated with a number of the variables on the right hand side, Equation (1) is estimated for the full sample and for the sample partitioned on the median of the offer size.

Demand for the issue is also associated with underpricing (Ritter, 1999). The proxy for demand is the number of days from the date of the prospectus registration to the listing date (*DELAY*). The shorter (longer) the delay, the higher (lower) the demand from informed investors, and the more underpricing is needed to overcome the information disadvantage of uninformed investors (Rock, 1986), leading to a negative association between delay and underpricing (Lee *et al.*, 1996). Stock with options attached to buy additional shares are common to Australian IPOs as a ‘sweetener’ particularly in the extractive sector (How and Howe, 2001). A dummy variable is coded one for firms issuing common stocks with warrants attached and zero otherwise (*PIPO*). A dummy variable is employed as a control for ‘hot’ issue periods, equal to one for hot issue periods and zero otherwise (*HOT*). A ‘hot issue’ period is a period of high volume of IPOs following a period of high, initial returns on the stock. IPOs in hot periods are often accompanied by higher than usual pricing errors (Logue and Lindvall, 1974). Based on historical IPO returns, the hot issue period for the window studied in this article is October 1996 to June 2000. Management earnings forecasts in the prospectus proxy for an alternative source of information about expected performance (Lee *et al.*, 1996; Howe and Yeo, 2001). A dummy variable reflecting firms capitalising intangible assets in the prospectus (*CAP*), and a count of IP owned at the listing date (*IPLIST*), proxy for alternative information about growth.

Equation (1) also includes proxies for potential agency conflicts. The first measure is the level of ownership retained by the original owners of the IPO (*RETAIN*). The higher the retained ownership, the greater the alignment between the IPO issuers and the new shareholders and the lower the agency conflicts, which is argued to signal higher quality and therefore reduce the need to underprice the offer to attract investors (Leland and Pyle, 1977). The second and third measures are the prestige of the underwriter (*UWRITER*) and the auditor/investigating accountants (*AUDQUAL*). Underwriters and auditors/accounting

firms with a higher reputation have been associated with a quality certification that reduces underpricing (Beatty and Ritter, 1986; How *et al.*, 1995).

Table 4 reports the results for the underpricing tests.

Hypothesis 1 predicts the ‘use of proceeds’ for growth (*RD* and *EXPLORE*) is positively related to underpricing due to the effects of relatively higher ex ante uncertainty about future cash flows and/or a positive investor response to growth information. The results are weakly consistent with Hypothesis 1 for the R&D ‘use of proceeds’ (*RD*) and the exploration ‘use of proceeds’ (*EXPLORE*). The *RD* effect is confined to the firms making the larger offers. Further, the strength of the results for the *EXPLORE* category may be impacted by omitted variables relating to investor reliance on expert geology reports. Consistent with this conjecture, the securities regulator (ASIC) indicates it is ‘prepared to ensure that mining companies adequately disclose their prospects in a prospectus’.⁹

The ‘use of proceeds’ for capital expenditures is positively, significantly associated with underpricing for the large offer firms, while the ‘use of proceeds’ for acquisitions is positively, significantly associated with underpricing for the smaller offer companies. These results are inconsistent with Hypothesis 1, which predicts a positive association with underpricing only for the growth but not the production ‘use of proceeds’. However, these latter results do make intuitive sense in that just expanding via large amounts of capital expenditures (for the ‘large offer’ IPOs) may make the company bigger without generating value due to operating leverage effects (Carlson *et al.*, 2004). Further, the literature suggests acquirers often perform poorly going forward (Antonios *et al.*, 2007) and this is potentially a bigger concern for smaller companies making acquisitions with the proceeds.

Hypothesis 2 predicts the ‘use of proceeds’ for financing transactions (*WC*, *REPAY*, *INVEST* and *CASHOUT*) are positively associated with underpricing due to higher ex ante uncertainty about future cash flows. The results are consistent with Hypothesis 2 for working capital (*WC*), repayment of debt (*REPAY*) and insider selling (*CASHOUT*). The results are not consistent with Hypothesis 2 for purchases of securities (*INVEST*) for which the estimated coefficients in Table 4 are all insignificant. The positive links to underpricing for the working capital ‘use of proceeds’ is concentrated within the firms making smaller offers.

In relation to the control variables, *AGE* is negatively associated with underpricing primarily in the smaller offer group. The delay to listing and warrants (*DELAY* and *PIPOs*) are negatively associated with underpricing, while

⁹ For example, ASIC issued an interim stop order on 23/2/2001, preventing Tawana Resources (NL) from offering securities under its prospectus (ASIC, 2001a). ASIC’s concern was a lack of clarity relating to a gold project in Botswana. ASIC required Tawana to lodge a supplementary prospectus detailing the tenements, the intended application of funds, exploration programs, an option agreement and an additional report from the Independent Technical Consultant (ASIC, 2001a).

