Insider Trading in Hong Kong:
Concentrated Ownership versus the Legal Environment

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Abstract

We examine the profitability of insider trading in Hong Kong between 1993 and 1997. On average, firms in Hong Kong have very concentrated ownership and insiders trade more actively and account for larger fractions of total turnover of their firms' shares than do US insiders. Inside sellers in Hong Kong earn negligible rents; however, inside buyers earn statistically and economically significant positive mean abnormal returns. Inside buyers' abnormal returns are especially large for firms in consolidated industries. We argue that such firms are less transparent than firms that operate in more focused businesses and, consequently, that shares of these firms are more likely to provide opportunities for insiders to trade based on privileged information.

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1. Introduction

We examine the profitability of insider trades in Hong Kong between 1993 and 1997. For reasons outlined below, Hong Kong provides an ideal setting for examining the effectiveness of the legal environment in protecting minority shareholders' rights. Shleifer and Vishny (1997) argue that ownership concentration and legal protection are both necessary components of effective corporate governance systems.[1] Without concentrated ownership, managers may not provide cash returns to capital suppliers. With concentrated ownership, inside owners may collude with managers against minority shareholders unless minority shareholders enjoy strong legal protection. In Hong Kong, concentrated ownership is the norm. However, protection for minority shareholders is also purportedly strong. Thus, we examine whether the legal environment in Hong Kong protects minority shareholders when ownership structures create opportunities for insiders to expropriate outside investors.

For the average firm in our sample, insiders trade much more actively than insiders in the US. CEOs and directors in Hong Kong combine to purchase their own firms' shares approximately 12 times and to sell their own firms' shares approximately 7 times each year. On average, these transactions represent 5.75% and 8.45% of the total capitalization of the insiders' firms for purchases and sales, respectively. In contrast,

[1] Shleifer and Vishny's notion of concentrated ownership is not limited to common shareholders. Large creditors can also force managers to return cash to investors.

management insiders in Lakonishok and Lee's (2001) sample of US firms make an average of three purchases and five sales per year which account, respectively, for .33% and .88% of the market capitalization of their firms.[2]

To some extent, differences in the intensity of insider trading may reflect the more concentrated ownership of Hong Kong firms [Demsetz (1986) and LaPorta, Lopez-de-Silanes, and Shleifer (LLS, 1999)]. Indeed, concentrated ownership may impact not only the intensity of insider trading but also the incentive for insiders to trade in the first place if ownership concentration unites managers and inside shareholders against outsiders [Shleifer and Vishny (1997) and LLS (1999)].

According to LLS (1999), minority shareholders are most vulnerable to expropriation when cash-flow rights of large inside shareholders decline relative to their control rights, when only one group of controlling shareholders exists, and when managers have close connections with inside shareholders. All these conditions are met in Hong Kong and other East Asian countries [Claessens, Djankov, and Lang (2000)]. Existing tests also suggest that firms in these countries expropriate outside investors through dividend and capital structure decisions [Faccio, Lang, and Young (FLY, 2001a, b)] and that such expropriations impact firm values negatively [Claessens, Djankov, Fan, and Lang (2002)].

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[2] These comparisons may understate the activity of US managers because Lakonishok and Lee's (2001) averages include firms for which inside trades do and do not occur. Since approximately half their firms do not experience inside trades, the average number of trades for firms that actually experience trades would be twice as large as the numbers reported above. Even with those adjustments, purchases are significantly more frequent for insiders in Hong Kong than for their US counterparts. The size of the US transactions relative to total market capitalization is also understated by the numbers above; however, the numbers would have to increase by more than 7 times for sales and by more than 17 times for purchases to be equal to the numbers for Hong Kong firms. Thus, we are confident our comparisons remain valid in principle.

Our tests extend existing tests in three ways. First, we examine insider trading in a country where ownership structures create unique incentives for insiders to expropriate minority shareholders. Second, we focus on events that affect inside and outside investors in equal, but opposite, ways. Third, we focus on individual, not corporate, decisions. We elaborate briefly on the implications of each of these extensions.

Abnormal profits have been documented for insiders in US, Canadian, and British firms.[3] However, firms in these countries tend to be widely held [LLS (1999)]. Other things constant, incentives to trade on privileged information should be stronger and abnormal profits should be higher for insiders in firms with concentrated versus diffuse ownership.

