An Empirical Evaluation of the Information Content of Share Option Scheme Announcements in Hong Kong

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An Empirical Evaluation of the Information Content of Share Option Scheme Announcements in Hong Kong

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Abstract

This study investigates the announcement effects of share option schemes using data from Hong Kong market between 2002 and 2004. Findings indicate that share option scheme announcements have information content and that the market overall reacts unfavorably to share option scheme announcements in Hong Kong. Further investigation reveals that the market reacts favorably to share option scheme announcements by financial companies and large size firms. Higher potential growth companies have lower returns when they announce share option schemes. In addition, large size firms are more likely to announce share option schemes independently of firm's public announcements.

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CONTENTS

LIST OF TABLES

Page

LIST OF FIGURES

Page

1. Introduction

A series of business scandals starting with the Enron case aroused attention and discussion about many companies in USA. One such area of interest is that of employee share options. By the late 1990s outstanding employee stock options (ESOs) averaged 7% of total outstanding shares at large corporations in US and top executives held one third of the total ESOs (Guay, et al. 2003). Lambert (1984) argued that managers try to maximise their own expected utility, even if it is not in the best interest of shareholders. For example, managers may choose compensation plans, such as employee stock options plans, that smooth reported earnings. Until currently many countries implemented accounting standards for share based payments that allowed firms to disclose stock-based compensation information in footnotes only, and allowed firms to avoid expensing options in the body of their financial statements. Therefore the compensation of top management became a major reason for the insufficient transparency of companies.[1] This has also been a case with companies in Hong Kong. Before 2001, business owners resisted employee stock options and were reluctant to dilute their ownership and control. However, since 2001, there has been a dramatic rise in share option grants in Hong Kong. According to Watson Wyatt (2004), approximately 67 per cent of Hong Kong's listed companies have a share option scheme in place, and 58 percent have granted options since 2001. Virtually none of these companies expensed options before 2005.[2] In addition, in order to comply with the Hong Kong Stock Exchange amended Chapter 17 of the Rules Governing the Listing of

[1] In the U.S.A Statement of Financial Accounting Standard (SFAS) No.123 requires firms to report stock-based compensation expense based on the fair value of options granted, it also allows firms to disclose this information in footnotes, allowing them to avoid expensing it in the body of financial statements. The new International Financial Reporting Standard - IFRS 2, Share-based Payments was issued in February 2004. It requires the costs relating to share-based payments to be measured and recognized in the financial statements. The new standard is effective in many countries from January 2005 and it is expected to improve the disclosure and accounting treatment of employee stock options.

Securities on the Stock Exchange, which became operative on 1st September 2001, many listed companies terminated their old share options schemes and announced new schemes between 2002 and 2004. Generally speaking, companies with high potential growth, especially companies in technology and telecommunication industries, are more likely to issue stock options. In comparison with those in the U.S., there are relatively less technology companies in Hong Kong. From 2002 to 2004 the most important industry in Hong Kong equity market was finance. Finance companies' share of total market capitalisation was the largest of the seven industry categories from 2002. In U.S., empirical studies about the reaction of the stock market to the announcement of the introduction of incentive compensation schemes have been done by DeFusco et al. (1985), Yermack (1997). Findings of these studies suggest that the market reacts favorably to the announcement of the introduction of stock option plans in the U.S. Despite a number of studies in the U.S. on stock option schemes, there is little empirical evidence of the influence of the release of share option scheme announcements on securities' prices in Hong Kong. The objective of this research is to provide evidence on the effect of announcements of employee stock option schemes on securities traded on the Hong Kong Stock Exchange. In other words, this research aims to find how investors respond when a company releases share option scheme information. The information content is assumed to be positive if stock price increases because investors consider the share option scheme as an effective tool for encouraging employees or attracting talent.

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[2] The Hong Kong Society of Accountants (HKAS) issued Hong Kong Financial Reporting Standard No. 2 – "Share-based Payment" (HKFRS 2) in April 2004 as part of its ongoing efforts to converge its accounting standards with those of the International Accounting Standards Boards. HKFRS 2 is virtually identical to IFRS 2 of the same title and applies to accounting periods beginning on January 1, 2005. Existing Statement of Standard Accounting Practice 34 –"Employee Benefits" has certain disclosure requirements for share options and other equity compensation benefits. Until HKFRS 2 was issued, there was no accounting standard in Hong Kong covering the recognition and measurement of share-based payment in the financial statements.

Alternatively, if the stock price has decreased this is assumed to be because shareholders' equity is considered by stockholders to have been diluted when share option information is publicly released. In other words, under this scenario the information content is assumed to be negative. The reaction to the information content of stock option announcement is generally measured by examining cumulative abnormal returns on the underlying stock.[3] In particular the research questions in this study are: Is share option information positive in relation to stock cumulative abnormal return or is it negative? What role does the stock option information play in Hong Kong stock market? What are the different reactions to share option scheme announcement for finance and non-finance companies, small and large size firms in Hong Kong?