Table 4
 'Use of proceeds' disclosure links to underpricing

$$UND_i = \sum \chi_{10} USE\ of\ PROCEEDS_{i,t} + \chi_{9} Age_i + \chi_{10} RETAIN_i + \chi_{11} DELAY_i + \chi_{12} PIPO_i + \chi_{13} HOT_i + \chi_{14} UWRITER_i + \chi_{15} AUDQUAL_i + \chi_{16} FORECAST_i + \chi_{17} CAP_i + \chi_{18} IPLIST_i + \sum \chi_j INDUSTRY_{i,j} + \epsilon_i \quad (1)$$

	Full sample		Smaller offer size		Larger offer size	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Use of proceeds for growth and production activities						
RD	0.863	1.866*	0.228	0.338	0.782	1.748*
EXPLORE	0.361	1.764*	0.447	1.804*	0.535	1.837*
CAPEX	0.461	1.950*	0.243	0.722	0.807	2.294*
ACQUIRE	0.287	1.466	0.631	1.945*	0.398	1.695
Use of proceeds for financing activities						
WC	0.670	2.895**	0.968	2.871**	0.294	0.885
REPAY	0.596	2.636**	0.699	1.751*	0.542	1.995*
CASHOUT	0.591	2.488**	1.026	2.017*	0.588	1.985*
INVEST	0.180	0.673			0.410	1.249
Control variables						
AGE	-1e-05	-1.942*	-3e-05	-2.581**	8e-06	0.861
RETAIN	-0.106	-0.574	-0.478	-1.485	0.188	0.744
DELAY	-0.005	-3.897**	-0.006	-3.577**	-0.007	-2.408**
PIPO	-0.156	-2.621**	-0.213	-2.575**	-0.201	-1.809*
HOT	0.090	2.080*	0.044	0.578	0.145	1.950*
UWRITER	-0.103	-0.084	5.667	2.240**	-1.453	-0.786
AUDQUAL	0.148	0.360	1.264	1.933*	-0.910	-1.616
FORECAST	0.002	0.254	0.005	0.460	0.003	0.380

Table 4 (continued)

	Full sample		Smaller offer size		Larger offer size	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
<i>CAP</i>	+/-	-0.431	0.028	0.256	-0.038	-0.305
<i>IPLIST</i>	-	-2.609**	-0.010	-0.899	-0.005	-1.311
<i>INDUSTRY fixed effects</i>	Yes			Yes		Yes
Adj. R ²		0.16		0.32		0.10

Continuous 'use of proceeds' independent variables are deflated by total expected proceeds. Ordinary least squares regressions are estimated using heteroscedasticity and autocorrelation consistent (HAC) standard errors and covariance based on Bartlett kernel and Newey–West automatic bandwidth estimates. Number of observations is approximately 232 after missing data in the *DELAY* variable and removal of outliers identified using residual plots and leverage statistics. One tailed significance test statistics are reported where a sign is predicted otherwise the tests are two tailed: **denotes <1 per cent and *denotes <5 per cent. The sample comprises initial public offerings listing from 1994 to 2000. Variables are described in Table 1. No intercept is included in the regression because the 'use of proceeds' variables sum to one, and an intercept would require an experimental variable of interest to be omitted. The Utilities variable is omitted to enable the regression to be estimated.

the hot market (*HOT*) is positively associated with underpricing. These results are consistent with other studies in the Australian IPO setting (e.g. How and Howe, 2001). Underwriter and auditor quality are both positively associated with underpricing for the smaller offer companies suggesting the quality certification is not sufficient to rule out underpricing for these firms. As in other Australian studies, earnings forecasts are not related to underpricing (Lee *et al.*, 1996). Finally, IP ownership at the listing date (*IPLIST*) is associated with lower underpricing but capitalised intangible assets have no role.

4.2. Usefulness of ‘use of proceeds’ information for predicting IPO survival

As outlined in Section 2, a logical precursor to studying whether the ‘use of proceeds’ information links to future value and performance is to first evaluate whether the ‘use of proceeds’ disclosures provide incremental information that can help predict survival in the years after going public. If there is incremental information that helps to predict survival, it is a reasonable extension to examine whether the ‘use of proceeds’ disclosures are associated with future value and performance for the surviving firms.

Equation (2) is estimated to test for the prediction of survival.

$$\begin{aligned}
 SURVIVAL_i = & \sum \chi_u USE\ of\ PROCEEDS_{i,u} \\
 & + \chi_9 OPERATING\ CF/ASSET_i \\
 & + \chi_{10} RETAIN\ EARN/ASSET_i + \chi_{11} NI/ASSET_i \\
 & + \chi_{12} LIAB/MVE_i + \chi_{13} SALES/ASSET_i \\
 & + \chi_{14} Log(MVE)_i + \chi_{15} OFFER/ASSET_i \\
 & + \sum \chi_j INDUSTRY_{i,j} + \varepsilon_i
 \end{aligned} \tag{2}$$

where *SURVIVAL* is a dummy variable coded one if the IPO survived as a listed company for up to 7 years after listing and zero otherwise. Equation (2) is estimated using a binary Gompit regression. The Gompit estimator is based on the commonly used Gompertz survival function (e.g. Klepper, 2002), which allows the binary response rate to approach zero and one at different rates (e.g. Greene, 2000). A variable and increasing hazard rate is consistent with the negative skewed distribution of the IPO data, variation in firm sizes and events that predict the firms’ survival, and evidence from the literature of the pattern of IPO survival in the years after going public (as discussed earlier in Section 2.3).