Admittedly, ours is not the first study to examine insider trading in countries with concentrated corporate ownership. Eckbo and Smith (1998) examine insiders' profits in Norway.[4] LLS (1999) report, however, that ownership differs in important ways even among firms with highly concentrated ownership. For example, the most frequent form of control in Norway occurs because of state ownership. Moreover, when families control Norwegian firms, the probability that those families will be unopposed by other large shareholders is small. In Hong Kong, by contrast, family ownership is the most

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[3] Examples of US Studies include Jaffe (1974), Seyhun (1986), Jeng, Metrick, and Zeckhauser (JMZ, 1999), Lakonishok and Lee (2001). Canadian studies include Baesel and Stein (1979) and Fowler and Rorke (1984)], and British studies include by Pope, Morris, and Peel (1990).

[4] These authors find that Norwegian insiders earn insignificant or negative abnormal returns, on average. Surprisingly, these results obtain during a period of lax government enforcement of insider trading rules in Norway. Eckbo and Smith show that methodological differences may account for differences in their findings vis-a-vis the findings in other studies. However, the authors also suggest (p. 497) that Norwegian insiders may "only rarely possess inside information" and that "the value of maintaining corporate control benefits tends to offset the value of trading on such information."

frequent form of control, and the probability that controlling families will be unopposed by other large shareholders is high. This evidence suggests that cross-monitoring by other large shareholders is weaker and the probability of forfeiting control is smaller for insiders in Hong Kong than in Norway. Thus, despite the relatively high ownership concentration of Norwegian firms, incentives for insiders to trade on privileged information are arguably weaker in Norway than in Hong Kong.

Our second extension relates to corporate governance in East Asian countries. We extend this literature by focusing on events that affect inside and outside shareholders in equal but opposite ways. If insiders who purchase their firms' shares earn positive abnormal returns, outsiders who sell the shares forgo the opportunity to earn those returns. In contrast, other corporate decisions may provide less direct evidence of transfers between inside and outside shareholders. To illustrate, dividends withheld from outsiders are also withheld from insiders on a pro rata basis according to the number of shares inside and outside investors own. Moreover, withheld dividends can be used to spur growth or to redistribute wealth. Thus, withholding dividends may or may not lead to wealth redistributions, depending on the ultimate use of cash. Insider trades, by contrast, link inside and outside investors directly in zero sum games.

Our third extension also relates to the type of event we study in that insider trades are *individual* not *corporate* decisions. The distinction is important because firm policy decisions, like capital structure and dividend choices, are likely to be implemented in several stages with limited disclosure over long horizons. Consequently, they may impact stock prices only gradually. Insiders' trades, by contrast, are individual decisions

that must be reported and should impact stock prices immediately.[5] Because of the individuality of insider trades, the requirement to report, and the immediacy of their impact, external parties can more easily associate the consequences of such trades with specific events and specific individuals. Hence, insiders should have stronger incentives to act in good faith when they trade with outsiders than when they adopt dividend or capital structure policies.

Of course, such incentives are reduced if laws designed to protect outsiders do not exist, or if their enforcement is weak. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (LLSV, 1998) show, however, that such laws are more comprehensive in Hong Kong than in most East Asian countries and that the enforcement of these laws is as strong in Hong Kong as in the strongest of those countries. Indeed, LLSV suggest that minority shareholders in Hong Kong are as well protected as minority shareholders in the US.[6] Thus, ownership structures in Hong Kong resemble those in other East Asian countries, but Hong Kong's legal environment provides stronger protection for outside shareholders. Conversely, Hong Kong firms have similar legal protection but very different ownership structures than most firms in the US. This combination of ownership structures and legal protection makes Hong Kong an ideal place for examining the

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[5] Evidence in Lakonishok and Lee (2001) suggests that the early impact of insider trades in the US understates the eventual impact. However, evidence in Jeng, Metrick, and Zeckhauser (1999) indicates that the largest price response occurs within the first five days following insiders' trades.

[6] The score that summarizes the level of protection minority shareholders enjoy in LLSV (1998) is the "anti-director" score in their Table 2. The higher that score is, the greater the protection. Like the US, Hong Kong has a score of 5. Malaysia, Singapore, and Japan have scores of 4, the Philippines and Taiwan have scores of 3, and Indonesia, South Korea, and Thailand have scores of 2. As to enforcement (LLSV Table 5), Hong Kong is tied with Japan and Singapore for the highest scores relating to the efficiency of the judicial system and with Japan only for the lowest exposure to corruption.

tradeoff between ownership structures that create incentives for expropriation and legal systems that seek to prevent it.

Our evidence suggests some weaknesses exist in Hong Kong's legal system. Though inside sellers earn negligible rents, inside buyers earn statistically and economically significant positive mean abnormal returns. Buyers' abnormal returns are especially large for firms in consolidated industries. The aggregate value of transfers from outside to inside shareholders in these firms exceeds one billion HK$ (125 million US$) per year. The huge wealth redistribution from outsiders to insiders is surprising given the reporting requirement that identifies specific times, trade amounts, and names of traders involved in insider trades. However, our evidence is consistent with that found in FLY (2001a) who report that dividend expropriations in East Asia are most common among "sprawling" firms with "low transparency."[7] Our evidence combines with theirs to suggest that even in a country with strong legal protection external monitors should focus on firms for which insiders have large information advantages relative to outsiders. The irony, of course, is that the cost of eliminating such advantages is largest for precisely those kinds of firms.

