

A Re-Examination of the Disclosure of Discretionary Earnings Forecasts: The Case of Initial Public Offerings in Hong Kong

Paul B. McGUINNESS, Professor, Department of Finance, The Chinese University of Hong Kong¹

July 2005

Summary

- *In this short paper, the general characteristics surrounding the voluntary release of prospectus earnings forecasts are examined for a sample of recently organised initial public offerings in Hong Kong. In terms of forecast accuracy, results, relative to earlier Hong Kong-based studies [Chan et al. (1996), Jaggi (1997), Cheng and Firth (2000) and Chen, Firth and Krishnan (2001)], point to an even tighter distribution of forecast errors than was the case for IPOs in the early to mid 1990s. A more sophisticated primary market – in which dual-tranche offerings, many with variable offer prices and over-allotment options, dominate – allied to improved corporate governance practice is the likely reason for this outcome.*
- *Post-listing deviations from prospectus forecasts are also noted to be positively related to the percentage of equity retained in the newly listed firms by pre-listing stakeholders as well as to the utilisation of over-allotment options by issue underwriters. Finally, the importance of underpricing to the disclosure of IPO earnings forecasts – as signalled in the work of Jog and McConomy (2003) for Canadian IPOs – is partially reflected through the over-allotment option exercise decision variable. The latter is strongly and positively related to both the incidence of a prospectus earnings forecast and the magnitude of IPO underpricing.*

Introduction

1. Voluntary corporate disclosure offers an important route for controlling shareholders (and their representatives) in signalling and thus maximising corporate value². In this paper, one particular type of discretionary disclosure relevant to this purpose is examined: the earnings forecast that appears in the prospectus document to an initial public offering (IPO) of equity.
2. Although quite a lot of attention has already been devoted to this type of disclosure, largely in terms of the accuracy of ensuing forecast errors, relatively little has

¹ This paper is for pure fact-finding and research purposes, and is not an attempt to comment on the developments of any markets/companies or interpret the policies concerned. The views expressed in this paper do not represent those of the SFC. The author would like to thank Kevin Keasey, Michael Ferguson and an anonymous reviewer for their comments on an earlier draft of this paper.

² Trueman's (1986) theoretical analysis of managers releasing earnings information in advance of formal announcement dates points to this motivation. Hughes (1986) account of a bivariate signalling model, featuring a direct disclosure pertaining to value and the percentage of equity retained by the original investor, is also apposite. At an empirical level, accounts like Clarkson, Dontoh, Richardson and Sefcik's (1992), for Canadian IPOs, point to a positive relation between the magnitude of the profit forecast and value.

appeared in the literature to help us discriminate between firms that voluntarily disclose a prospectus earnings forecast from those that do not³. We know from Jog and McConomy's (2003) recent analysis of Canadian IPOs, for listings on the Toronto Stock Exchange, between 1983 and 1994, that the omission of a discretionary prospectus earnings forecast may be damaging to the issuer in terms of the increased IPO underpricing it engenders. In short, a larger discount on the IPO offer price may be required to assuage investors reluctant to participate in an offer without an accompanying credible (i.e., audited) forecast of earnings. Jog and McConomy (2003) also indicate that post-listing returns may be adversely affected by the non-disclosure of a prospectus earnings forecast, particularly where small firms are involved. While not specifically examining the issue of non-disclosure, Firth (1998) also provides evidence supportive of the role of earnings forecasts in bolstering after-market performance⁴. Using a sample of Singaporean IPOs, Firth demonstrates a positive association between after-market returns and earnings forecast accuracy. Moreover, he notes that earnings forecasts are a much stronger signal of firm value than other prominent signals, like the percentage of equity retained by pre-listing controlling shareholders⁵.

3. The disclosure of an IPO earnings forecast is optional in a number of markets. This is certainly the case for Hong Kong which serves as the background to this study. This picture contrasts sharply with the US where such disclosure is not commonplace, possibly because of the litigation risks associated with undue forecast bias⁶. In contrast to the US, countries like the UK, Australia and Canada appear to encourage voluntary disclosure of prospectus earnings forecasts⁷. Specifically, companies providing forecasts are likely to garner substantial benefits. The most obvious would be a reduction in the amount of uncertainty surrounding the intrinsic value of the issuer's stock and, as a result, increased offer prices relative to earnings at the point of issue⁸.
4. To make the prospectus earnings forecast disclosure costly and credible, in the sense of the Spence (1973) signalling framework, there has to be some incentive for the issuer and its advisors to signal expectations in a way that is not overly optimistic or cavalier. A plethora of studies indicate that higher quality reporting accountants (and

³ For an empirical review of the literature relating to management-initiated forecasts of earnings in a general context (i.e., not simply in relation to an initial offering of securities), useful reference can be made to Collier and Yohn (1998).

⁴ Firth remarks, in relation to his 1977-92 study sample, that 'Throughout the period ... most Singapore IPO prospectuses contained point estimates of earnings and dividends for the next financial year ...' (p.30). He further indicates that a change instituted in 1993 means that profit forecast disclosure is now compulsory.

⁵ Leland and Pyle's (1977) account of the importance of this variable has spawned several empirical examinations. The highlight is perhaps Ritter's (1984) analysis of the relation between the equity retention and initial firm valuation for US IPOs.

⁶ Jog and McConomy (2003) note in this vein, that, 'Regulators in more litigious environments such as the US may need to further strengthen safe-harbour provisions before IPO managers would be willing to provide earnings forecasts in prospectuses' (p. 159).

⁷ For Canada, see Jog and McConomy (2003) for further comment. See Hartnett and Romcke (2000, p. 103) for comment on the relative propensity of issuers to disclose such forecasts in the four countries mentioned.

⁸ Such arguments also hold within the wider realm of management-initiated forecasts. As succinctly argued in Collier and Yohn (1998), in their review of the extant findings pertaining to voluntary disclosure decisions in the wider context of earnings forecasts, '... managers issue forecasts primarily to adjust investor expectations to their own. Moreover, managers believe that disclosures reduce information asymmetry in the market for their stock and, therefore, enhance firm value.' (p. 59).

auditors) have considerably more reputational capital at stake when ‘underwriting’ accounting-based disclosures and therefore lose considerably more, than their less-established competitors, when supporting overly optimistic forecasts⁹. The same is probably true of other advising agents. Beatty and Ritter (1986), for instance, in their examination of IPO underpricing for US issues between 1977 and 1982, inform us that underpricing is not only (positively) related to ex-ante uncertainty levels but that underwriters also maintain the integrity of the relation. In essence, higher quality (higher reputation) underwriters, with more reputational capital at stake, gravitate toward IPO firms with inherently lower ex-ante uncertainty levels. By connection, higher quality underwriters support IPOs with lower underpricing levels. In this context, one could argue that prospectus earnings forecasts help to signal lower ex-ante uncertainty (pertaining to the valuation of the issuer’s stock) and thus contribute to lower IPO underpricing levels. In sum, one might expect the forecast disclosure decision (i.e., an assigned value of one for disclosure and zero for non-disclosure) to correlate positively with the quality of the associated underwriter (and the auditor, reporting accountant and sponsor that they are tied to) and negatively with the level of underpricing.

5. For the issuer as well, one imagines significant costs from false or negligent disclosure practice; the punitive effect of the market being the most obvious sanction, as attested to in Jog and McConomy’s (2003) study. In particular, they note that, ‘... firms that provide optimistic or inaccurate forecasts have somewhat lower underpricing than those whose forecasts (from ex-post analysis) turn out to have been conservative or accurate. However, this somewhat lower initial underpricing of firms with optimistic forecasts is more than offset by significantly worse post-issue return performance.’ (p.159, parentheses and quotation marks shown as used).
6. As well as an increase in the risk premium of the issuer’s stock upon revelation of the false disclosure signal¹⁰, the issuer might also face less favourable terms when seeking capital funding in a subsequent (seasoned) offering.
7. Clearly, strong incentives exist to coerce issuers, and their advising agents, to act with caution when disclosing prospectus earnings forecasts. As will be noted later in this paper, this caution is readily apparent in the Hong Kong environment, given that all forecasts scrutinised across the 2002-3 sample period were imbued with some degree of negative bias (i.e., actual profit levels were in excess of forecast levels). Careless or overly-optimistic forecasting may therefore be pre-empted in the Hong Kong context given the concomitant losses to advising agent reputation and to the equity value of controlling shareholder stakes. This is likely to be even more telling in a setting where historically there have been few exceptions to the norm of posting conservative prospectus earnings forecasts, as suggested by earlier Hong Kong-based studies [see Cheng and Firth (2000), for instance].

⁹ For a thorough review of the role of auditors in signalling firm value, see Firth and Liao-Tan (1998, pp. 148-150).

¹⁰ This would dampen secondary market prices in the stock and damage the value of the controlling shareholder’s equity stake. This is especially important given that the controlling shareholder would likely have his/her holdings ‘locked-up’ for several months post-listing. In the Hong Kong context there is an absolute ‘lock-up’ of controlling shareholders’ interests for the first six months of listing (see Rule 10.07, Chapter 10, ‘Equity Securities: Restrictions on Purchase and Subscription’, HKEx Listing Rules).