Equation (2) includes the ‘use of proceeds’ variables, firm size as proxied by the logarithm of closing market value of equity on the listing date, the offer size deflated by assets, a set of Altman (1968) bankruptcy prediction variables proxying for other information available at the listing date and industry fixed effects. The latter Altman variables include operating cash flows/assets (proxy for working capital), retained earnings/assets, net income/assets, liabilities/

Table 5

Usefulness of 'use of proceeds' information for predicting IPO survival

$$SURVIVAL_i = \sum \chi_u USE\ of\ PROCEEDS_{i,u} + \chi_9 OPERATING\ CF/ASSET_i + \chi_{10} RETAIN\ EARN/ASSET_i + \chi_{11} NI/ASSET_i + \chi_{12} LIAB/MVE_i + \chi_{13} SALES/ASSET_i + \chi_{14} Log(MVE)_i + \chi_{15} OFFER/ASSET_{S_i} + \sum \chi_j INDUSTRY_{i,j} + \epsilon_i \quad (2)$$

	Survival (a)		Survival (b)		Exclude IPOs taken over or changing names and business	
	Coefficient	Z-statistic	Coefficient	Z-statistic	Coefficient	Z-statistic
Use of proceeds for growth activities						
<i>RD</i>	7.508	2.376*	7.454	2.359*	12.563	2.551*
<i>EXPLORE</i>	7.342	2.914**	7.305	2.901**	11.525	2.412*
Use of proceeds for production activities						
<i>CAPEX</i>	5.139	1.884	5.093	1.870	11.014	2.239*
<i>ACQUIRE</i>	6.780	2.489*	6.721	2.479*	10.600	2.104*
Use of proceeds for financing activities						
<i>WC</i>	6.541	2.456*	6.460	2.445*	11.235	2.419*
<i>REPAY</i>	6.332	2.336*	6.278	2.326*	11.738	2.346*
<i>CASHOUT</i>	7.597	2.453*	7.520	2.445*	13.684	2.564*
<i>INVEST</i>	6.220	2.151*	6.171	2.138*		
Other information known at the listing date						
<i>OPERATING</i>	0.248	0.237			1.047	0.492
<i>CF/ASSET</i>						
<i>RETAIN</i>	-1.175	-1.792	-1.149	-1.801	-1.391	-1.082
<i>EARN/ASSET</i>						
<i>NI/ASSET</i>	-0.554	-0.549	-0.383	-0.681	-0.293	-0.139

Table 5 (continued)

	Survival (a)		Survival (b)		Exclude IPOs taken over or changing names and business	
	Coefficient	Z-statistic	Coefficient	Z-statistic	Coefficient	Z-statistic
<i>LIAB/MVE</i>	(+/-) -0.104	-1.551	-0.103	-1.527	-0.111	-0.462
<i>SALES/ASSET</i>	(+) -0.010	-0.083	-0.008	-0.064	0.093	0.299
<i>Log(MVE)</i>	(+/-) -0.294	-2.358*	-0.291	-2.346*	-0.270	-1.272
<i>OFFER/ASSET</i>	(+/-) -0.671	-1.892	-0.666	-1.899	-1.104	-1.883
<i>INDUSTRY fixed effects</i>	Yes		Yes		Yes	
Log Likelihood		-120.974		-120.999		-62.221
Observations		1 = 162; 0 = 68		1 = 162; 0 = 68		1 = 120; 0 = 29

The estimation is a binary Gompit regression that allows a variable rate of response to factors associated with survival. *SURVIVAL* is a dummy variable coded one if the IPO survived as a listed company for up to 7 years after listing and zero otherwise. Estimation employs the Newton–Raphson algorithm and Huber–White covariance and standard errors. This **denotes significant at <1 per cent and *denotes significant at <5 per cent. The sample comprises IPOs listing from 1994 to 2000. No intercept is included in the regression because the ‘use of proceeds’ variables sum to one. The Utilities variable is omitted to enable the regression to be estimated.

closing market value of equity on the listing date and sales/assets. All accounting data are obtained from the prospectus.

Table 5 presents the results. Estimates from Equation (2) in the first two columns of Table 5 (denoted Survival (a)) suggest the ‘use of proceeds’ categories have incremental information useful for predicting survival except for the capital expenditures category. The only additional information variable with a significant coefficient estimate is the log of market value of equity, which is negative and significant. Neither the Altman (1968) variables nor the offer deflated by assets (*OFFER/ASSET*) has significant parameter estimates.

As shown in Table 3 Panel C, operating cash flows divided by assets is highly correlated with net income divided by assets (Spearman correlation is 75.0 per cent), and a number of other variables. Equation (2) is therefore re-estimated excluding operating cash flows. The estimates reported in the next two columns of Table 5, labelled Survival (b), remain consistent with the original estimates.

The final two columns in Table 5 report estimates from Equation (2) excluding the surviving IPOs taken over, or listed IPOs with changed names and businesses, up to 7 years after listing. These results are the same as those reported for Survival (a) and (b) except that the investing ‘use of proceeds’ firms are no longer present in the surviving firm sample, the capital expenditures ‘use of proceeds’ variable now has a significant positive coefficient estimate, and none of the ‘other information known at the listing date’ variables have significant parameter estimates.

Hence, there is evidence the ‘use of proceeds’ disclosures have incremental explanatory power to predict firm survival. The next two sections examine the hypothesised associations between the ‘use of proceeds’ disclosures and value and performance in the post-listing years.