The next section of the paper discusses the laws that govern insider trading in Hong Kong. Section 3 describes our methods for measuring the profitability of those trades. Section 4 describes our data. Section 5 presents our empirical results, and Section 6 concludes.

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[7] This evidence suggests that low transparency adds to the "dark" side of multi-divisional firms discussed by Rajan, Servaes, and Zingales (2000) and by Scharfstein and Stein (2000).

2. Insider Trading Laws in Hong Kong

Insider trading in Hong Kong must be consistent with the statutory provisions of the Securities (Insider Dealing) Ordinance. The Hong Kong Stock Exchange (HKSE) has also released the Model Code for Securities Transactions by Directors of Listed Companies.[8] This Code sets a minimum standard of good practice for directors wishing to buy or sell securities in their own companies. Under the Code, directors are absolutely prohibited from dealing when they possess nonpublic, price-sensitive information in relation to the securities to be traded. Directors must also avoid trading their own firms' securities in the month immediately preceding the preliminary announcement of the annual report, or of the publication of an interim report. These restrictions apply equally to a director's spouse, or to dealings by or on behalf of any dependent children. Even if the above conditions are met, directors must first notify the chairman and receive a dated written acknowledgment before dealing in their own firms' securities.

To facilitate enforcement of insider trading laws, the Security (Disclosure of Interests) Ordinance (Cap 396) requires that each listed company's directors, chief executives and large shareholders (10% or above) disclose any interest or dealings in their company's shares or debentures. Moreover, directors' and chief executives' interests are deemed to include those of their associates (including companies controlled by them) as well as of their spouses and children under the age of 18. Insiders are required to provide the relevant information to both the company and the stock exchange within five trading days of any transactions they undertake regarding their firms' securities. In comparison, until

[8] Appendix 10, paragraph B11 of the exchange's listing Rule

August 2002, insiders in the US were not required to report their transactions until the tenth day of the calendar month following the month of trade.[9] Thus, inside trades in Hong Kong had to be filed on a timelier basis than inside trades in the US throughout our entire sample period.

The information insiders disclose in Hong Kong is summarized and disseminated by the HKSE to the press and public on a daily basis. These summaries are reported in *Insider Trade Asia*. From that publication, we extract the following data: 1) the firm name, 2) the name of the insider, 3) the reported transaction date, 4) the number of shares that underlie the transaction, 5) the price at which the trade occurs, 6) the aggregate market value of the trade, and 7) whether the transaction was a purchase or a sale.[10]

3. Measuring the Profitability of Insiders' Trades

Because insiders in Hong Kong must identify themselves by name within five business days of any trades in which they participate, stock price movements that follow such trades can implicate insiders who violate the regulations discussed in Section 2. Appropriate punishment for such violations should deter trading abuses. However, ownership structures in Hong Kong also create incentives for opportunistic insiders to expropriate outsiders. So motivated, a chairman who receives notification from insiders of their intent to trade may not be vigilant in protecting outsiders from expropriation if

[9] On August 27, 2002, the SEC approved new rules that require most insiders and 10% owners in US firms to report their trades within two business days. This change became effective on August 29. By July 2003, if not sooner, these filings will have to be made electronically on corporate web sites.

[10] If multiple transactions are listed on one filing, monetary values are averaged and the date used is the date of the first transaction.

the likelihood of detection and/or of punishment is small.

To determine whether insiders benefit from their trades with outsiders, we form insider portfolios according to procedures outlined in Jeng, Metrick, and Zeckhauser (JMZ, 1999). We discuss these procedures in detail below. Briefly stated, however, we put all stocks purchased (sold) by insiders into a "purchase" ("sale") portfolio on the day the transaction occurs. The weight given each stock in the portfolio is proportionate to the aggregate traded value of that stock compared to the aggregate traded value of all stocks in the portfolio. Thus, the returns on the portfolio are value-weighted returns earned through each transaction.

Though we can determine the date insiders buy or sell stocks, the horizon over which abnormal returns should be measured is unknown. Consequently, we fix the horizon as suggested by JMZ. (1999). To limit arbitrariness, we evaluate performance over assumed holding periods of one month, six months, and one year. We also break down portfolio returns into smaller sub-periods to discern when abnormal returns accrue.