2. Literature Review

This section discusses the existing listing rules about share option schemes in Hong Kong and the literature on the market reactions to issuance of employee stock options in various countries.

2.1 Listing rules for share option schemes in Hong Kong and other jurisdictions

Listing rules for share option schemes applicable in Hong Kong are different from the rules in the U.S but similar to the rules in other Asian countries, such as Singapore. These rules are a part of Chapter 17 of Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited. Chapter 17 requires that the share option scheme of a listed issuer must be approved by shareholders in a general meeting no matter the size of share options that are to be granted. The listed issuer must release in

[3] Matsuura, Y. (2003) tests the market reaction to stock option plan introduction in Japan by cumulative abnormal return analysis. Yeo et al.(1999) also computed abnormal return and cumulative abnormal return based on market model to test the effects of executive share options plan on shareholder wealth and firm performance in Singapore

the newspapers an announcement on the outcome of the shareholders' meeting for the adoption of the share option scheme on the business day following such a meeting. This provision became effective from 1st September 2001. In order to comply with Chapter 17, many listed companies adopted new share option schemes during 2002 and 2003. The listing rules limit the total number of securities which may be issued upon exercise of all options to be granted under the scheme and any other schemes. These must not in aggregate exceed 10% of the relevant class of securities of the listed issuer as at the date of approval of the scheme. The listed issuer may seek approval by its shareholders in a general meeting for "refreshing" the 10% limit under the scheme. However, the total number of securities which may be issued upon exercise of all options to be granted under the limit as "refreshed" must not exceed 10% of the relevant class of securities in issue as at the date of approval of the limit. A listed issuer may seek separate approval by its shareholders in general meeting for granting options beyond the 10% limit provided the options in excess of the limit are granted only to participants specifically identified by the listed issuer before such approval is sought. In addition, the exercise price of granted options must be at least higher than either: (1) the closing price of the securities as stated in the Exchange's daily quotations sheet on the date of grant, or (2) the average closing price of the securities as stated in the Exchange's daily quotations sheets for the five business days immediately preceding the date of grant. These rules are not dissimilar to Singapore stock exchange rules.

In contrast, in the U.S. employee share options are not subjected to such strict exchange-imposed regulatory restrictions. NASDAQ has unique exceptions to shareholder approval rules for share option plans. That is, not all share option plans are needed to be approved by shareholders in U.S. In U.S., there are also no regulatory limits to size of the employee share options. Many large U.S. industrial corporations

offer stock options on more than 20% of the firms' total outstanding shares. For example, by the end of 2003, the stock options issued by Microsoft were 19.7% of the total outstanding shares. In addition, according to U.S. Internal Revenue Code, section 421, the option price in such schemes is to be not less than the fair market value of the stock at the time when such options are granted. However, the fair market value is usually defined dissimilarly by various companies which adds to the overall lack of transparency on stock options.

Singapore stock exchange requirements, on the other hand, are more similar to Hong Kong requirements and are more rigorous than U.S. regulations. Employee stock options in Singapore require the approval of both the Stock Exchange of Singapore (SES) and the shareholders. In addition, for firms listed on the Mainboard of the SES, no more than the equivalent of 5% of a firm's shares can be granted in employee share options. The maximum entitlement of any director cannot exceed 50% of the total number of granted share options. The maximum entitlement of any employee cannot exceed 25% of the total granted options. In addition, the strike price is usually the average trading price five days before the option is granted. The life of options is the statutory limit of five years compared to the 10-year period which is regulated by Hong Kong stock exchange and is also commonly practiced in U.S. Compared to Hong Kong and U.S, Singapore has more rigorous regulations relating to share options. Table 1 summarizes a comparison between the characteristics of the employee stock options in Singapore, U.S. and Hong Kong.

2.2 Literature about capital markets theory and the Abnormal Performance Index (API) test model

An impressive body of literature on capital markets theory supports the proposition that

Table 1

Characteristics of Share Option Plans: A Comparison of Singapore, U.S. and Hong Kong Firms