4.3. Future market value of equity

Equation (3) is estimated to test Hypotheses 1 and 2, which hypothesise the growth (financing) ‘use of proceeds’ are positively (negatively) linked to future value.

$$\begin{aligned} \text{Log}(MVE_{i,t}/ASSET_{i,t-1}) &= \chi_1 BVE_{i,t}/ASSET_{i,t-1} + \chi_2 NI_{i,t}/ASSET_{i,t-1} \\ &+ \sum \chi_u \text{USE of PROCEEDS}_{i,u} \\ &+ \sum \chi_j \text{INDUSTRY}_{i,j} + \varepsilon_i \end{aligned} \quad (3)$$

The dependent variable in Equation (3) is the market value of equity deflated by total assets for up to 7 years following the listing year ($MVE_{i,t}/ASSET_{i,t-1}$). This variable is transformed by natural logarithm to mitigate dispersion in the raw market value data. Table 6 presents the results for only the years $t + 3$,

Table 6

*Use of proceeds' disclosure links to the market value of equity

$$\text{Log}(MVE_{i,t}/ASSET_{i,t-1}) = \lambda_1 BVE_{i,t}/ASSET_{i,t-1} + \lambda_2 NI_{i,t}/ASSET_{i,t-1} + \sum \lambda_4 \text{USE of PROCEEDS}_{i,t} + \sum \lambda_j \text{INDUSTRY}_{i,t} + \epsilon_i \quad (3)$$

Panel A *Use of proceeds' disclosure ability to discriminate the prospects of surviving IPOs in the long-run

	Third year after listing (n = 181)		Fifth year after listing (n = 101)		Seventh year after listing (n = 54)	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
$BVE_{i,t}/ASSET_{t-1}$	0.651	4.185**	0.216	3.163**	0.313	3.880**
$NI_{i,t}/ASSET_{t-1}$	-0.512	-1.861	-0.108	-0.239	-1.038	-7.134**
Use of proceeds for growth activities						
RD	0.472	0.616	1.641	2.277*	0.007	0.014
EXPLORE	-0.789	-2.709**	0.025	0.086	-0.307	-0.831
Use of proceeds for production activities						
CAPEX	-1.544	-2.857**	-0.020	-0.019	0.046	0.038
ACQUIRE	-1.121	-3.703**	-1.056	-1.908	-0.675	-0.891
Use of proceeds for financing activities						
WC	-0.851	-4.674**	-0.613	-2.383*	-0.812	-2.613**
REPAY	-0.634	-2.595*	-0.850	-2.205*	-0.880	-2.205*
CASHOUT	-0.409	-1.694	-0.338	-1.164	-0.509	-1.610
INVEST	-1.167	-2.415*	-0.524	-2.369*		
INDUSTRY fixed effects	No	No	No	No	No	No
Adj. R ²	0.308	0.198	0.336	0.336	0.336	0.336

Table 6 (continued)
 Panel B 'Use of proceeds': disclosure ability to discriminate the prospects of surviving IPOs in the long-run – with industry effects

	Third year after listing (n = 181)		Fifth year after listing (n = 99)		Seventh year after listing (n = 54)	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
$BVE_{i,t}/ASSET_{t-1}$	0.628	3.912**	0.235	5.313**	0.059	4.080**
$NI_{i,t}/ASSET_{t-1}$	-0.443	-1.623	0.045	0.087	-1.134	-6.591**
Use of proceeds for growth activities						
RD	-0.386	-0.304	2.377	1.330	-3.644	-3.224**
EXPLORE	-1.147	-2.921**	0.388	0.489	-0.270	-0.340
Use of proceeds for production activities						
CAPEX	-2.057	-3.434**	0.077	0.072	-0.175	-0.114
ACQUIRE	-1.568	-8.162**	-0.452	-0.604	-0.290	-0.288
Use of proceeds for financing activities						
WC	-1.383	-5.493**	0.024	0.044	-0.707	-0.883
REPAY	-0.905	-3.945**	0.198	0.307	-0.736	-0.778
CASHOUT	-1.034	-3.774**	0.346	0.571	-0.233	-0.230
INVEST	-1.430	-2.853**	0.460	0.664		
INDUSTRY fixed effects	Yes		Yes		Yes	
Adj. R ²		0.298		0.222		0.273

Table 6 Panels A and B employ continuous 'use of proceeds' independent variables deflated by total expected proceeds. Ordinary least squares regressions are estimated using heteroscedasticity and autocorrelation consistent (HAC) standard errors and covariance based on Bartlett kernel and Newey–West automatic bandwidth estimates. Number of observations reflects attrition due to delisting, takeovers, or changed core business, and removal of a small number of outliers identified using residual plots and leverage statistics. One tailed significance test statistics are reported where a sign is predicted otherwise the tests are two tailed: **denotes <1 per cent and *denotes <5 per cent. The sample comprises IPOs listing from 1994 to 2000. Variables are described in Table 1. No intercept is included because the 'use of proceeds' variables sum to one, and an intercept would require an experimental variable of interest to be omitted. Industry fixed effects are included in the Panel B estimation with the Utilities variable omitted to enable the regression to be estimated.

$t + 5$ and $t + 7$ (for parsimony) in Panel A, and in Panel B industry dummy variables are also included in the regression.