We employ two approaches to measure abnormal returns on and after the dates insider portfolios are formed. The first method uses the CAPM and Jensen's (1968, 1969) α from the following regression

$$R^*_{it} = \alpha_i + \beta_i R^*_{mt} + \varepsilon_{it}, \qquad (1)$$

in which $R^*_{mt} = R_{mt} - R_{ft}$ is the excess return on the market portfolio, $R^*_{it} = R_{it} - R_{ft}$ is the excess return on portfolio i, α_i captures abnormal returns of portfolio i, and ε_{it} is the error term. Since all securities should lie on the Securities Market Line if the CAPM holds, the

α's of passively managed portfolios are expected to be zero. Well-managed portfolios, by contrast, may have significant α's. In our context, the "managed" portfolios consist of stocks purchased or sold by insiders. If insiders use their superior information to buy before the arrival of good news or to sell before the arrival of bad news in the market, we expect the α's on purchase (sale) portfolios to be significantly positive (negative).[11]

Our second approach is the "characteristic selectivity" approach. Daniel and Titman (1997) present evidence that firm characteristics, not risk, explain the cross-sectional variation of stock returns. Daniel, Grinblatt, Titman and Wermers (DGTM, 1997) then devise a performance measure that uses benchmark portfolios whose characteristics match the characteristics of the stocks in the portfolios whose performance is being evaluated. This method contrasts with the CAPM and with alternative characteristic/factor approaches (e.g., Carhart (1997)) that measure risk-adjusted abnormal returns with risk measured relative to the market portfolio and/or to factor portfolios based on characteristic-sorted stocks. The characteristic selectivity approach compares returns of the equities held in the portfolio in question to returns of portfolios with equivalent characteristics.[12]

Attributes used in the characteristic selectivity approach include firm size, book-

[11] Insiders who sell their own firms' stocks to buy benchmark portfolios profit if the benchmark portfolios outperform their own firms' stocks. Thus, we infer that inside sellers trade on superior information if the mean difference between returns on the inside portfolios and the benchmark portfolios is negative.

[12] DGTM (1997) show that the characteristic selectivity approach does a better job in matching future realized returns than factor approaches. Specifically, they find that the average fraction of the variance of portfolio returns explained by the benchmark is higher and that the standard error of the estimate of portfolio abnormal return is lower. Thus, the characteristic selectivity approach should have more statistical power to detect abnormal performance than alternative factor models.

to-market ratios, and momentum.[13] We define these variables as follows. Size is the stock price multiplied by the number of outstanding shares just prior to the portfolio formation date. The book-to-market ratio is the book value at the end of the firm's fiscal year (April of year t-1 to March of year t) divided by the market value at the end of March of year t. Momentum is the one-year return on the stock from month t-13 to month t-1 before the portfolio formation date. Data for all these variables come from the PACAP data base.[14]

To obtain the characteristic selectivity estimate, we construct 27 matching portfolios through 3x3x3 sorts on size, book-to-market ratios, and momentum. We sort by size and book-to-market ratios once each year and by momentum at the beginning of every month. In October of each year t from 1992 to 1997, stocks are divided into three equal groups according to size, based on the breakpoints for the ranked size estimates of all stocks listed on the HKSE.[15] Then, firms within each size group are further sorted into thirds based on book-to-market values in the group. Finally, stocks in each of the nine size and book-to-market sorted portfolios are sorted again into thirds based on their

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[13] Many studies document cross-sectional relations between returns and other firm characteristics, such as leverage (Bhandari (1988)), dividend-yields (Keim (1985)), and earnings-price ratios (Basu (1983)). However, except the momentum strategy in Jegadeesh and Titman (1993), all these characteristics are subsumed by firm size and the book-to-market ratio alone (Fama and French (1992, 1996)). Because evidence suggests that insiders tend to buy stocks of small firms (Seyhun (1986), Rozeff and Zaman (1988)), with high book-to-market ratios ((JMZ. (1999)) and low momentum (Lakonishok and Lee (2001)), controlling for these characteristics is obviously important.

[14] We leave a one-month gap in calculating the momentum to avoid bias associated with the bid-ask bounce and monthly return reversals (See Jegadeesh (1990)).

[15] About half (47.5%) of the firms in Hong Kong end their fiscal year in December. The majority of other firms end their fiscal year in March (37.47%). We set March as the end of the fiscal year because it permits better updating of annual data on book values. The six-month gap between the end of March and the beginning of October is consistent with the gap used in Fama and French (1992) to accommodate late disclosures of annual reports.

momentum over the previous year. Because we sort annually by size and book-to-market values and monthly by momentum, stocks remain in the same size and book-to-market portfolios for at least one year. Within those portfolios, however, stocks can shift across momentum portfolios on a monthly basis.