8. Two stages of empirical analysis feature in this paper. The accuracy of earnings forecast errors are first assessed - for the sub-group of companies electing to disclose prospectus earnings forecasts – and related to a range of firm- and market-level characteristics. This provides background for a second stage of analysis where the disclosure/non-disclosure decision is examined. As the prospectus earnings forecast is such a critical piece of information in evaluating the merit, and therefore value, of an IPO investment [see Firth (1998)], significant differences are likely to be apparent between issuers that disclose and those that do not. One reason the forecast is so important is that it provides the information necessary for construction of the benchmark price-to-earnings ratio (PER), on which IPOs, within given industries and time periods, are so often compared. Without such data, some form of modelling approach is required to arrive at a benchmark forecast PER. One might also guess that the standard deviation of such model-derived estimates would easily exceed those on manager-initiated prospectus earnings forecasts. This view is made clear in Firth (1998), where he notes in relation to prospectus forecasts, ‘Historical profits, historical profits adjusted by historical growth, and net assets, are far inferior signals of company value; the rapid profit growth of IPOs and, perhaps more importantly, the expansion of activities financed by the proceeds of the new issue, render historical profit and historical growth numbers of limited use in predicting future earnings and market valuation.’ (P. 38).
9. In carrying out the objectives of this paper, the background to the disclosure of prospectus earnings forecasts, as conditioned by the regulatory environment in Hong Kong, is set out in Section Two. Details of the data used, forecast error form and pertinent descriptive statistics then feature in Section Three. Measurement of variables, empirical results and conclusions follow in Sections Four, Five and Six, respectively.

Background: The Extant Evidence Pertaining to Prospectus Earnings Forecast Accuracy and the Regulations Governing Such Disclosures in Hong Kong

10. The decision to issue or not to issue a prospectus forecast, for companies wishing to list on the Main Board of Hong Kong Exchanges & Clearing Ltd. (HKEx), reflects provisions set out in Chapter 11 of HKEx’s Listing Rules¹¹. In relation to IPO profit forecasts, Rules 11.16-11.19 are germane. Rule 11.16, for instance, requires that, ‘A listing document (other than one supporting a capitalisation issue) must not contain reference (general or particular) to future profits or contain dividend forecast based on an assumed future level of profits unless supported by a formal profit forecast. Dividend forecasts not based on assumed future profits are not subject to this rule.’ (HKEx Listing Rules, parentheses shown as used).

¹¹ The shortened form, of ‘HKEx Listing Rules’, is used in the following to refer to the *Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Ltd.*, Update No. 80 (Latest Update: 30 March 2004), Hong Kong Exchanges & Clearing Co. Ltd.

11. The discretionary nature of prospectus earnings forecasts is made explicit in the first part of Rule 11.17 of the same Listing Rules¹². It is also stressed, inter alia, that: ‘The financial advisor or sponsor must report in addition that they have satisfied themselves that the forecast has been made by the directors after due and careful enquiry ...’ (HKEx Listing Rules).
12. The extant evidence regarding the accuracy of such voluntary disclosures in Hong Kong essentially relates to IPOs launched in the early to mid 1990s. Cheng and Firth’s (2000, p. 436) findings, for Hong Kong IPOs between 1992 and 1995, for example, indicate fairly modest forecast errors in absolute terms. Comparison with other market settings, namely Australia, Canada and New Zealand also suggest modest forecast errors in a relative sense¹³.
13. Using a forecast error metric of actual profit minus forecast, divided by actual profit, Cheng and Firth (2000) find all the percentage forecast errors in their sample to be positive. In such a context – where, as they note, absolute and actual percentage forecast errors coincide - either measure results in mean percentage forecast errors of 9.86% (p. 437). Similarly, Chen, Firth and Krishnan (2001, p. 234), for Hong Kong IPOs between 1993 and 1996, report mean forecast errors of 9.94%, though the error metric used in Chen et al. (2001, p. 230) utilised actual minus forecast profit divided by absolute forecast level.
14. Interestingly, in earlier studies of Hong Kong prospectus earnings forecasts, notably Chan et al. (1996) and Jaggi (1997), larger mean absolute percentage errors are evident. In Jaggi (1997), a screened sample of 161 companies undergoing IPO between 1990 and 1994, had absolute earnings forecast errors of over 12.5%. In Chan et al.’s (1996) analysis of 110 new listings across the years 1990, 91 and 92, an even higher mean level of absolute forecast errors of around 18% was noted. These findings suggest that the magnitude of forecast errors has gradually declined over the years. However, part of the reason for differences in results, reflects the forecast error metric used. While Cheng and Firth (2000) and Jaggi (1996) adopt the same error metric for their absolute measure, using absolute actual profits in the denominator, Chan et al. (1996) and Chen et al. (2001) measure the absolute difference between actual and forecast profit in relation to the absolute forecast level. In so doing, percentage errors are magnified given the negative bias evident in such forecasts.
15. In this paper, it will be shown that the distribution of earnings forecast errors has continued to tighten. For Hong Kong IPOs between 2002 and 2003, mean absolute earnings forecast errors of 7.26% are apparent. One of the reasons for this, perhaps, is the enhanced regulatory environment surrounding Hong Kong IPOs compared to, say, the early 1990s. The mechanism for IPO utilised for listings onto the Main Board of HKEx has also changed markedly since the early 1990s. One now typically sees an IPO organised via a dual-tranche offering mechanism, where one tranche of

¹² Rule 11.17 states: ‘The issuer must determine in advance, with its financial adviser or sponsor in the case of a new applicant, whether to include a prospectus forecast in a listing document. ...’. The Rule then goes on to set out the accounting provisions and guidelines relevant to a discretionary forecast disclosure.

¹³ See Cheng and Firth (2000, pp. 424-5). For a recent detailed study of the Australian picture, see Hartnett and Romcke (2000).

stock is offered to the Hong Kong public - the so-called 'Offer for Subscription' component - and the other to domestic and/or international places, known as the 'Offer for Placing' component. The latter, organised via a 'book-building' process, allows more informed pricing with regard to the final offer price, determined from an offer price range, which upon the 'price determination date' applies to stock offered in both tranches. Many IPO offerings also allow for an expansion in the size of the overall offering via an increase in the size of the international placing tranche, brought about through the use of over-allotment options. These are triggered by underwriters in the initial post-listing period.

16. Over-allotment features, variable offer prices and 'claw-back' (of shares from the international placing to retail offer tranches) – which were generally absent from the Hong Kong IPO market in the early 1990s where a 'local' IPO form predominated, with all shares on offer made available through a single HK public offer tranche – would have contributed significantly to improved initial IPO pricing and secondary market price stability post-listing. Even during the mid 1990s the 'local' IPO form still held sway, in terms of the number of offerings coming to market¹⁴. In contrast, all IPO stocks scrutinised in this paper, which were listed between 1 January 2002 and 31 December 2003 on the Main Board of The Stock Exchange of Hong Kong Ltd. (HKEx), were organised using the dual-tranche mechanism, with many also featuring variable offer price and over-allotment option exercise mechanisms.

Data & Descriptive Statistics

17. In identifying all Main Board IPOs during 2002 and 2003, reference was made to the respective HKEx Fact Books for each of these years. From this source, 95 new listings were noted during the two-year period (51 in 2002; and 44 in 2003), with 83 initial public offerings evident from this number. The 12 issuers accounting for the difference between the population of new listings and the actual number involving IPO, came to market through means other than an initial offering – namely introduction – where existing shares in issue were 'introduced' to the market without a corresponding offer of either new or existing stock. The majority of such introductions arose through a transfer of listing from HKEx's second board, the Growth Enterprise Market (or GEM Board), to the Main Board. By removing all new listings via introduction and one further case, which represented the dual-listing of an already seasoned stock, the final sample size was pared-down to 82 issuers¹⁵.
18. In many of the offerings, both new and existing (i.e., 'sale' or 'vendor') shares featured in the overall offering structure, though only one case was composed

¹⁴ See McGuinness (1999, p. 146 ff) for details and further discussion of the global offering mechanism.

¹⁵ The seasoned stock in question was Standard Chartered PLC which listed on the Main Board of HKEx in October 2002. At the point of listing, the stock was already listed in London, with the HK listing representing an 'introduction' of existing seasoned stock concurrent with a relatively small offering of new shares. Reference to the issue document (See *Standard Chartered Share Offer*, 21 October 2002, Hong Kong, cover & P. 5) indicated an enlargement factor lower than 3%. The issuer was also the only one in the sample to have a combination of ordinary and preference shares in issue prior to its HKEx listing, though only the ordinary shares were listed in Hong Kong.

entirely of a secondary offering¹⁶. In contrast, 28 offerings were organised entirely as primary offerings. By implication, 53 offerings involved both primary and secondary offers.

19. Of the 82 sample constituents, 51 issuers disclosed either a forecast (36) or estimate (15) of earnings in their issue prospectus¹⁷. Such disclosures were typically constituted as forecasts (or estimates) of ‘earnings after minority interest and extraordinary items’ and were made relevant to the year-end for the first full set of annualised audited financial earnings post-IPO. Estimates of earnings arose in cases where the issuer’s prospectus document was dated after the financial year-end to which the estimate related. The subsequent release of the annual report, used to determine the veracity of the prospectus earnings estimate would then normally occur within four months of the date of the company’s financial year-end¹⁸. Forecasts of earnings, in contrast, were disclosed where the issue date of the prospectus preceded the date of the financial year-end to which that forecast related.
20. Data for this study were primarily sourced from the HKEx website (hkex.com.hk) by referring to the ‘Listed Companies Information Search’ function available at the site, wherein prospectus documents, annual reports and other post-listing announcements – such as the exercise of over-allotment options - were posted. All accounting-related information was extracted from careful reading of prospectuses and the annual reports corresponding to the financial year-end dates of the respective forecasts and estimates. The prospectus documents were also used to glean a variety of other company and offer specific data items. Datastream was used to access all secondary market trading data for the purpose of determining initial post-listing returns¹⁹.

Measurement of estimation and forecast errors

21. Errors pertaining to the forecast and earnings estimate disclosures were captured using the EEE and EFE forms below, which denote, respectively, Earnings Estimate Errors and Earnings Forecast Errors.

$$EEE = \frac{ACT - EST}{ABS(EST)} \quad EFE = \frac{ACT - F}{ABS(F)}$$

Where ACT captures actual earnings attributable to ordinary shareholders at the financial year-end corresponding to a company’s disclosure of an earnings estimate

¹⁶ Such offerings of existing shares in issue are often referred to as ‘offers for sale’. The case in question was the BOC Hong Kong (Holdings) IPO of July 2002.