The results in Table 6 Panel A show the high attrition rate of IPOs as documented by Lee *et al.* (1996), Fama and French (2004) and others. In particular, there are 181, 101 and 54 firms remaining from the original sample for $t + 3$, $t + 5$ and $t + 7$ after the listing year, respectively (these numbers are after removal of a small number of outliers as explained earlier). The firms dropping out of the sample within 7 years after the listing date are either delisted, taken over, still listed but changed the company's name and business to form a totally different operation, or still listed and essentially the same company but in a nonoperational state. The latter, stagnant firms will eventually be either delisted, taken over, or the company shell used for a 'backdoor' listing. However, this process can take years and in the interim, the company tends to drop out of the sample because accounting and market data are intermittent.

The results in Table 6 Panel A are generally not consistent with Hypothesis 1 for the 'use of proceeds' for *RD* or *EXPLORE*.¹⁰ The *RD* coefficient estimate is positive and significant only in year $t + 5$. *EXPLORE* has a negative significant coefficient estimate in year $t + 3$ after the listing and is insignificant thereafter. These findings present little evidence of a systematic association between the *RD* and *EXPLORE* 'use of proceeds' disclosures and future value. Hence, there appears to be limited information embodied in the *RD* and *EXPLORE* 'use of proceeds' disclosures that is useful for investors to evaluate the firms' future value.

No association is predicted between *CAPEX*, *ACQUIRE* and future value. However, Table 6 Panel A reveals significant negative associations with the market value of equity for *CAPEX* and *ACQUIRE* in the year $t + 3$, and no association thereafter. This association is consistent with investor concerns about the value able to be created from capital expenditures and acquisitions in the early years after listing. As alluded to earlier, Carlson *et al.* (2004) suggest capital expansion can give rise to negative performance effects due to increasing operating leverage and uncertain demand. There is also evidence that bidders making acquisitions tend to underperform nonbidding firms, on average.¹¹

¹⁰ The negative association between earnings and market value in Table 6 is driven by loss firms. This result is documented in published articles such as Hayn (1995) and Barth *et al.* (1998). One explanation put forward is that the abandonment option embedded in the book value of equity increases in importance for firms making losses, while earnings is the focus and is more informative for firms producing positive earnings.

¹¹ For example, Antonios *et al.* (2007) provide short-run evidence that frequent bidders may break-even on public targets and gain on private targets. However, in the long-run, frequent bidders experience significant wealth losses irrespective of the type of acquisition.

Hypothesis 2 predicts the ‘use of proceeds’ for financing transactions (*WC*, *REPAY*, *INVEST* and *CASHOUT*) are negatively associated with future value due to the uncertainty of future cash flows. The results in Table 6 for the firms still in the sample in years $t + 3$, $t + 5$ and $t + 7$, are consistent with Hypothesis 2 for all of the financing ‘use of proceeds’ except insiders cashing out (i.e. for *WC*, *REPAY* and *INVEST*). The working capital and repayment of debt negative associations with value are observed for the third, fifth and seventh years after listing, while the small number of observations sees the *INVEST* category drop out of the estimation by year $t + 7$. Hence, for the firms remaining in the sample in each of the respective years, these latter associations are consistent with investor concerns about value creation from the intention to use the proceeds for working capital and repayment of debt.

When industry effects are introduced into the regressions in Table 6 Panel B, the results are the same for the third year ($t + 3$) after listing. However, none of the coefficient estimates for the ‘use of proceeds’ disclosures are significant for the fifth and seventh years ($t + 5$ and $t + 7$) following the listing, except for a significant, negative *RD* coefficient in the $t + 7$ year. The results from Table 6 Panel B therefore suggest industry conditions subsume incremental information in the financing ‘use of proceeds’ about future value, after the first 3 years.

4.4. Future operating performance

Equations (4) and (5) below are estimated using ordinary least square regressions to test Hypothesis 3, which predicts the firms’ size and growth objectives at the listing date are a conditioning factor in the association between the ‘use of proceeds’ disclosures and operating performance in the years after going public.

$$\begin{aligned}
 NI_{i,t}/ASSET_{i,t-1} &= \chi_1 NI_{i,t-1}/ASSET_{i,t-1} \\
 &+ \chi_2 \text{Log}(MVE)_i^{List} \text{ (or } \text{Log}(MVE)_{i,t}) \\
 &+ \sum \chi_u \text{USE of } PROCEEDS_{i,u} + \sum \chi_j \text{INDUSTRY}_{i,j} \\
 &+ \varepsilon_i
 \end{aligned}
 \tag{4}$$

Equation (4) first examines the *unconditional* association between the ‘use of proceeds’ disclosures and future operating performance. The dependent variable in Equation (4) is net income for up to 7 years following the listing year, deflated by total assets for year $t-1$ ($NI_{i,t}/ASSET_{i,t-1}$). As argued earlier, the unconditional association between the ‘use of proceeds’ disclosures and operating performance is expected to turn on the composition of

the ‘use of proceeds’ categories, in terms of the proportions of firms with small/large size and high/low growth objectives. In particular, in the years after going public, a positive (negative) association with operating performance is expected if the ‘use of proceeds’ category has a higher (lower) proportion of established firms. To examine the incremental effects of an initial firm size advantage, Equation 4 includes the closing market value of equity at the listing date (MVE^{List}). Positive incremental explanatory power of the market value for operating performance is expected, but this association is expected to fade as the smaller, riskier IPO firms fail or are taken over and leave the sample.