Returns for the 27 benchmark portfolios are value-weighted. This approach avoids placing too much weight on extremely small stocks. We compare returns on each stock in the insider portfolio, each day, to its matching portfolio. The difference is the excess return for that stock. Excess returns for individual stocks are multiplied by their respective weights in the insider portfolio to obtain the benchmark-adjusted return for that portfolio.

4. Data Description

Insider Trade Asia is a data base provided by *Datastream* that contains most trades reported to the HKSE by directors and chief executives since 1993. *Insider Trade Asia* also contains trades by other substantial shareholders since 1997. We focus on trades by directors and chief executives because of the short (one-year) sample period for other substantial shareholders and because Seyhun (1986) suggests that trades by directors and chief executives are more informative than trades by other large shareholders.

The HKSE classifies transactions by directors and CEOs as actual transactions and grants, exercises, and assignments of rights. Our sample includes only actual transactions because they are most likely to capture trades based on proprietary information. Table 1 indicates that the total sample of actual transactions for directors

and CEOs consists of 24,163 records (representing 547 firms). However, missing data and data errors, such as negative trading volume or negative market values, necessitate the removal of some of these observations from our sample. By far, the greatest loss (2,017 observations) occurs because of missing data for firm size, book-to-market ratios, or momentum. After applying all filters, we retain 20,995 transactions from 467 firms.

Table 2 presents summary statistics for insider trading in Hong Kong for the total sample and by industry. Panel A presents purchase data; panel B reports data for insiders' sales. As noted in the introduction, both the average number of annual purchases per firm (12) and the average number of annual sales (7) per firm exceed the corresponding averages (3 and 5) in Lakonishok and Lee (2001). That inside purchases exceed inside sales in Hong Kong is surprising, given the findings in Lakonishok and Lee (2001) and in Yermack (1995) that show the opposite with US data.

However, differences in ownership structures may explain the higher purchase-to-sales ratio in Table 2. For example, the concentrated ownership in Hong Kong may suggest that Hong Kong firms restrict the flow of inside information to the public more tightly than US firms do. If that is the case and if inside information motivates most inside purchases and if liquidity needs motivate most inside sales (as JMZ (1999) and Lakonishok and Lee (2001) suggest), opportunities to trade on privileged information would be more frequent in Hong Kong than in the US. Consequently, inside purchases could easily exceed inside sales. This argument also suggests that inside purchases in Hong Kong will be accompanied by higher abnormal returns than those observed in the US. The purchase signal may be especially strong given the relative size of inside

purchases in Hong Kong (5.75% of market capitalization) versus the US (.33% of market capitalization).[16]

Table 2 also shows that inside purchases and sales in Hong Kong are concentrated among firms in industries labeled "properties," "consolidated," and "industrials." The number of purchases and sales in these three industries constitutes almost 90% of the total purchases and total sales in our sample. The aggregate value of transactions in these industries makes up a similar percentage of the total values of all purchase and sales transactions. If greater activity implies greater opportunity to trade based on privileged information, separating our results by industry will be important.

Table 3 summarizes inside trading by market capitalization and by book-to-market ratios with stocks sorted according to procedures outlined in the previous section. In the US, insiders in small firms trade more actively than insiders in large firms, presumably because they are more likely to possess valuable inside information. Table 3 shows, however, that insiders in Hong Kong are more active in large- versus small-cap firms. Indeed, both purchases and sales vary directly with size rankings in the table. The table also indicates that among large-cap firms, inside purchases tend to be value oriented because more than half of the total purchases (3,389/6,116) are in firms with high book-to-market ratios. Among small- and medium-cap firms, no clear pattern exists across book-to-market-ratio categories. Nor do clear patterns emerge across book-to-market-

[16] The average annual US dollar amount of insider purchases in Hong Kong ($2.2 billion) also exceeds the average annual dollar amount of insider purchases in the US ($1.7 billion) in Lakonishok and Lee (2001). Though their figure is a 20-year average, transactions are expressed in 1995 dollars. Therefore, the comparison remains valid.

ratio categories for any size grouping of insider sales portfolios. The higher frequency of inside value-oriented purchases among large-cap firms suggests that such purchases may be more informative than purchases in the other categories. We investigate that and other implications of our foregoing discussion in the next section.

5. Empirical Results

Table 4 contains performance evaluation results based on the CAPM and Jensen's (1968, 1969) α and on the characteristic selectivity approach (of DGTM (1997)) for insider purchase and sales portfolios of Hong Kong stocks. We estimate α by regressing daily excess returns on the insider portfolios against value-weighted excess returns on the Hong Kong stock market index. To calculate excess returns, we extract a daily risk-free rate from the three-month Interbank Offer Rate in Hong Kong. The intercept in these regressions (α) is an estimate of the mean daily abnormal return on the insider portfolio. The estimate of the mean daily abnormal return for the characteristic selectivity criterion is the value-weighted spread between the return on the insider portfolio and a portfolio of stocks matched on firm size, book-to-market ratios, and momentum. The t-statistics test the hypothesis that daily mean abnormal returns under various holding period assumptions are insignificantly different from zero. The symbols + and * indicate rejection of that hypothesis at the .10 and .05 levels, respectively.