¹⁷ One issuer, Hopewell Highway Infrastructure, which listed on 6 August 2003 [see HKEx Fact Book (2003, p.42)], reported both an estimate and forecast of earnings in its prospectus dated 28 July 2003. The estimate was provided for the 30 June 2003 financial year-end (suggesting a TIMEGAP value of -28 days) and a forecast for the 30 June 2004 financial year-end (TIMEGAP = +332 days). For the purposes of the sample, only the forecast of earnings was used. This was the only example of a ‘long-range’ forecast in the sample (where, in this case, TIMEGAP was equal to +332 days).

¹⁸ Paragraph 13.46, Chapter 13 (*Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Ltd.*, Update No. 80, Latest Update: 30 March 2004) sets out the specifics of this requirement.

¹⁹ Thanks are due to Matthew Lee for his help in printing-out prospectus and annual report documents, and for his assistance in accessing Datastream. All data input, verification and analysis was carried out by the author.

or forecast; EST the estimate of such earnings where a prospectus disclosure is made; and F the forecast of such earnings where a prospectus disclosure is made.

22. A number of cautionary points are appropriate. First, the estimates and forecasts were typically expressed as being ‘not less than’ a specific number (in the case of positive profit disclosures). As such, the EST and F disclosures represented the lower bound for the respective estimates and forecasts.
23. Second, the measurement forms adopted allowed errors of a given positive or negative deviation from F and EST to be expressed equally in absolute percentage terms. For example, a forecast of \$100 million for the financial year-end 31 December 200x would, given earnings for that financial year-end of \$110 million, result in an EFE of 10%. By the same token, were earnings \$10 million below the forecast, the EFE would be of the same absolute amount but negatively signed (= -10%). Such an error measurement form is not universally accepted, however. For instance, in Cheng and Firth (2000, p. 429), a measurement form utilising absolute actual earnings in the denominator was adopted²⁰.
24. The third point to impress is that the use of the absolute value for EST or F in the respective denominators of EEE and EFE reflects the possibility of a negative profit estimate or forecast. Use of such an absolute value in the denominator of the error measure – as is commonly found in studies of forecasting accuracy - ensures that an improvement in earnings over and above the forecast, whether it be a contraction in the size of a loss or the widening of a profit, results in a positive EEE or EFE measure²¹. As noted earlier, in every case where earnings estimates or forecasts were disclosed, positive EEEs and EFEs were apparent.
25. Finally, in ensuring that ACT was directly comparable with EST (or F), a number of checks were made. It was apparent that in some cases the estimate (or forecast) disclosed was in a combined profit form (i.e., computed on the basis that the operations of recently reorganised corporate structures were in place for the three years of pre-IPO earnings required in a Main Board listing, as of 2002 and 2003). To ensure that EST (or F) was directly comparable with earnings reported in the first financial report post-listing, summarised earnings’ histories disclosed in the subsequent annual report to the listing were cross-checked with profit histories shown in prospectus documents²². A divergence between the two types of profit summary occurred in two cases: one pertaining to a company disclosing an estimate; the other a forecast. To avoid possible ambiguities in the EEE and EFE results, the sub-sample groups for earnings estimate and forecast cases were reduced by one case

²⁰ Since all of the EEE’s and EFE’s in the sample here were positive, concern over the proportional weighting of negative and positive errors is academic.

²¹ Only one company disclosed a loss (in its estimate or forecast). This was China Life Insurance Co. Ltd where, in its prospectus (8 December 2003, p. 21), a ‘forecast loss ...’ in RMB millions of ‘No more than (1,985)’ was reported for its 31 December 2003 year-end. In its subsequent 2003 Annual Report (p. 71), the loss was reported at RMB (1,428) millions, suggesting an EFE of +28.06%.

²² For one issuer, Leepport (Holdings) Ltd., who did not disclose either a forecast or estimate, there was a slight discrepancy between net profits for the 2002 year-end shown in the prospectus (27 June 2003, p. 2) of HK\$28.508 million and the ‘restated’ figure of HK\$ 28.204 million for the same year-end shown in its 2003 Annual Report (p. 19) of earnings for the 2003 and 2002 year-ends.

each reducing the sample size to 80 IPOs²³. Thus the finalised group of companies for analysis comprised 14 disclosing profit estimates, 35 disclosing profit forecasts and 31 disclosing neither a profit estimate nor forecast.

Descriptive statistics

26. To highlight the difference between estimates and forecasts of earnings, a variable TIMEGAP was formulated to measure the number of days between the date of the financial year-end (corresponding to the earnings disclosure) and the date of the prospectus containing the disclosure. To illustrate, BOC Hong Kong Holdings, which listed on 27 July 2002, released a forecast of earnings pertaining to its upcoming financial year-end of 31 December 2002 in its prospectus document dated 15 July 2002. TIMEGAP was positive in this case with a value of 166 days. In all cases, where a forecast was rendered, the TIMEGAP variable was non-negative. In contrast, for issuers releasing an estimate of earnings, TIMEGAP was negative. Again, by way of illustration, Sinotrans Limited, which listed on 13 February 2003, disclosed an estimate of earnings for its 31 December 2002 financial year-end in its prospectus dated 29 January 2003. Accordingly, the TIMEGAP variable for this case was -28 days²⁴. Details of the TIMEGAP variable are shown in Table 1.
27. Consistent with the foregoing, all 35 cases where TIMEGAP was valued zero or above related to forecast disclosures and the 14 cases where TIMEGAP values were negative related to earnings estimates. A further variable TIMEGAP1 was formulated to measure the time interval between the posting of the company's annual report on the HKEx website and the date of the earnings estimate or forecast to which that disclosure related. Given the practice of Main-Board listed companies of disclosing year-end reports within four months of their financial year-end, all issuers had values for this variable markedly larger than those pertaining to TIMEGAP²⁵.
28. Descriptive statistics relating to the EEE and EFE forms are shown in Table 2. In Panel A, summary details are shown for the 14 cases involving earnings estimates. As one might expect, the range of EEE levels is relatively small and a mean actual (or absolute) error of only 3.6% is apparent. Panel B provides information relating to the 35 cases involving prospectus forecasts. The range of percentage errors is also reasonably tight with a maximum value of 28.06% and a minimum of 0.06%. The

²³ For the case concerning the profit 'estimate' (Sewco International Holdings Ltd.), the prospectus summary (p. 5, 22 February 2002) for earnings figures for the 31 December, 1998, 1999 and 2000 year-ends failed to tally with figures for the same year-end disclosed in its 2001 Annual Report (p. 60). In regard of the profit forecast case (China Resources Power Holdings Company Limited), summarised figures in its prospectus for the 31 December 2000, 2001 and 2002 year-ends (p. 10, 3 November 2003) tallied with summarized profit figures in its 2003 Annual Report (p. 10). However, the prospectus contained additional 'pro forma' summary information for 2002 which was not shown in the 2003 Annual Report (p. 10) summary. The forecast error resulting from the prospectus disclosure (p. 12, 3 November 2003) and the actual profit figure for 2003 [2003 Annual Report (p. 10)] was 90.15%, considerably higher than for any other EFE in the sample.

²⁴ Data relevant to TIMEGAP was formulated using data disclosed in IPO prospectuses accessible via HKEx's website (<http://www.hkex.com.hk/>).

²⁵ It should be stressed however that the formulation of TIMEGAP1 does not capture the interval leading up to the announcement of earnings given that the date that financial statements are posted on HKEx's website may occur some days after an earlier summary announcement sent to and posted by the Exchange.

mean figure is 7.26%, which is at a lower level than the absolute mean levels evident in earlier studies of Hong Kong IPO prospectus forecasts [see Chan et al. (1996), Jaggi (1997), Cheng and Firth (2000) and Chen et al. (2001)]. Panel C provides a composite picture by combining the data for the 14 and 35 cases used in Panels A and B.

Table 1- Descriptive Statistics for Variables TIMEGAP and TIMEGAP1 in Calendar Days					
Variable Definitions					
TIMEGAP:	Time interval between the date of the financial year-end to which the <i>estimate</i> or <i>forecast</i> relates and the date of the prospectus document containing the disclosure.				
TIMEGAP1:	Time interval between the date the annual report of the company is posted on the HKEx website and the date of the prospectus document corresponding to the <i>forecast</i> or <i>estimate</i> of earnings for the financial year covered by the annual report.				
A: Cases Involving the Disclosure of either an Earnings Estimate or Forecast (N = 49)					
TIMEGAP	Mean	61.33	TIMEGAP1	Mean	172.76
	Minimum Value	-178		Minimum Value	-70
	Maximum Value	332		Maximum Value	413
	Standard Dev.	101.18		Standard Dev.	93.58
B: Cases Involving the Disclosure of an Earnings Estimate (N= 14)					
TIMEGAP	Mean	-52.14	TIMEGAP1	Mean	68.57
	Minimum Value	-178		Minimum Value	-70
	Maximum Value	-7		Maximum Value	112
	Standard Dev.	42.60		Standard Dev.	46.45
C: Cases Involving the Disclosure of an Earnings Forecast (N= 35)					
TIMEGAP	Mean	106.71	TIMEGAP1	Mean	214.43
	Minimum Value	0		Minimum Value	103
	Maximum Value	332		Maximum Value	413
	Standard Dev.	79.61		Standard Dev.	72.68
D: Cases without Disclosure of an Earnings Estimate or Forecast (N = 31)					
Sources of Data: Data constructed from various IPO Prospectus documents & Annual Reports, available in full at hkex.com.hk.					