Equation (4) is re-estimated including the closing market value of equity for the year t ($MVE_{i,t}$) for which net income is measured (i.e. $NI_{i,t}$). The current value is expected to have incremental explanatory power for operating performance but this association is also expected to decline as the sample composition changes due to the growth of some IPO firms and attrition of others.

Equation (5) tests the *conditional* association between the ‘use of proceeds’ and operating performance.

$$\begin{aligned}
 NI_{i,t}/ASSET_{i,t-1} = & \sum \chi_u USE\ of\ PROCEEDS_{i,u} + \chi_8 NI_{i,t-1}/ASSET_{i,t-1} \\
 & + \chi_9 Log(MVE)_{i,t} + \chi_{10} Log(ASSET^{Pro}/OFFER)_i \\
 & + \sum \chi_u USE\ of\ PROCEEDS_{i,u} \\
 & * Log(ASSET^{Pro}/OFFER)_i + \sum \chi_j INDUSTRY_{i,j} \\
 & + \varepsilon_i
 \end{aligned} \tag{5}$$

Hypothesis 3 predicts that firm size and growth objectives at the listing date condition the association between the ‘use of proceeds’ disclosures and operating performance in the years after going public. The proxy for size and growth objectives at the listing date is total assets reported in the prospectus divided by the offer ($ASSET^{Pro}/OFFER$). The IPOs with lower assets relative to the offer tend to be early-stage firms that must grow to attain a minimum economic scale for survival. Therefore, positive coefficients are expected for the ‘use of proceeds’ disclosure interactions with $ASSET^{Pro}/OFFER$. As argued previously, this association is expected to wane as the sample composition changes with smaller, riskier firms either failing or growing.

Table 7 Panels A, B and C report the results from Equations (4) and (5) for the years $t + 3$, $t + 5$ and $t + 7$ after listing.

For Panel A, the listing date market value of equity has positive and significant coefficient estimates in years, $t + 3$ and $t + 5$ (i.e. third and fifth year after the listing year) and is insignificant thereafter, consistent with an

Table 7

'Use of proceeds' disclosure links to future operating performance

$$NI_{i,t}/ASSET_{i,t-1} = \gamma_1 NI_{i,t-1}/ASSET_{i,t-1} + \gamma_2 \text{Log}(MVE)_i^{Lst} + \sum \gamma_u \text{USE of PROCEEDS}_{i,u} + \sum \gamma_f \text{INDUSTRY}_{i,f} + \epsilon_i \quad (4)$$

Panel A Estimation includes the closing market value of equity on the listing date

	Third Year after Listing		Fifth Year after Listing		Seventh Year after Listing	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
$NI_{i,t-1}/ASSET_{i,t-1}$	0.155	3.661**	0.416	4.550**	0.523	2.179*
$\text{Log}(MVE)_i^{Lst}$	0.080	3.792**	0.019	2.090*	-0.012	-0.301
Use of proceeds for growth activities						
RD	-1.419	-2.995**	-0.240	-0.979	0.085	0.106
EXPLORE	-1.651	-4.307**	-0.476	-3.963**	0.301	0.490
Use of proceeds for production activities						
CAPEX	-1.772	-3.873**	-0.369	-2.180*	0.461	0.657
ACQUIRE	-1.585	-3.673**	-0.346	-2.550*	0.644	1.001
Use of proceeds for financing activities						
WC	-1.632	-3.935**	-0.296	-2.500*	0.216	0.365
REPAY	-1.636	-3.842**	-0.303	-2.496*	0.347	0.559
CASHOUT	-1.629	-3.427**	-0.139	-1.056	0.579	0.803
INVEST	-1.870	-3.962**				
INDUSTRY fixed effects		Yes		Yes		Yes
Adj. R ²		0.425		0.520		0.484
Observations		176		98		49

Table 7 (continued)

$$NI_{i,t}/ASSET_{i,t-1} = \chi_1 NI_{i,t-1}/ASSET_{i,t-1} + \chi_2 \text{Log}(MVE)_{i,t} + \sum \chi_n \text{USE of PROCEEDS}_{i,t} + \sum \chi_f \text{INDUSTRY}_{i,t} + \epsilon_i \quad (4)$$

Panel B Estimation includes the closing market value of equity for the current year *t* balance date

	Third Year after Listing		Fifth Year after Listing		Seventh Year after Listing	
	Coefficient	<i>t</i> -statistic	Coefficient	<i>t</i> -statistic	Coefficient	<i>t</i> -statistic
$NI_{i,t-1}/ASSET_{i,t-1}$	0.155	3.196**	0.339	3.403**	0.623	3.087**
$\text{Log}(MVE)_{i,t}$	0.044	2.543*	0.031	1.604	-0.044	-1.685
Use of proceeds for growth activities						
RD	-1.210	-2.347*	-0.194	-0.845	0.292	0.822
EXPLORE	-1.085	-3.049**	-0.543	-3.762**	0.899	1.778
Use of proceeds for production activities						
CAPEX	-1.038	-2.475*	-0.397	-2.163*	1.147	2.005*
ACQUIRE	-0.883	-2.441*	-0.342	-2.353*	1.233	2.344*
Use of proceeds for financing activities						
WC	-0.930	-2.678**	-0.291	-2.155*	0.814	1.867
REPAY	-0.938	-2.579*	-0.287	-2.210*	0.935	1.955
CASHOUT	-0.814	-2.075*	-0.145	-1.009	1.211	2.249*
INVEST	-1.164	-2.848**				
INDUSTRY fixed effects		Yes		Yes		Yes
Adj. R ²		0.388		0.566		0.550
Observations		179		98		51