Characteristic	Singapore	United States	Hong Kong
Size of the ESOP	Limited to 5% of issued share capital for SEM Mainboard firms, Higher limits for SESDAQ firms, subject to SES' approval	No regulatory limit.	Limited to 10% of issued share capital. May seek separate approval by shareholders in general meeting for granting options beyond the 10% limit.
Scheme approval	Require approvals of both the Stock Exchange of Singapore and the shareholders.	Not all the share option schemes needed to be approved by shareholders meeting.	Must be approved by shareholders meeting and publicly release the outcome in the newspapers for listed issuer.
Maximum entitlement of participant	Maximum of 25% of the ESOP shares per employee. Maximum of 50% of the ESOP shares to CEOs, directors and general managers.	No such restrictions.	Not to exceed 1% of the relevant class of securities in any 12-month period for each participant.
Basis of exercise price determination	Usually the average trading price is five days before the options is granted.	No less than the fair market value on the date of grant	Higher of (1) the closing price on the date of grant; (2) the average closing price for the five business days preceding the date of grant.
Participation of Substantial Shareholders	Shareholders holding more than 5% of the firms' shares prohibited from participating in the ESOPs.	No such restrictions.	No such restrictions.
Length of Scheme Period	No such restrictions.	No restrictions	10 years
Length of Option Period	Statutory limit of five years	10 years for most ESOPs	Not to be more than 10 years from the date of granting options.
Beneficiary of the Plan	Majority to executives	Majority to executives	Executives and employees.

Characteristic of share option plans for Singapore and US complied from Yeo et al. (1999).

capital markets are both efficient and unbiased. The underlying theory of capital markets is that if information is useful in forming capital asset prices, then the market will adjust asset prices to that information very quickly. Built on the capital markets theory, Ball and Brown (1968) were the first to report drift in stock returns after earnings announcements. They provided evidence that the information reflected in income numbers is useful by testing the relationship between stock prices adjustment and the release of the income report. In addition, Ball and Brown (1968) developed a new technique called the abnormal performance index (API) test model in the study of information content of accounting income numbers. The API is developed as a metric to detect portfolio performance above or below that which would be expected given the market mode. A portfolio which does not perform abnormally will display a pattern of API values that fluctuate around 1.00 through time. Since Ball and Brown (1968) the API test has served as the primary model in a wide variety of empirical studies in finance and accounting. Fama (1969) examines the effects of stock splits on the abnormal returns of stocks on the NYSE in the period 1925-1959. Expected returns are calculated using a market model. Elfakhani (1995) examines the information content of balance sheet and dividend announcement on the firm using standard event study methodology combined with API test. Through various types of API calculations researchers have observed over time that the security price behavior which precedes and accompanies such events as stock splits, and secondary distributions, provides explanations on changes in earnings forecasts.

2.3 Literature about market reactions to issuance of employee share options

Based on capital markets theory and the API model, Yermack (1997) investigates the announcement effect of CEOs' stock options granted using data from 620 stock options awarded to CEOs of Fortune 500 companies between 1992 and 1994. The main result

of his study is that in the 10 weeks following option grants, firms' stocks outperform the market on a risk-adjusted basis by slightly more than 2 percent. This implies that stock option announcements have information content and a positive relationship to stock price.

Aboody (1996) studies the relationship between the value of employee stock options (ESOs) and the stock price. He analyses a sample of 478 firms that granted ESOs to a broad base of employees during the period 1980-1990. To investigate whether investors consider firms' outstanding options when determining firm's share prices, Aboody uses a valuation model that includes accounting earnings, dividend payout, book value of equity, and number of outstanding options per share. Aboody (1996) finds that the value of firms is negatively related to the value of stock options and it is negative in relation to the stock price regardless of whether he uses the modified option pricing model or Black-Scholes model to calculate the value of stock options. The result of his study shows that a dollar of ESO value reduces firm value by $1.35. Aboody's (1996) findings were therefore contrary to Yermack (1997).

Skinner (1996) points out that information on the value of employee stock option potentially has two countervailing effects on stock price: dilution effect and incentive effect. The dilution effect refers to the shareholder value being diluted when a company issues employee stock options. This implies that the value of employee stock options is inversely related to stock price. In contrast, the incentive effect means that when a company issues employee stock options this can strengthen the motivation to employees to work hard. This is because issuing employees stock options more strongly aligns employees' incentive with those of stockholders, reaching the goal of shareholder value maximization. This argument is based on some of the evidence and the widely accepted

explanation that the announcement and the introduction of incentive compensation correlates with positive and significant abnormal returns.

The incentive effects of compensation plans such as employee stock options schemes are based on agency theory. Jensen and Murphy (1990), using the agency perspective theorize that the introduction of equity based compensation (such as ESOs) has incentive effects on management and aligns their interests with shareholders regarding the enhancement of the value of the company. Based on Jensen and Murphy (1990) prior studies in U.S and elsewhere interpreted that significant abnormal returns are the market positive reaction to the employee incentive schemes and contracts.

In addition, stock options as employee incentives can decrease the employee turnover. This incentive therefore also implies that the value of employee stock options is positive in relation to the stock price.