Table 2- Descriptive Statistics for Variables EEE and EFE									
A: Cases Involving the Disclosure of an Earnings Estimate (N = 14)									
EEE	Mean (%)		Minimum (%)		Maximum (%)		Standard Dev. (%)		
	3.60		0.06		13.09		4.12		
B: Cases Involving the Disclosure of an Earnings Forecast (N= 35)									
EFE	Mean (%)		Minimum (%)		Maximum (%)		Standard Dev. (%)		
	7.26		0.11		28.06		7.40		
C: Cases Involving the Disclosure of either an Earnings Estimate or Forecast (N = 49)									
EEE or EFE	Mean (%)		Minimum (%)		Maximum (%)		Standard Dev. (%)		
	6.21		0.06		28.06		6.79		
D: Number of firms not disclosing either an Earnings Estimate or Forecast (N= 31)									
<u>Frequency Distribution for EEE&EFE</u>									
Range	0-0.99%	1-1.99%	2-2.99%	3-3.99%	4-4.99%	5-9.99%	10-19.99%	20-29.99%	0-29.99%
Frequency (abs)	10	5	8	0	5	11	7	3	49
Frequency (rel)	20.5%	10.2%	16.3%	0%	10.2%	22.4%	14.3%	6.1%	100%
Sources of Data: Data constructed from various IPO Prospectus documents & Annual Reports, available in full at hkex.com.hk.									
Note: In the case of one issuer, Hopewell Infrastructure Holdings Ltd., both an estimate and forecast were evident in its prospectus document. Only the forecast is used for the purposes of Table 2.									

The Identification and Measurement of Variables Used to Explain Disclosure Accuracy

29. A co-joined disclosure error variable (EEE&EFE), of the same form as EEE and EFE but covering all 49 earnings estimate and forecast cases, was then regressed against a series of possible explanatory variables. The explanatory variables considered are set out in Table 3.
30. As noted earlier, a prima facie case can be made for the inclusion of explanatory variables to capture IPO underpricing, advising agent quality and ex-uncertainty levels (pertaining to the after-market value of the issuer). Building on the rationale of Beatty and Ritter (1986), one would expect higher agent quality levels to correlate with lower levels of underpricing and ex-ante uncertainty. Moreover, increased levels of ex-ante uncertainty may well deter some issuers and their advisers from posting forecasts. In other cases where forecasts are posted, increased ex-ante uncertainty may compel issuers and their agents to build-in an even larger component of negative bias into the forecast disclosure.
31. Initial IPO underpricing is captured by variable UND, and is expected to be positively related to EEE&EFE. Advising agent quality was captured in two ways: first, for the reporting accountants and auditors (REPACC) to the IPOs, who respectively establish and 'underwrite' estimate and forecast disclosures, and another for the quality of sponsors. In the former case, REPACC was coded one where Big-4 reporting accountants featured and zero otherwise. As a number of issues in 2002 involved Arthur Anderson, as one of the hitherto Big-5, a big-5/non big-5 dichotomy was applied to issues in 2002²⁶. One might anticipate a negative relation between auditor quality and the magnitude of earnings forecast errors, and as Cheng and Firth (2000) note in their Hong Kong-based study there is some evidence to support this conjecture.

²⁶ For three issues in the overall sample, prospectus documents indicated two reporting accountants were in evidence: namely, one local and one international 'Big-4' player. For such cases, REPACC was coded 1. In total there were only 8 cases out of the 83 IPOs, between 2002 and 2003, where a non Big-4 or non Big-5 reporting accountant (auditor) was not used.

Table 3 - Explanatory Variables Used in Regressions Featuring Dependent Variables EEE&EFE and DISCL

Explanatory Variables		Expected sign with EEE&EFE
	Ex-ante Uncertainty Measures	
INV	Proceeds assigned to investment purposes (as specified in the prospectus, and determined prior to any possible over-allotment option exercise) and expressed as percentage of the gross proceeds from all new and 'sale' shares prior to possible over-allotment option exercise. Investment funds were determined from net proceeds after deducting debt and working capital uses.	+
NINVUSES	Number of investment uses specified in the prospectus for use of net proceeds raised from new shares (= total no. of uses disclosed – no. of uses for debt purposes – 1; the deduction of 1 reflects the working capital use) ²⁷ .	+/-
NRISKFACT	Number of 'Risk Factors' specified in prospectus documents [see Cheng and Firth (2000, p. 435)].	+
	Agent Quality Variables:	
REPACC	Dummy coded 1 where a Big-4 reporting accountant (auditor) was used; 0 if not	-
SPON	Categorical variable coded 1 for dominant Sponsor; zero otherwise	-
	Underpricing Variable:	
UND	Initial return to capture IPO underpricing. Measured by taking the difference between the closing price of the stock on the first day of listing and the offer price, all divided by offer price, and then adjusting for the market's movement over the period of the IPO (approximated by taking the percentage change in closing values for the Hang Seng Index for the period 5 days prior to IPO to the close of the first day of listing).	+
	Signal Variables:	
RET	Percentage of equity retained by pre-listing stockholders in the issuer, before consideration of possible over-allotment option exercise.	+
SALE	Percentage of pre-listing shares sold-off voluntarily in the form of 'sale' (or 'vendor') shares ²⁸ .	-
	Control Variables:	
TIMEGAP	Time interval between the date of the financial year-end to which the estimate or forecast relates and the date of the prospectus containing the disclosure.	+
H	Categorical variable coded one for an issuer incorporated in the Mainland People's Republic of China and zero otherwise.	+/-
EARN	Most recently announced set of audited earnings figures (either for the most recent complete financial year pre-IPO or for a partial year multiplied by the appropriate factor to generate an annualised figure). All earnings figures were determined using figures released in prospectus documents and converted into HK\$ where necessary.	-
MCAP	Market capitalisation (or net asset size proxy) captured by the number of shares listed (but excluding any shares from over-allotment option exercise) multiplied by the final offer price. For H-share issuers only listed H-shares were included in this calculation, with all other domestic shares in such companies excluded.	+
OAE	Dummy variable coded 1 in cases where underwriters exercised over-allotment options and zero otherwise.	+
VOP	Dummy variable coded 1 for IPOs involving a variable offer price range; 0 if not.	+/-

²⁷ See Beatty and Ritter (1986, p. 218) for discussion of the use of total number of prescribed uses as a proxy for ex-ante uncertainty (surrounding the after-market valuation of an IPO stock).

²⁸ In several H-shares issues, and one other issue – Harbin Breweries – it was noted from prospectus documents that funds raised from the sale of existing shares would bypass the controlling State-related shareholder and be channelled to China's National Social Security Fund. In such cases, the offer for sale was treated as involuntary and truncated to value 0 for the purposes of SALE.

32. The sponsor variable (SPON) was derived somewhat arbitrarily using a categorical variable coded one where a 'sponsor or 'co-sponsor' were present from one of 12 international concerns²⁹. Where none of these entities appeared a value of zero was assigned to SPON. In a number of issues a clustering of two or more of the above players was also noted. Clearly defining the most visible of international players is an invidious task and any definition is likely to be far from perfect. In this case, it should be stressed that several major institutions, coded zero for the purposes of SPON, could well have been included or added to the 12. In large part, then, the construction of SPON is based upon a perceptive evaluation of sponsor visibility or size and, by a range of other criteria, alternative rankings could well have been established. Moreover, any ranking is likely to be useful for only a short period of time given the ephemeral nature of investment banking rankings. Despite the inherent difficulties of drawing up a sponsor ranking, control for it must be made in some form or another. Like the REPACC quality variable, SPON is expected to be negatively correlated with the dependent EEE&EFE variable. It is also assumed that sponsorship quality proxies for the quality of the overall IPO underwriting team. In Cheng and Firth's (2000) study, underwriting quality was examined directly and was found to be positively related to forecast error size. As noted by them (p. 440), this ran counter to their expectations.
33. In capturing the ex-ante uncertainty pertaining to an issuer's post-listing stock value, a number of proxy measures were offered. Variable INV was the first of these, capturing the percentage of gross proceeds in an offering set aside for investment purposes. Dollar values for proposed investment uses were gleaned from prospectus documents under the typical heading of 'Proposed Use of Proceeds from the Share Offer'. In most cases, a detailed dollar description of the uses of net proceeds from new share issues was set out. Other than the working capital description, funds were mainly set aside for asset acquisitions (real investments) and, on occasion, for debt repayment purposes³⁰. Obviously, in the case of an offer for 'sale' or sale of existing shares in issue (i.e., a secondary offer), net proceeds would have accrued to controlling shareholders (or parties related to them) and there would be no impact whatsoever on the issuer's balance sheet. However, in reflecting the significance of the dollar value of funds assigned for firm investment in relation to overall offer size, the dollar value of investment was scaled by gross proceeds raised from the issue of new and, where appropriate, 'sale' shares. One complication in deriving INV related to the use of variable offer prices in many of the IPOs under scrutiny. In several cases, a mid-point for the offer price range was used to determine the assigned dollar value of fund uses. To ensure complementarity, the actual offer price point relevant to the determination of net proceeds also featured in determining the dollar value of gross proceeds used in the denominator of INV³¹.

²⁹ For reasons of brevity the 12 are not mentioned here, but full details are available from the author upon request.

³⁰ In China Oilfield Services Ltd.'s (H-share) issue, the IPO Prospectus (11 November 2002, p, 127, 'Capital Expenditure Program') did not allow for a clear-cut \$ specification of net proceed uses. This case was excluded from regressions featuring the INV variable.

³¹ This determination was made from inspection of prospectus documents. In some other cases where an offer price range featured, the amount, and therefore percentage, allocated to investment was disclosed in accordance with the minimum price.