Table 7 (continued)

$$NI_{i,t}/ASSET_{i,t-1} = \sum \lambda_{i,t} USE of PROCEEDS_{i,t} + \lambda_{8t} NI_{i,t-1}/ASSET_{i,t-1} + \lambda_{9t} Log(MVE)_{i,t} + \lambda_{10t} Log(ASSET^{pro}/OFFER)_{i,t} + \sum \lambda_{i,t} USE of PROCEEDS_{i,t} \tag{5}$$

$$* Log(ASSET^{pro}/OFFER)_{i,t} + \sum \lambda_{i,t} INDUSTRY_{i,t} + \varepsilon_i$$

Panel C Estimation includes interactions with a proxy for the size and growth objectives of the IPO at the listing date ($Asset^{pro}/Offer$)

	Third Year after Listing		Fifth Year after Listing		Seventh Year after Listing	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
$NI_{i,t-1}/ASSET_{i,t-1}$	0.153	3.256**	0.342	3.356**	0.625	4.146**
$Log(MVE)_{i,t}$	0.013	1.387	0.021	1.068	-0.064	-2.272*
$Log(ASSET^{pro}/OFFER)$	-0.849	-5.307**	-0.004	-0.119	0.078	1.941
Use of proceeds for growth activities						
RD	-0.639	-1.167	-0.058	-0.184	0.341	0.868
EXPLORE	-0.239	-1.509	-0.455	-3.197**	1.290	2.505*
Use of proceeds for production activities						
CAPEX	-0.472	-1.575	-0.611	-2.308*	1.463	2.911**
ACQUIRE	-0.110	-0.672	-0.237	-1.266	1.926	3.019**
Use of proceeds for financing activities						
WC	-0.187	-1.349	-0.327	-2.338*	1.216	2.466*
REPAY	-0.211	-1.180	-0.292	-1.689	1.379	2.470*
CASHOUT	0.031	0.190	-0.099	-0.668	1.451	2.616*
Interactions						
$RD*Log(ASSET^{pro}/OFFER)$	1.960	2.217*	-0.662	-1.429	0.509	2.270*

Table 7 (continued)

	Third Year after Listing		Fifth Year after Listing		Seventh Year after Listing		
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	
<i>EXPLORE</i> *Log (<i>ASSET^{pro}</i> / <i>OFFER</i>)	(+)	0.640	3.192**	-0.338	-1.533	-0.400	-3.026**
<i>CAPEX</i> *Log (<i>ASSET^{pro}</i> / <i>OFFER</i>)'	(+)	1.183	3.860**	0.292	1.498	-0.079	-0.422
<i>ACQUIRE</i> *Log (<i>ASSET^{pro}</i> / <i>OFFER</i>)	(+)	0.851	5.338**	-0.173	-0.522	-0.859	-1.650
<i>WC</i> *Log(<i>ASSET^{pro}</i> / <i>OFFER</i>)	(+)	0.876	5.475**	0.059	0.447	-0.358	-1.861
<i>REPAY</i> *Log (<i>ASSET^{pro}</i> / <i>OFFER</i>)	(+)	0.949	4.819**	0.025	0.190	-0.218	-1.442
<i>CASHOUT</i> *Log (<i>ASSET^{pro}</i> / <i>OFFER</i>)	(+)	0.902	4.933**	0.010	0.154	-0.325	-2.212*
<i>INDUSTRY fixed effects</i>		Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²		0.385	0.385	0.564	0.564	0.638	0.638
Observations		179	179	98	98	51	51

Table 6 Panels A, B and C employ continuous 'use of proceeds' independent variables deflated by the total intended issue of proceeds. Ordinary least squares regressions are estimated using heteroscedasticity and autocorrelation consistent (HAC) standard errors and covariance based on Bartlett kernel and Newey–West automatic bandwidth estimates. Number of observations reflects attrition due to delisting or failing IPOs and removal of a small number of outliers identified using residual plots and leverage statistics. One tailed significance test statistics are reported where a sign is predicted otherwise tests are two tailed: **denotes <1 per cent and *denotes <5 per cent. The sample comprises IPOs listing between 1994 and 2000. Variables are described in Table 1. No intercept is included in the regression because the 'use of proceeds' variables sum to one, and an intercept would require an experimental variable of interest to be omitted. The Utilities industry dummy variable is omitted to enable the regression to be estimated.

‘established firm’ advantage in relation to operating performance that declines as the sample composition changes. There is also a significantly positive association between the prior year and next year’s net income, suggesting the positive income firms generate positive income persistently. The incremental *unconditional* association of the ‘use of proceeds’ disclosures with operating performance is significantly negative for the third and fifth years after listing (except for the *RD* and *CASHOUT* categories that are insignificant after year $t + 3$). These findings suggest the primary explanator of operating performance in the early years after going public is the initial established firm status.