In his 1996 study, Skinner also evaluates the limitations of the research conducted by Aboody in 1996. He points out that the relative strength of the two countervailing effects of employee option schemes can be affected by the relative timing of the two effects. For example, benefits from granting share options include savings on training new employees by aligning employees to the firms, and increased creativity and productivity by employees who expect the share price to rise. However, there is the question of when the incentive benefits are recognized in accounting earnings and when market participants recognize these benefits. According to Aboody's (1996) results, the coefficient on estimated employee stock options value is reliably negative. Aboody (1996) interprets this result as evidence that dilution effect dominates the incentive effect. However, Skinner (1996) suggests that we cannot conclude that incentive effects of employee stock options are 'small' or nonexistent. This conclusion follows due to the

fact that incentive effects of employee stock option plans may be included in stock prices and earnings at the time the firm's first employee stock option plan is announced, and many of the incentive effects may also take place before options are actually granted.

In addition, executive stock options and convertible securities can increase the number of common shares outstanding while adding less than the market value of the newly issued securities to a firm's assets. Huson, Scott and Wier (2001) model the earnings response coefficients (ERCs) to test the relations among earnings, valuation, and dilutive securities. They test 63,656 firm-years samples covering the period from 1970 to 1995. The ERC is modeled as a function of the percentage of shares reserved for conversion, size, risk, growth, the magnitude of the earnings surprise, and the presence of positive earnings. The empirical tests show that the ERC is a decreasing function of expected dilution and it is inversely related to the number of dilutive securities outstanding.

More recently, Yeo, Chen and Ho (1999) study the effects of executive share option plans on shareholder wealth and firm performance in 56 Singaporean firms. The sample period spans from 1986 through to 1993. The majority of the employee share options schemes in that study were adopted in the years 1989-1991. Singapore was then a fast-growing economy and an important international investment location internationally. Corporate governance in Singapore is largely based on regulations. There are several unique regulations governing employee share options in Singapore. These regulations include The Singapore Companies Act (1994) and The Income Tax Act of Singapore (1996). Compared to the U.S., Singapore has stricter regulation on the issuance of employee share options. As discussed earlier, Yeo et al. (1999) therefore expected that regulatory characteristics might reduce the effectiveness of employee share options in

Singapore. After providing the comparison between the characteristics of employee share options in Singapore and those in the US, their research examines the short-term market reaction to employee share option announcement and long-term stock and operating performance following the adoption of the employee share options. The standard event-study methodology was used by Yeo et al. (1999) to examine the market response to announcements of employee share options in Singapore. They calculate the abnormal return and cumulative abnormal return during the event period. The circular date was used as the event date. Yeo et al. (1999) results indicate that those companies which adopt executive stock option plans don't have the positive abnormal return on days surrounding the employee share option announcement in Singapore. To further test the long-term stock and operating performance following employee share option adoption, they compute the average monthly-adjusted return as the arithmetic average of the amounts by which the firm's return exceed the SES All Share Index returns. Yeo et al. (1999) find that in the three years subsequent to implementing a stock option plan, there are no signs to show that the sample firms perform significantly better, or worse, than market benchmarks. Further in their study, there is no evidence of a significant improvement in operating performance of the employee share option granting firms over the same period. These results imply that employee share options did not have the intended incentive effects envisioned by decision makers in Singapore and contrary to similar U.S studies, share option announcements do not seem to have information content in Singaporean stock exchange environment. The findings by Yeo et al. (1999) are different from previous findings by Aboody (1996), and Yermack (1997). Yeo et al. (1999) therefore conclude that their results are the consequence of the institutional environment. The incentive effectiveness of employee share options is reduced by

unique regulatory characteristics in Singapore, and hence, their impact on shareholder wealth is also reduced. Yeo et al. (1999) results are also different from findings by Mastsuura (2003) who investigate the announcement effect of the introduction of stock options plans in the Japanese market. Mastsuura's (2003) findings suggest that the market reacts favorably to the announcement of the introduction of stock option plans in Japan which is consistent with the previous findings in the U.S. studies.

All of the companies adopting share option plans in Hong Kong describe that the purpose of issuing share options is to attract and retain the best quality personnel for the development of the company's businesses and to promote the long term financial success of the company by aligning the interest of the grantees with that of the shareholders. In addition, under Chapter 17 of the Listings Rules in Hong Kong, an important (amended) term is to limit the size of granted share options to 10% percent of the total number of outstanding common stocks. This amended term can reduce the dilutive effect of employee share options to some extent and protect shareholders. Compared to regulations in Hong Kong, Singapore has relatively stricter rules on share options.

In summary, this study expects the announcement of stock options schemes to have information content in Hong Kong, and the information content to have a positive effect on cumulative abnormal returns (which means that investors may consider the announcement of new share options scheme as favorable news). This study is also to research whether similar but slightly less regulated Hong Kong environment provides for similar or dissimilar results compared to previous U.S studies and the Yeo et al. (1999) Singapore study.