34. In cases where the majority of funds were earmarked for productive investment purposes, one could argue that the task of forecasting earnings would be even more invidious given the obvious difficulties in gauging the investment success of freshly acquired assets. In contrast, income returns from working capital would likely be much easier to determine, and normally would equate to the rather less volatile return offered from a bank deposit or government treasury bill. Similarly, where debt repayments featured, the contraction of interest costs, and the concomitant effect on the issuer's 'bottom-line', would be reasonably easy to predict. In light of this, higher values for INV are likely to correlate with increased ex-ante uncertainty. *Ceteris Paribus*, this suggests a positive relation between INV and the dependent EEE&EFE variable.
35. Two alternative ex-ante uncertainty variables were also specified: NINVUSES and NRISKFACT. The former is a variant of the proxy offered for ex-ante uncertainty in Beatty and Ritter (1986, p. 218), where the number of actual uses for net proceeds, as specified in prospectus documents, featured. In the approach here, only the number of uses relating to firm investments were analysed. One can argue that NINVUSES should be positively related to ex-ante uncertainty levels and, by implication, EEE&EFE. This would hold if, as argued by Beatty and Ritter (1986), increased disclosure is required in relation to more speculative offerings³². However, this does not appear to be the case in Hong Kong, although the independent regulator for the markets in Hong Kong, the Securities and Futures Commission, has, since April 2003 been involved in the dual-vetting of prospectus document drafts. What could be argued instead is that where a more detailed delineation of investment uses figures – and where it is not predicated on regulatory intervention, and is therefore imbued with a greater voluntary element – less, not more, ex-ante uncertainty may be signalled. If this is so, forecast disclosure accuracy would be negatively correlated with NINVUSES.
36. The variable NRISKFACT captures the number of 'Risk Factors' specified in prospectus documents, and is modelled in much the same way as in Cheng and Firth (2000, p. 435). Again, one would expect this variable to be positively correlated with both ex-ante uncertainty levels and the EEE&EFE dependent variable. Evidence in other markets, namely in Clarkson (2000) for Canadian IPOs, suggest that absolute forecast error size is positively related to what he refers to as 'the number of risk factors relating to firm-specific issues'.
37. With regard to potential signalling devices, perhaps the most important disclosure from the issuer, other than the prospectus earnings forecast, is the percentage of equity retained by pre-listing shareholders (RET). This is achieved by determining the number of shares all pre-listing parties retain at the point of listing as a percentage of the total number of shares in issue as of the first date of listing (and therefore before possible over-allotment option exercise). Commitments for 'lock-up' for the first six months of listing, by virtue of HKEx Main Board listing

³² Beatty and Ritter's (1986) note that: 'The SEC ... requires more speculative issues to provide relatively detailed enumerations of the uses of proceeds, while not requiring more established issuers to be very explicit.' (p. 218).

requirements, mean that the majority, if not all, of such shares are committed holdings. The theoretical grounding for RET derives from Leland and Pyle (1977), where equity retention levels serve a key role in signalling firm or project value. And, as mentioned earlier, empirical tests like Ritter's (1984) point to the importance of the retention variable in supporting higher market valuations. From a signalling viewpoint, higher equity retention levels would seem to suggest greater confidence with regard to future earnings. In particular, increased RET levels may correlate with a portion of earnings anticipated by issuers but not readily apparent to external reporting accountant's due to perceived uncertainties. In short, a positive association between RET and EEE&EFE is posited. However, Chen et al. (2001) noted that a variable capturing the inverse of RET, which was the proportion of stock held by outsiders, was positively correlated with forecast errors. This would suggest a negative relation between a RET-style variable and forecast errors³³.

38. It is also important to consider the mix of new and 'sale' shares on offer in an IPO. In cases where all the shares on offer are new there is a pure dilution effect that results in the controlling shareholders percentage ownership dropping while retaining all shares previously in issue. In contrast, a pure secondary offer implies no such dilution effect with the percentage ownership reduction of the controlling shareholder stemming from a direct sell-off. It is clearly possible for two different issues – one organised as a primary offering and the other as a secondary offering – to generate exactly the same retention percentage. However, the signals from the two issues would be very different, with, *ceteris paribus*, the IPO involving new shares likely commanding a much higher price-earnings ratio. At the same time, such an issuer may be signalling greater confidence in relation to any forecast of earnings disclosed. For a given level of RET, then, the greater the proportion of 'sale' shares offered, the lower the achievable market value and post-issue level of earnings attainable. Quite a number of IPOs in the study sample organised their offerings with a mix of new and 'sale' shares. Control should therefore be made for the moderating effect of 'sale' shares. This was done by including a separate explanatory variable (SALE) alongside RET in the regressions featuring EEE&EFE. All other things being equal, SALE should be negatively correlated with EEE&EFE.
39. It should be borne in mind, however, that in a number of the H-share IPOs included in the sample, an offer for sale component was imposed upon the controlling shareholders by PRC State-related authorities. Since 2001 the authorities in China have adopted a model for many H-share issues whereby, for every dollar of funding raised from new shares, \$0.10 is generated for the PRC State by 'encouraging' pre-listing state-related stakeholders to sell-off some of their own existing holdings. Funds raised from such state share-sales are then channelled to China's National Social Security Fund (NSSF). To facilitate such sales, domestic (non-tradable) stock has to be converted into tradable H-share form. See McGuinness and Ferguson (2005) for further discussion of the use of this mechanism and its relation to ownership change in China's SOEs.

³³ Chen et al. (2001) noted, however, that this result was one that: '... conflicts with our hypothesised relationship ...' (page 237).

40. H-share issues are unique to Mainland PRC-incorporated entities which by design have two blocks of stock in issue: one, normally the majority of stock in issue, in non-tradable form (known as domestic stock); and the other in tradable form. The H-share represents one of the possible tradable types of stock available to Mainland PRC-incorporated entities and connotes a listing of such shares outside the Mainland. The typical market for such listings is Hong Kong. An example of an H-share issue involving a mandatory offer for sale component is AviChina Industry & Technology Company Ltd.'s IPO. The prospectus for this offering indicates that, 'All of the net proceeds from the selling shareholders in the Global Offering will, after deduction of related costs and expenses, be remitted to the designated MOF central treasury account at PBOC to be used as the national social security fund administered and managed by the NSSF Council in accordance with the approval of the State Assets Commission.' (AviChina Industry & Technology Co. Ltd., Global Offering prospectus, 21 October 2003, p. 14).
41. Before consideration of the use of any possible over-allotment option exercise, the size of the Global Offer in the AviChina IPO was 1,599,810,000 H-shares, with 145,440,000 of this number representing H-shares converted from domestic shares held by controlling parties³⁴, thus signifying the 1 part to 10 part model used for the sale of converted and new shares in H-offerings.
42. In short, the effect of the SALE variable may be moderated by the effect of the number of H-share IPOs in the sample, many of which appeared to be subject to the mandatory conversion of existing shares into tradable H-shares. For this reason, the SALE variable was truncated to zero in cases where funds raised from the use of secondary offers were redirected to the NSSF. The assumption being that such 'sale' share offerings were largely directed at the behest of the central authorities rather than directly through the state-related controlling shareholders. As such, it is questionable whether such sales convey the negative signal that is so often ascribed to an offer for sale.
43. A dummy control variable (H) was also included in the regressions. Of the IPOs in 2002-3, 14 were H-share IPOs, with 8 of this number having an offer for sale component representing 10% of the new shares on offer. One other had a component of around 1.87%. The remaining 5 did not have an offer sale component as part of their offerings³⁵. Interestingly, most of the H-share issuers (11) reported prospectus earnings forecasts, with one other disclosing an estimate. The relatively high disclosure rate amongst H-share issuers is consistent with findings reported in Ferguson et al. (2002). Specifically, they remark that, 'Consistent with a cost-benefit

³⁴ See Pages 176-177 of the AviChina prospectus for details. Also note that the basic 100:10 ratio between new and 'sale' shares was initially proposed in June 2001 principally with a view to Mainland China's tradable A-share market [see Chinaonline (2001a)]. While the ratio has been applied to several H-share issues since, the measure was repealed in late 2001 due to its damaging effect upon A-share prices [see Chinaonline (2001b)].

³⁵ Hainan Meilan Airport Co Ltd according to its prospectus (6 November 2002, p. 133 & 171), had an offer for sale component equal to 1.87% of the new H-shares on offer. Furthermore, page 171 of the prospectus indicates that net proceeds from the conversion of the existing 'domestic' shares into H-shares, for the purposes of the offer for sale, were transferred to the NSSF. From detailed inspection of prospectus information, the five offerings without sale shares were Lianhua Supermarket Holdings Co. Ltd., Baoye Group Co. Ltd., Weiqiao Textile Co. Ltd., Great Wall Automobile Holding Co. Ltd. and BYD Co. Ltd.

framework, ... PRC H-share firms disclose significantly more strategic and financial information than other SEHK firms.’ (p. 1).