In Table 7 Panel B, the *current* market value of equity ($MVE_{i,t}$) is positive and significant in year $t + 3$ and insignificant thereafter, which may be interpreted as reflecting the decline of current firm size as a performance advantage, given the Panel B tests explicitly capture the current scale of the remaining sample firms.

In relation to the *unconditional* ‘use of proceeds’ disclosures in Table 7 Panel B, in the seventh year after listing, three ‘use of proceeds’ categories are significantly positively associated with operating performance comprising *CAPEX*, *ACQUIRE* and *CASHOUT*. The other financing ‘use of proceeds’, working capital (*WC*) and repayment of debt (*REPAY*) are marginally significant just above the 5 per cent level, while there is no association between the *RD* and *EXPLORE* categories and operating performance.

The literature (referred to in Section 2.3) suggests surviving IPO firms perform poorly on average relative to expectations for up to 5 years after going public. In the present context, ‘average performance’ relates to the ‘use of proceeds’ categories, rather than the average surviving IPO. Accordingly, a tentative conclusion for the remaining sample in the Australian setting and period is that the *CAPEX*, *ACQUIRE* and *CASHOUT* firms on average outperform the other categories in the seventh year. This outcome could be due to a few *CAPEX*, *ACQUIRE* and *CASHOUT* firms performing very well and a few firms performing quite poorly in the *WC* and *REPAY* categories. The arguments developed in Section 2 also suggest relatively greater diversity of operating performance might be observed in the *WC*, *REPAY*, *RD* and *EXPLORE* disclosure categories, due to agency concerns and economic uncertainties. These conclusions are cautious because the remaining sample is very small and potentially lacks generalisability to other periods and settings.

Finally, Table 7 Panel C presents estimates for Equation (5) which includes ‘use of proceeds’ disclosure interactions with a proxy for the firms’ size and growth objectives at the listing date, $ASSET^{Pro}/OFFER$. The results for the year, $t + 3$, are consistent with those reported in Table 7 Panels A and B. In particular, in Panel C, none of the intercepts for the ‘use of proceeds’ disclosures are significant. However, all the interactions between the ‘use of proceeds’ categories and the proxy for the firms’ size and growth objectives at the listing date are significantly positively associated with operating performance. This positive association disappears after year $t + 3$ for all but the *RD*

interaction ($RD*ASSET^{Pro}/OFFER$). However, the RD interaction has a positive significant coefficient in the seventh year after listing, suggesting that firm size at the listing date is informative about long-run-operating performance for remaining firms in the RD ‘use of proceeds’ disclosure category. Caution is warranted, as this result may be just an artefact. For all the other ‘use of proceeds’ disclosure categories, by the seventh year after the listing, the positive significant interaction associations have reverted to positive ‘use of proceeds’ intercepts (for *EXPLORE*, *CAPEX*, *ACQUIRE*, *WC*, *REPAY* and *CASHOUT*). Hence, for the remaining sample firms, any operating performance advantage arising from firm size at the listing date, to the extent this condition is captured by $ASSET^{Pro}/OFFER$, has faded for all but the RD ‘use of proceeds’ category by the seventh year after listing.

Overall, the findings in relation to the association between the ‘use of proceeds’ disclosures and future operating performance, suggest firm size and growth objectives (as proxied by the listing year market value of equity or the prospectus assets divided by the offer) are conditioning factors in the early years after going public. As the sample composition changes over time, this initial size advantage appears to decline for all ‘use of disclosure’ disclosure categories except RD .

5. Summary and conclusions

Security regulators in most jurisdictions require IPO issuers to disclose the intended ‘use of the issue proceeds’ in the IPO prospectus, including the purposes to which the funds will be applied and the monetary allocation among these uses. Motivating this study is anecdotal evidence in the Australian institutional setting that some IPO prospectuses include only very general statements about the issuers’ intended use of the proceeds. Evidence on this issue is also relevant to other jurisdictions where vague disclosures relating to the intended ‘use of proceeds’ have been observed, such as in the US setting by Leone *et al.* (2007).

This current study extends the literature by categorising the ‘use of proceeds’ disclosures by reference to the existence of explicit commitments detailed in the prospectus and purpose (growth, production or financing activities). This study employs this new categorisation approach to build on prior research that investigates the underpricing and post-listing performance of IPOs.¹² Hypotheses arising from the theory framework link the ‘use of proceeds’ disclosure categories to the level of IPO underpricing, survival prediction, the market value of equity and future operating performance. A commonality across IPO

¹² For example, Jain and Kini (1994), Loughran and Ritter (1995), Lee *et al.* (1996), Pagano *et al.* (1998), Fishe (2002), Daniel (2002), Ritter and Welch (2002) and Derrien (2006).

studies is incomplete information surrounding the prospects of the IPOs, prompting the search for contextual information to alleviate this uncertainty. The main take-away from this study is the ‘use of proceeds’ disclosure categories, measured using the categorisation developed in this study, have incremental information over other relevant sources of information for underpricing, for predicting survival of the firms, and in the case of some ‘use of proceeds’ categories, for evaluating future value in the early years after going public.

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