For the CAPM (characteristic selectivity) approach, mean daily abnormal returns for the insider purchase portfolio are .066%, .037%, and .057% (.061%, .035%, and .036%) for the one-month, six-month, and one-year holding periods, respectively. Annualized with 252 trading days in the year, these mean abnormal returns range from

8.82% to 16.63%. These estimates are more than twice as large as the mean annualized abnormal returns for US insider purchase portfolios (4.44% to 5.64%) that JMZ. (1999) report. Thus, on average, insiders in Hong Kong earn economically significant returns when they purchase their own firms' shares.

Despite this significance, the statistical significance is weaker in Hong Kong than in the US. Whereas our t-statistics range from 1.62 to 2.50; mean abnormal returns on JMZ's purchase portfolios are all at least 2.90 times larger than their corresponding standard errors. Possible causes for this disparity include our shorter sample period and our use of daily versus monthly returns.[17] We also investigate below whether and how statistical and/or economic significance varies across firm size and industry categories. For now, however, we infer that our total sample results are at least marginally statistically reliable because mean abnormal returns differ from zero at the .05 level for the one-month and one-year investment horizons under the CAPM approach and at the .10 level for all three investment horizons under the characteristic selectivity approach.

In contrast to inside purchases, inside sales produce significant results only for the one-month holding period. Moreover, mean abnormal returns for the sales portfolios are positive. If insiders sell their stocks based on inside information, the positive mean abnormal return in Table 4 implies either that the information is systematically bad or that insiders are trading irrationally. A more plausible explanation is that inside sales are motivated by something other than privileged information. For example, the positive

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[17] Daily returns could produce lower t-values than monthly returns because the monthly return is just the sum of the individual daily returns, but the standard deviation of monthly returns could be smaller than the square root of the sum of the individual daily variances of returns because of mean reversion in daily returns.

mean abnormal returns could reflect a rebound from temporary price pressures that result when insiders sell large blocks of stock to meet liquidity needs. This liquidity explanation is consistent with evidence in Table 5 below. However, Tables 6 and 7 indicate that positive mean abnormal returns on insider sales portfolios are statistically significant only for large firms' stocks and only in the properties industry. Thus, the liquidity hypothesis applies, if at all, only on a limited basis to our findings. Whatever their cause, the positive mean abnormal returns in Table 4 do not support the hypothesis that insiders in Hong Kong sell their stocks before the arrival of bad news in the market.

Various studies suggest that profits from insider trading accrue at different times relative to the actual trades. Givoly and Palmon (1985) argue, for example, that outside investors mimic insiders' transactions by buying after insiders buy and selling after insiders sell. Price reactions to these trades then presumably generate additional profits for insiders. Because insiders report their trades with a lag, profits that accrue before the reports are published cannot be attributed to the mimicking strategies of outside investors. If, however, outsiders act quickly to maximize profits from insiders' trades, we expect the additional profits from these mimicking strategies to occur in a relatively short period of time after trades are reported. In contrast to that prediction, Lakonishok and Lee (2001) find that the US market under reacts to the news of insiders' trades and that much of the price appreciation comes only after a long delay.

We examine the timing of profits earned by insiders in Hong Kong by dividing the year following the insider trades into four smaller unequal sub-periods: days 0 through 5; days 6 through 21; days 22 through 126; and days 127 through 252. During the first sub-

period (days 0 through 5), outsiders are unlikely to mimic insiders' transactions because the reporting deadline is not until day 5. By the same token, early mimicking suggests that most of the profits generated by this strategy accrue between days 6 and 21. Finally, profits earned on a delayed basis would be realized in the last two sub-periods. Dividing those periods in two allows us to examine how, if at all, the stock price impact of the insider trade decays over longer horizons.

Table 5 reports results for the four sub-periods. Interestingly, mean abnormal returns on the purchase portfolios are larger during days 0 to 5 than during days 6 through 21. The respective estimates for the CAPM (characteristic selectivity) approach are .078% and .064% (.072% and .057%). Thus, mean abnormal returns are larger when outsiders are less likely to know that insiders have purchased their own firms' stocks than they are immediately after the news of insider trades reaches the market.