44. In light of this, the dummy H control variable used here serves a second purpose: to control for the increased likelihood of voluntary earnings disclosure by H-share issuers. Coupled with the fact that there is also evidence of generally wider corporate disclosure in the case of H- issuers, a concomitant effect may be greater forecast accuracy. If this were so, a negative relation between H and EEE&EFE would be apparent. Interestingly, Chen et al. (2001), in their study of IPOs, between 1993 and 1996, noted a much greater tendency for negative forecast errors in the case of ‘red-chip’ and H-share firms relative to ‘local’ Hong Kong issuers³⁶.
45. Controls in the regressions with the EEE&EFE dependent variable were also made for firm size, or more precisely net asset value, by incorporating an MCAP explanatory variable. This captured the market valuation of all shares listed using the final offer price (where an offer price range was evident). For non H-share issuers, this involved valuing all pre-listing shares in issue plus the number of new shares involved in the IPO. However, in the case of H- issuers, only shares listed as H-shares were included in the market capitalisation computation. This involved all new shares in the offerings – which were obviously issued in H- form - plus any existing domestic (or non-tradable) stock converted into tradable H- form for the purposes of a secondary offer. As with Cheng and Firth (2002, p. 433), a negative relation between firm size and the magnitude of ensuing forecast errors is posited.
46. A market capitalisation measure (like MCAP) is clearly problematic when applied to H-listed firms, as there is no value assigned to the block of non-tradable (domestic) stock in such companies. If market capitalisation serves to capture the market’s valuation of a company’s net assets, taking the market capitalisation of H-shares alone – and ignoring the typically much larger block of non-tradable stock in issue – might be a little misleading. However, it would be very imprudent to impute share valuations to the non-tradable domestic stock based upon prevailing H- share valuations. This issue also confronts those wishing to assess the market capitalisation of PRC state-owned enterprises in general. Imputing value to non-tradable stock, using tradable stock values in the same entities, clearly overstates market capitalisation levels. For further discussion of this issue, see McGuinness et al. (2000).
47. An earnings variable (EARN) is included as a further control variable. One can conjecture that firms with greater recent earnings capability may be able to meet forecasts of earnings more easily. Such a view is based on firms having a higher and more predictable platform of earnings from which to gauge future earnings development as well as the possibility that firms with larger earnings voluntarily disclose more information. Controls were also made for the time horizon of the forecast (TIMEGAP), a practice common in most studies exploring disclosure accuracy. This helped to dichotomise the sample according to whether the disclosure

³⁶ In particular, Chen et al. (2001) point out in their results that: ‘... about one quarter of the Red Chips and about 30% of the H-shares have negative forecast errors ... 6% of local Hong Kong companies have negative forecast errors.’ (page 235).

was an estimate or a forecast. If the latter, TIMEGAP displayed a negative value, and if the former a non-negative value.

48. Finally, two other control variables were employed: one for the use of an over-allotment option (OAE) and the other for offerings involving a variable offer price (VOP). In relation to OAE, 28 of the 80 IPOs featured experienced an expansion of their offering size in the period following the issue date of the prospectus³⁷. Such over-allotments are forced upon the issuer – a party that is obviously compliant to the imposition of such terms given the overall IPO pricing and cost structure agreement – when underwriters choose to exercise the provisions. The prospectus documents typically allow for an expansion in the offer of up to 15% which can normally occur within 30 days of the prospectus document date. This translates to an increase in offer size, with additional shares sold at the final offer price, some time during the early listing period. As variables in the foregoing, like INV, NINVUSES, UND, RET, SALE and MCAP reflect the situation at the initial listing point – and therefore before possible over-allotment option exercise – it is important to control for the fact that there is increased uncertainty surrounding issues subject to possible over-allotment option exercise. This uncertainty itself may impact upon future earnings, given the additional funding that can be generated from an expansion of the number of new shares on offer. While in the majority of cases, inspection of the over-allotment option exercise announcements revealed an allocation of funds to working capital, it is never clear how quickly such working capital balances can be marshalled into active investment capital. In this light, variable OEA should be positively correlated with the EEE&EFE dependent variable.
49. The control variable for offer price range (VOP), relevant to 29 of the IPOs, provides a further control for uncertainty. The final price for an entity's offer is determined on the so-called 'price-determination date', which often occurs around five business days prior to the stock's official listing date. Within the Hong Kong context, the two tranches of stock making up a global offer – the Hong Kong public offering and the international placing tranche, as mentioned earlier – are subject to the same final offer price³⁸. However, investors opting to subscribe through the Hong Kong public offer tranche do so by submitting a payment reflecting the maximum offer price, where an offer price range features. If shares are allocated and a final offer price falls below the maximum, such subscribers receive shares plus a refund of the difference between the maximum price paid and the final price determined (subject of course to adjustments in costs, reflected within the application). The final offer price is not

³⁷ Details of over-allocations were provided courtesy of HKEx's E-Business and Information Services Department. Further examination of these issues, revealed that the underwriters to two of the issuers, from within the set of companies disclosing a prospectus earnings forecast or estimate, purchased stock on-market to repay approved stock borrowing arrangements with controlling shareholders. One other case involved the use of an 'Offer Size Adjustment Option' (see Synergis Holdings Limited 'Public Offer and Placing' document, 29 September 2003, pp. 164-5 for details) which was exercised just prior to the IPO listing date. For the purposes of variable OAE, only those issuers where the over-allotment option exercise was activated in the period following listing were coded with value one. The data on over-allotment option exercise were cross-checked with reference to relevant 'Company Announcements' on the HKEx website during the period from the listing date onwards.

³⁸ As indicated in the BOC Hong Kong (Holdings) Ltd. Prospectus, 15 July 2002, p. 258-9, certain eligible investors participating in the HK public offer component of this issue were offered a retail discount of 5% on the final offer price.

known to subscribers in the Hong Kong public offer until after the close of applications when the ‘price-determination date’ occurs. The latter reflects a book-building process relevant to the international placing tranche [for further details of the global offer IPO mechanism in Hong Kong, see McGuinness (1999)]. Where a variable offer price feature exists, there is likely to be greater uncertainty surrounding funds raised and, as a result, future income flows. In this sense, one might expect a positive relation between VOP and EEE&EFE. However, variable offer prices are also likely to be evident in the largest and most prestigious of issues. Correlations shown in Appendix 1 support this conjecture, given strongly positive associations between VOP and variables EARN and SPON. In this light, one might expect a negative relation between VOP and EEE&EFE.

Empirical Results

50. Regression results relating to the dependent EEE&EFE variable are shown in Table 4. While 80 IPOs were available for analysis, a missing value for the important INV variable reduced this number to 79 cases. Overall results indicated that the explanatory variables RET, VOP, AOE, EARN were all significant at levels below 5%, with control variable H significant at a level between 5 and 10%.

Table 4 - Summary of the OLS Regression Results Between EEE&EFE and the Explanatory Variables Defined in Table 3 ($R^2 = 0.395$, adjusted $R^2 = 0.138$, $N=48$, missing INV value for 1 case)			
Explanatory Variables	Estimated Coefficient	t - Statistics	Sign. Level
Constant:	-59.940	-1.997	0.054*
INV	0.125	1.469	0.151
NINVUSES	-0.611	-0.816	0.42
NRISKFACT	0.248	1.201	0.238
REPACC	-1.415	-0.445	0.659
SPON	-1.343	-0.327	0.746
UND	-0.024	-0.322	0.749
RET	0.687	2.165	0.038**
SALE	0.158	0.482	0.633
TIMEGAP	0.018	1.622	0.114
H	9.760	1.882	0.069*
EARN	-1.618×10^{-6}	-2.375	0.024**
MCAP	9.425×10^{-11}	0.935	0.357
OAE	5.951	2.115	0.042**
VOP	-8.566	-2.218	0.034**
** Significant at the 5% significance level; * Significant at the 10% significance level. All coefficients derived using output from SPSS (for Windows) software.			

51. For the RET variable, the positive association with EEE&EFE indicated consistency with the signalling role so often ascribed to RET, where increased levels of equity retention by pre-listing shareholders imply greater confidence with regard to an underlying entity’s future earnings capability. Examination of correlation

coefficients, as reported in Appendix 1, lent further support to this view given a significant relation of +0.397 between RET and variable EARN, the latter capturing issuers' most recently disclosed set of audited earnings (EARN) pre-IPO. This is consistent with audited earnings immediately prior to IPO serving as a strong indicator of future earnings. If RET is largely preconditioned in accordance with earnings expectations, then there should also be a close positive relation between it and future earnings. This is in fact the case, given a Pearson correlation of +0.398 between RET and earnings disclosed for the financial year-end immediately after IPO (POSTEARN).

52. Further examination of the RET relation in the regression in Table 4 revealed that the variable lost its significance when re-configured as the retention rate after actual over-allotment option exercise. Dropping the EARN size control variable from the regressions also materially weakened the role of RET (when represented in its original, before over-allotment form). There is also the added complication, which is not investigated here, that the RET and the earnings forecast disclosure itself may function as substitutes. Li and McConomy (2004), using a simultaneous equations approach, reach this conclusion for a sample of Canadian IPOs and conjecture an outcome consistent with Hughes (1986) bivariate signalling model.
53. For control variable EARN, the negative coefficient in the regression in Table 4 accords with expectations expressed earlier that firms with larger pre-listing earnings may be better positioned to meet forecast earnings. This could be predicated on fewer growth opportunities for such entities, relative to other firms expanding from a smaller earnings' base, or on increased disclosure patterns for firms with greater pre-listing earnings.
54. With regard to variable OAE, the significant positive coefficient again met with expectations. In particular, entities forced to meet the over-allotment option exercise appear to experience larger earnings relative to their IPO forecast or estimate. One possibility is that the over-allotment exercise triggers increased income opportunities that were not reflected in the prospectus earnings estimate or forecast. Another possibility is that increased ex-ante uncertainty is engendered by the over-allotment option exercise event. In a similar manner, one might expect the offer price range variable (VOP) to proxy for ex-ante uncertainty levels.
55. It should be borne in mind that the significance of VOP and OAE might reflect the underlying importance of sponsorship quality. Appendix 1 reveals that both variables are strongly positively correlated to one another as well as to SPON. To try to disentangle the possible joint effects between VOP, OAE and SPON, interaction terms between the variables were examined. For example, a variable SPONVOP was constructed as the product $SPON * VOP$, resulting in value one where both a high quality sponsor and a variable offer price range were evident; and zero otherwise. Similarly, interaction terms for $SPON * OAE$ and $OAE * VOP$ were also introduced into the regressions in Table 4. However, inserting such variables at the expense of SPON, OAE and VOP did not yield significant coefficients for the interaction variables.

56. For the final variable of significance in Table 4, H, the positive sign suggests that the reporting accountant agents to H-share issues are either cautious in their forecasting approach or that H-share issuers themselves face considerably greater ex-ante uncertainty with regard to future cash flow returns. Elements of both could of course factor into the results. What we do know, given Ferguson et al.'s (2002) findings, is that H-share issuers are prone to voluntarily disclose more information than non H-issuers. The motivation for this is unclear, however, and could reflect external factors or pressures. However, earlier work on earnings forecast errors by Chen et al. (2001) indicates that mean absolute errors were much smaller for H-share issuers than local Hong Kong issuers for IPOs between 1993 and 1996. The evidence presented here is consistent with that result for the much more recent 2002-2003 IPO market.
57. One reason for the difficulty in forecasting future earnings for H-share issuers in particular, may have been the burgeoning growth in the Mainland economy during 2003/4 and the consumption boom that went with it. The extent of this may not have been fully factored into earnings growth expectations at the time many of the H-share issuers came to market. Another reason for the positive relationship between H and EEE&EFE could be selection bias, with the CSRC and other authorities ensuring that China's most profitable state-owned enterprises were chosen first in the melee for foreign capital. A further reason could be the fact that the H variable picks-up a sponsorship effect, as suggested by the correlations in Appendix 1. This is grounded on high quality sponsors being associated with issuers with stronger earnings potential, and runs counter to the original hypothesis set out in Table 3 that sponsor quality should be negatively correlated with forecast error size. Despite this point, variables for advising agent quality (REPACC and SPON) were not significantly related to EEE&EFE. With regard to the SPON variable, this may reflect the inherent difficulty in capturing sponsor quality as well as weaknesses in the measure adopted here.
58. Finally, and perhaps surprisingly, the INV variable failed to achieve significance at conventional levels, though it was positively signed in accordance with expectations (at a significance level of just over 15%).
59. Binary logistic regressions were also carried out using the dependent variable DISCL. For reasons of brevity results are not reported here³⁹. However, DISCL was shown to be strongly related to two variables: TIMEGAP (-) and OAE (+). The significant negative coefficient on TIMEGAP in the regression accorded with expectations in that forecast disclosure is less likely in cases where the interval between disclosure date and the date of verification of the disclosure is substantial. This underpins the general reticence of issuers in giving longer-range forecasts. Apart from the Hopewell case, in which a time interval of more than 300 days was apparent for TIMEGAP, the longest time interval for a forecast within the sample was 201 days (see Table 1).

³⁹ Results are available upon request. DISCL was coded one for issuers disclosing either a profit forecast or estimate and zero otherwise. This allowed 80 IPOs to feature, but because of a missing value attaching to INV, the number of available cases was again reduced to 79.

60. As noted earlier, the strong positive relation between OAE and SPON might have resulted in OAE picking-up a sponsorship quality effect. To check this, results were re-run by dropping OAE from the regression. The overall effect was to lower the explanatory power of the regression – as measured by the -2 Log Likelihood coefficient – but without rendering SPON significant at conventional levels. By implication, then, the significance of OAE appears to be robust to both the presence and absence of the SPON categorical variable. Nonetheless, OAE is still likely to reflect sponsorship quality issues indirectly. However, applying the interaction terms earlier between VOP, OAE and SPON – in place of the individual variables - did not change the overall pattern of results.
61. Correlations in Appendix 1 do, however, point to a strong positive association between OAE and the IPO underpricing variable UND. This suggests that issue underwriters typically execute over-allotment options when initial returns from IPO underpricing are strong – which clearly makes good sense, since placees are likely to be favourably disposed to an additional allocation at the final offer price under such circumstances. What is important, however, is that the underpricing (UND) variable, by itself, is only weakly related to the DISCL decision variable within the binary logistic regression analysis. This runs counter to Jog and McConomy's (2002) analysis of Canadian IPOs where a discernible negative relation was uncovered between a forecast disclosure decision variable and subsequent IPO underpricing. However, a bivariate correlation coefficient of +0.225 (sign. level: 0.022; n = 80) between DISCL and UND is apparent here.
62. Appendix 1 also reveals a strong positive correlation between the H dummy variable and OAE. As H-share issuers appear to have a much greater propensity to disclose voluntarily, than do non H-share issuers, part of the positive relation between OAE and DISCL may also be due to the role of H-share issuers in the sample. However, it should be noted that increased disclosure by H-share issuers may be driven exogenously. In other words, greater transparency may derive from the external influence of the PRC State. Ferguson et al. remark in this vein that, '... higher disclosure by H-share firms may reflect the effect of state-initiated disclosure policies rather than management's response to firm-specific costs and benefits of disclosure. ... They do so because the firm is a former SOE and the state benefits from such policy disclosures, not the firm. For the state, the primary concern may be the effects of disclosure on future SOE listings.' (p. 142, italics shown as used).
63. This picture is consistent with regulatory hurdles confronting H-share issuers, given that approval for listing is required from both the China Securities Regulatory Commission (CSRC) on the Mainland as well as from the front-line regulator for listings in Hong Kong, HKEx.
64. The full extent of the approval process carried out by the CSRC for H-share issuers does not seemingly apply to 'red-chip' companies, where Mainland State-related control is still apparent but the assets of the issuer are housed in a company domiciled outside the Mainland. Examples of 'red-chips' in the data base for this study include Harbin Breweries and BOC (Hong Kong) Holdings Ltd., both of which are incorporated outside Mainland China. In sum, then, the demand for quality

disclosure – whether it derives from external or internal sources or a combination of both – would seemingly require H-share issuers to employ the most reputable and international of advising agents. Not surprisingly then, the categorical variables H, OAE and SPON appear to be inter-related to some degree.

65. Finally, in relation to the binary logistic regressions, the ‘fit’ obtained by the regression results can be judged, ‘within-sample’ by assessing the extent to which disclosing and non-disclosing issuers can be accurately classified. An overall ‘within-sample’ accuracy rate of over 80% was suggested. A more meaningful approach – and an interesting avenue for future research – would be to assess how estimated coefficients obtained from the binary logistic regression for DISCL would fare when applied to a future-dated sample.

Conclusions

66. The principal motivation of this study has been to update our understanding of the pertinent factors relevant to prospectus earnings forecast accuracy. In an environment where all of the voluntarily disclosed forecasts scrutinised were conservative projections of future earnings, several key findings emerged. Not least of which was the observation that post-listing deviations from forecast increase in relation to higher levels of equity retention (by pre-listing entrepreneurs) and with regard to the utilisation of over-allotment options by issuer underwriters. Further analysis of the categorical variable for over-allotment option use indicated that deployment of the option was strongly tied-up with the level of IPO underpricing.
67. Earlier studies of prospectus earnings forecast accuracy in Hong Kong [Chan et al. (1996), Jaggi (1997), Cheng and Firth (2000) and Chen et al. (2001)] clearly dwell on an IPO market that was for the most part much more simplistic than the 2002/3 environment scrutinised in this paper. The rising importance of variable offer prices and over-allotment options, and the dominance of dual-tranche offerings – where a HK public offering and international placing tranche typically feature – suggest that the re-examination of prospectus earnings forecast accuracy carried out here is timely and offers a useful extension to our knowledge base surrounding voluntary corporate disclosure decisions, especially in relation to the Hong Kong market.

Appendix 1 – Descriptive Statistics and Correlations Between Variables Defined in Table 3

Descriptive Statistics

	Mean	Std. Deviation	N
EEE&EFE	6.2112	6.79274	49
INV	51.92467	20.103751	79
NINVUSES	3.6835	1.62152	79
NRISKFACT	23.3000	6.11369	80
REPACC	.90	.302	80
SPON	.2125	.41166	80
UND	8.7108	17.55974	80
RET	72.6263	4.68922	80
SALE	5.5450	6.10160	80
TIMEGAP	104.39	105.280	80
H	.18	.382	80
EARN	343480.78	1829331.424	80
MCAP	2.3E+09	1.039E+10	80
OAE	.3500	.47998	80
VOP	.3625	.48376	80

Notes:

- (1) Output obtained from SPSS (for Windows) software
- (2) EARN reflects amounts in HK\$ (000's)