However, mean abnormal returns during days 6 through 21 are significantly different from zero, and the t-statistics in that sub-period are larger than the t-statistics in the first sub-period. What fraction of the mean abnormal return during days 6 through 21 is attributable to mimicking by outsiders versus a continuation of the price path that begins in days 0 through 5 is unknown, but Table 5 clearly leaves the possibility open that part of the abnormal return comes from outsiders' mimicking activities. Evidence for a longer delay, however, is mixed. Though the largest fraction of the cumulative abnormal return for the year accrues after day 21, the t-statistics for the third and fourth sub-periods are

insignificant.[18] Thus, we cannot reject the hypothesis that price movements beyond day 21 represent anything more than a gradually decaying drift.

Previous research also shows that insider trading produces the largest abnormal returns in small US firms [Seyhun (1986, 1998), Pascutti (1996), JMZ (1999) and Lakonishok and Lee (2001)]. One explanation for this phenomenon is that large firms are more efficiently priced than small firms because financial analysts pay less attention to small firms in which privileged information is less readily shared with outsiders.

Table 6 examines whether a similar small-firm phenomenon exists in Hong Kong. At the beginning of October of each year, we divide all listed firms in Hong Kong into thirds based on market value. Insider portfolios of the "small," "medium," and "large" firms only include transactions within their respective size groups. In contrast to US studies, we find no evidence of a small-firm effect in Hong Kong. In fact, abnormal returns for the small-firm purchase portfolios under the characteristic selectivity approach are negative (albeit insignificantly so) for all three investment horizons. For small-firm sale portfolios, we find some evidence that insiders sell their shares prior to the arrival of bad news. However, the result is not consistent across investment horizons or evaluation methods. Therefore, we consider the evidence weak.

For large firms, mean abnormal returns on the purchase portfolios are positive and significant for the one- and six-month holding period horizons under the CAPM approach,

[18] We compute cumulative abnormal returns for a given sub-period by multiplying the mean daily abnormal return during the sub-period by the number of days in that sub-period. For example, the cumulative abnormal return for the day 0 through 5 purchase portfolio under the CAPM approach in Table 5 is 0.39% (= .078% * 5 days). The cumulative abnormal return for the day 22 through 126 purchase portfolio is 3.68% (= .035% *105 days). The cumulative abnormal returns for the year in Table 5 do not equal the cumulative abnormal returns for the year in Table 4 because of changes in the portfolio compositions when we focus on the smaller sub-periods.

and for the one-month horizon under the characteristic selectivity approach. The other mean abnormal returns for large firms are positive but marginally insignificant at the .10 level. These results indicate that, if anything, insider trading is more profitable in large versus small firms in Hong Kong. This finding is consistent with the observation from Table 3 that insiders in large firms purchase their stocks when market values are low relative to book values, but that insiders in small- and medium-cap firms show no propensity to purchase or sell value stocks.

Table 7 presents mean abnormal returns for insider purchase and sale portfolios according to industry classification. From Table 2 we observed that inside transactions in industries labeled "properties," "consolidated," and "industrials" account for more than 90 percent of the total number and of the total market value of inside purchases and sales in our sample. To the extent higher profit opportunities lead to greater trading activity, we expect abnormal returns to be highest in the industries that account for the largest number of insider transactions.

The evidence in Table 7 is only partially consistent with that prediction. For industrials, mean abnormal returns on the purchase portfolios are significant only for the 12-month investment horizon, and then only under the CAPM approach. For firms in the properties industry, mean abnormal returns are significant for a one-month horizon under both the CAPM and the characteristic selectivity approaches, but abnormal returns measured over longer horizons are insignificant.

The striking evidence in Table 7 comes from insider purchases in consolidated firms. Over every horizon and with both evaluation methods, mean abnormal returns are

significant at least at the .05 level. Annualized mean abnormal returns for consolidated firms range from 16.88% to 32.33%, depending again on which investment horizon and evaluation method we choose. Those choices notwithstanding, mean abnormal returns are economically and statistically significant. Indeed, Table 7 suggests that total sample results are driven primarily by inside purchases in consolidated firms.[19]

That total sample results are driven by these firms has interesting implications for our research question. By definition, consolidated firms include "those companies engaged in three or more businesses classified in different sectors." The diversity of operations and the interaction between activities in different sectors arguably make these firms more opaque to outside investors than firms in other industries. If correct, this argument implies that opportunities for insiders to trade on privileged information are also more readily available. By contrast, firms with more focused operations are more transparent and provide fewer opportunities for insiders to exploit private information.