Correlations

	EEE&EFE	INV	NINVUSES	NRISKFACT	REPACC	SPON	UND	RET	SALE	TIMEGAP	H	EARN	MCAP	OAE	VOP	
EEE&EFE	Pearson Correlation Sig. (2-tailed) N	1 .916 49	.016 .874 48	.024 .467 48	.106 .467 49	-.035 .809 49	.000 1.000 49	.197 .174 49	.178 .222 49	-.100 .496 49	.222 .125 49	.021 .884 49	-.141 .334 49	.103 .481 49	.214 .140 49	-.038 .798 49
INV	Pearson Correlation Sig. (2-tailed) N	.016 .916 48	1 .000 79	.406** .000 79	-.037 .749 79	-.056 .621 79	-.122 .283 79	-.075 .514 79	.102 .370 79	-.550** .000 79	-.011 .923 79	-.112 .328 79	.009 .937 79	-.346** .002 79	-.157 .167 79	-.057 .620 79
NINVUSES	Pearson Correlation Sig. (2-tailed) N	.024 .874 48	.406** .000 79	1 .819 79	-.026 .727 79	-.040 .086 79	-.194 .452 79	-.086 .485 79	.080 .045 79	-.226* .300 79	-.118 .870 79	-.019 .387 79	-.099 .002 79	-.349** .002 79	-.090 .428 79	-.134 .240 79
NRISKFACT	Pearson Correlation Sig. (2-tailed) N	.106 .467 49	-.037 .749 79	-.026 .819 79	1 .095 80	.188 .000 80	.563** .125 80	.099 .381 80	-.154 .173 80	-.378** .001 80	.040 .727 80	.562** .000 80	.069 .546 80	.200 .075 80	.317** .004 80	.571** .000 80
REPACC	Pearson Correlation Sig. (2-tailed) N	-.035 .809 49	.056 .621 79	-.040 .727 79	-.188 .095 80	1 .125 80	.173 .897 80	.015 .583 80	-.062 .110 80	-.180 .574 80	.064 .174 80	.154 .634 80	.054 .575 80	.064 .164 80	.157 .144 80	.165 .144 80
SPON	Pearson Correlation Sig. (2-tailed) N	.000 1.000 49	-.122 .283 79	-.194 .086 79	.563** .000 80	.173 .125 80	1 .309 80	.115 .309 80	-.135 .234 80	-.307** .006 80	.042 .712 80	.726** .000 80	.307** .006 80	.363** .001 80	.580** .000 80	.689** .000 80
UND	Pearson Correlation Sig. (2-tailed) N	.197 .174 49	-.075 .514 79	-.086 .452 79	.099 .381 80	.015 .897 80	.115 .309 80	1 .450 80	.086 .249 80	-.130 .076 80	-.200 .058 80	.213 .714 80	-.042 .925 80	-.011 .925 80	.398** .000 80	.146 .196 80
RET	Pearson Correlation Sig. (2-tailed) N	.178 .222 49	.102 .370 79	.080 .485 79	-.154 .173 80	-.062 .583 80	-.135 .234 80	.086 .450 80	1 .213 80	-.141 .442 80	.087 .581 80	-.271* .015 80	.397** .000 80	.136 .228 80	-.115 .310 80	-.149 .187 80
SALE	Pearson Correlation Sig. (2-tailed) N	-.100 .496 49	-.550** .000 79	-.226* .045 79	-.378** .001 80	-.180 .110 80	-.307** .006 80	-.130 .249 80	1 .213 80	-.141 .581 80	-.063 .581 80	-.421** .000 80	-.076 .503 80	.249* .026 80	-.174 .122 80	-.394** .000 80
TIMEGAP	Pearson Correlation Sig. (2-tailed) N	.222 .125 49	.011 .923 79	-.118 .300 79	.040 .727 80	.064 .574 80	.042 .712 80	-.200 .076 80	.087 .442 80	-.063 .581 80	1 .453 80	-.085 .732 80	-.039 .032 80	.059 .032 80	-.060 .595 80	.170 .131 80
H	Pearson Correlation Sig. (2-tailed) N	.021 .884 49	-.112 .328 79	-.019 .870 79	.562** .000 80	.154 .174 80	.726** .000 80	.213 .058 80	-.271* .015 80	-.421** .000 80	-.085 .453 80	1 .009 80	.289** .009 80	.074 .513 80	.490** .000 80	.611** .000 80
EARN	Pearson Correlation Sig. (2-tailed) N	-.141 .334 49	.009 .937 79	-.099 .387 79	.069 .546 80	.054 .634 80	.307** .006 80	-.042 .714 80	.397** .000 80	-.076 .503 80	-.039 .732 80	.289** .009 80	1 .009 80	.240* .032 80	.216 .054 80	.217 .053 80
MCAP	Pearson Correlation Sig. (2-tailed) N	.103 .481 49	-.346** .002 79	-.349** .002 79	.200 .075 80	.064 .575 80	.363** .001 80	-.011 .925 80	.136 .228 80	.249* .026 80	.059 .604 80	.074 .513 80	.240* .032 80	1 .033 80	.238* .022 80	.256* .022 80
OAE	Pearson Correlation Sig. (2-tailed) N	.214 .140 49	-.157 .167 79	-.090 .428 79	.317** .004 80	.157 .164 80	.580** .000 80	.398** .000 80	-.115 .310 80	-.174 .122 80	-.060 .595 80	.490** .000 80	.216 .054 80	.238* .033 80	1 .000 80	.482** .000 80
VOP	Pearson Correlation Sig. (2-tailed) N	-.038 .798 49	-.057 .620 79	-.134 .240 79	.571** .000 80	.165 .144 80	.689** .000 80	.146 .196 80	-.149 .187 80	-.394** .000 80	.170 .131 80	.611** .000 80	.217 .053 80	.256* .022 80	.482** .000 80	1 .000 80

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

- Notes: (1) The 28 cases where OAE was coded one include only one case where the over-allotment option exercise decision was activated ahead of the first date of listing (see China Fair Land Holdings Limited, 'Allocation Results', Company Announcements, HKEx website, 30 May 2002) and this involved a company not disclosing a forecast or estimate of earnings. One other case involved an 'Offer Size Adjustment Option' (Synergis Holdings Limited, Company Announcements, HKEx website, 7 October 2003) which also gave rise to an over-allotment prior to listing. However, this issue was coded zero for the purposes of OAE given the particular nature of the exercise feature.
- (2) Output obtained from SPSS (for Windows) software

References

- Beatty, R. P. and Ritter, J. R., 1986, 'Investment Banking, Reputation, and the Underpricing of Initial Public Offerings', *Journal of Financial Economics*, 15, pp. 213-232.
- Chan, A., M.-Y., Sit, C., L.-K., Tong, M., M.L., Wong, D., C.-K. and Chan, R., W.-Y., 1996, 'Possible Factors of the Accuracy of Prospectus Earnings Forecast in Hong Kong', *The International Journal of Accounting*, 31(3), pp. 381-398.
- Chen, G., Firth, M. and Krishnan, G.V., 2001, 'Earnings Forecast Errors in IPO Prospectuses and their Association with Initial Stock Returns', *Journal of Multinational Financial Management*, 11, pp. 225-240.
- Cheng, T.Y., and Firth, M., 2000, 'An Empirical Analysis of the Bias and Rationality of Profit Forecasts Published in New Issue Prospectuses', *Journal of Business Finance & Accounting*, 27(3/4), April/May, pp. 423-446.
- Clarkson, P.M., Dontoh, A., Richardson, G. and Sefcik, S.E., 1992, 'The Voluntary Inclusion of Earnings Forecasts in IPO Prospectuses', *Contemporary Accounting Research*, 8(2), pp. 601-626.
- Chinaonline (2001a), State Council to Boost Social Security Fund by Selling State Shares, 14 June 2001.
- Chinaonline (2001b), CSRC Suspends Rule to Reduce State Shares of Listed Firms, 23 October 2001.
- Clarkson, P., 2000, 'Auditor Quality and the Accuracy of Management Earnings Forecasts', *Contemporary Accounting Research*, 17(4), pp. 595-622.
- Coller, M. and Yohn, T. L., 1998, 'Management Forecasts: What Do We Know?' *Financial Analysts Journal*, Jan/Feb 1998, pp. 58-62.
- Ferguson, M. J., Lam, K. C. K., and Lee, G. M., 2002, 'Voluntary Disclosure by State-owned Enterprises Listed on the Stock Exchange of Hong Kong', *Journal of International Financial Management and Accounting*, 13 (2), 125-152.
- Firth, M., 1998, 'IPO Profit Forecasts and Their Role in Signalling Firm Value and Explaining Post-Listing Returns', *Applied Financial Economics*, 8 (1), pp. 29-39.
- Firth, M. and Liao-Tan, C.-K., 1998, 'Auditor Quality, Signalling, and the Valuation of Initial Public Offerings', *Journal of Business Finance & Accounting*, 25(1). Jan/Mar, pp. 145-165.
- Hartnett, N. and Romcke, J., 2000, 'The Predictability of Management Forecast Error: A Study of Australian IPO Disclosures', *Multinational Finance Journal*, March/June 2000, 4(1&2), pp. 101-132.
- HKEx Listing Rules [Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Ltd., Update No. 80, Latest Update: 30 March 2004), Hong Kong Exchanges & Clearing Co. Ltd.].
- Hughes, P.J., 1986, 'Signalling by Direct Disclosure under Asymmetric Information', *Journal of Accounting and Economics*, 8, pp. 119-142.
- Jaggi, B., 1997, 'Accuracy of Forecast Information Disclosed in the IPO Prospectuses of Hong Kong Companies', *The International Journal of Accounting*, 32(3), pp. 301-319.
- Jog, V. and McConomy, B. J., 2003, 'Voluntary Disclosure of Management Earnings Forecast in IPO Prospectuses', *Journal of Business Finance & Accounting*, 30(1&2), January/March 2003, pp. 125-167.
- Leland H. and Pyle D., 1977, 'Information Asymmetries, Financial Structure and Financial Intermediation', *Journal of Finance*, 32, pp. 371-387.
- Li, Y. and McConomy, B.J., 2004, 'Simultaneous Signalling in IPOs via Management Earnings Forecasts and Retained Ownership: An Empirical Analysis of the Substitution Effect', *Journal of Accounting, Auditing & Finance*, pp. 1- 28.
- McGuinness, P.B., A Guide to the Equity Markets of Hong Kong, Oxford University Press, 1999.
- McGuinness, P.B., Lee, J., Wong, V., Cheung, K. and Yan, Y. H., 2000, 'Market Segmentation in the Pricing of Different Categories of Stock in Mainland-Incorporated Companies', (Authors are members of the Research Department of the Securities and Futures Commission), SFC Bulletin, Hong Kong, July

-September 2000, 1-18 (Article is accessible at <http://www.sfc.hk/sfc/html/EN>).

McGuinness, P.B. and Ferguson, M.J, 'The Ownership Structure of Listed Chinese State-Owned Enterprises and its Relation to Corporate Performance', *Applied Financial Economics*, 15(4), February 2005, pp. 231-246.

Ritter, J.R., (1984), 'Signaling and the Valuation of Unseasoned New Issues: A Comment', *Journal of Finance*,

39, September, pp. 1231-1237.

Spence, A. M., 1973, 'Job Market Signalling', *Journal of Quarterly Economics*, August, pp. 355-379.

Trueman, B., 1986, 'Why Do Managers Voluntarily Release Earnings Forecasts', *Journal of Accounting and Economics*, pp.53-71.