Except for consolidated firms, the legal environment in Hong Kong seems to protect outside investors from expropriation by insiders reasonably well. However, the complexity of the information structure for consolidated firms creates advantages that inside investors apparently exploit in these firms. The magnitude of this exploitation is non-trivial. From Table 2, the mean transaction value of inside purchases in consolidated industries is 8.65 million HK$, and the average number of transactions is 8.56 per year. Given even the low estimate of annualized abnormal returns from Table 7 (16.88%), the implied wealth transfer from outsiders to insiders in an average consolidated firm is approximately 12.50 million

[19] Similar results hold when we exclude data from October 1997 through December 1997, the months of and immediately following the Asian Crisis.

HK$ per year. At the industry level (with insiders in approximately 80 firms purchasing their shares each year), the annual transfer mounts to more than one billion HK$.

The huge wealth redistribution from outsiders to insiders in Hong Kong is surprising given the reporting requirement that identifies specific times, trade amounts, and names of traders involved in insider trades. However, our evidence is consistent with that found in FLY (2001a) who report that dividend expropriations in East Asia are most common among "sprawling" firms with "low transparency." Our evidence combines with theirs to suggest that even in a country with strong legal protection external monitors should focus on firms for which insiders have large information advantages relative to outside investors. The irony, of course, is that the cost of eliminating such advantages is largest for precisely those kinds of firms.

6. Conclusion

Total sample mean abnormal returns earned by insiders who purchase their own firms' shares in Hong Kong are statistically and economically significant. Abnormal returns are larger for insiders in large versus small firms and for insiders whose firms operate in consolidated versus more focused industries. Though the legal environment in Hong Kong purportedly provides strong protection for outside investors, it does not prevent insiders in consolidated industries from earning more than one billion HK$ annually at the expense of the outsiders with whom they trade.

To be sure, insiders in consolidated firms comply with the letter of the law by reporting their trades. Otherwise, their firms would not be in our sample. However, the large abnormal returns these insiders earn suggest they violate the more important spirit of

the law by trading on privileged information. These returns also suggest a failure in monitoring and/or enforcing the laws that govern insider trading. Even in Hong Kong, therefore, where legal protection is purportedly strong for outside investors generally, monitoring agencies need to focus on firms whose information structures create incentives for insiders to take advantage of outside shareholders. As evidence here and in FLY (2001a) suggests, those incentives are strongest in "sprawling, low-transparency," firms. The irony, of course, is that the cost of removing information advantages is highest in precisely those firms for which the advantages to inside information are strongest.

Our findings also have important implications for issues US investors and lawmakers currently face. Before August 2002, US insiders could delay filing their trades until the tenth day of the calendar month following the month of trade. Now, they must file within two days of the trade. The shorter reporting period presumably reduces opportunities for insiders to abuse privileged information. Our Hong Kong evidence shows, however, that shorter reporting periods *per se* do not eliminate such opportunities and that insiders in firms with complex information structures are likely to exploit those opportunities if monitoring and/or enforcement of insider trading laws becomes lax.

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Table 1

The Effects of Various Filters on Sample Size

We use *Insider Trade Asia* provided by *Datastream* to collect insider trades in Hong Kong between 1993 and 1997. *Insider Trade Asia* contains most trades reported to the Hong Kong Stock Exchange (HKSE) by directors and chief executives since 1993. It also contains trades by other substantial shareholders since 1997. We focus on trades by directors and chief executives because of the short (one-year) sample period. The HKSE classifies transactions by directors and CEOs as actual transactions and grants, exercises, and assignments of rights. Total trades in our sample include only actual transactions because they are most likely to capture trades based on proprietary information. The number of total trades eliminated does not equal the sum of the filtered trades because some of trades are eliminated by more than one filter.

Filter	**Number of Trades**	**Percent of Sample**
Total Trades	24,163	100.00
Filters:		
Number of Shares < 0	382	1.58
Market Value < 0	672	2.78
Missing Transactions Date or Error in Date	184	0.76
Other Incomplete or Inconsistent Data	295	1.22
Missing Size, B/M, or Momentum Data	2,017	8.34
Total Trades Eliminated [a]	3,168	13.11
Total Trades Remaining	20,995	86.89

Table 2

Summary Statistics of Insider Trading in Hong Kong by Industry

This table provides summary statistics on insider trading by industry in Hong Kong from 1993-1997. We include only those firms with sufficient data to identify the industry, firm size, and the book-to-market ratio. Insider transactions are for CEOs and directors. Panel A provides purchase data; panel B provides data for sales. We define the variables in the table as follows: "Total Trades" is the total number of purchases or sales over the sample period. "Total Value" is the summed value of all sample transactions. "Mean Value" is the average value per transaction. "Mean Shares" is the mean number of shares traded across transactions. "# Companies/Year" is the average number of companies with at least one transaction per year. "# of Trades/Company" is the average number of trades per year per company. "% Market Cap" is the average value of insider trading per year as a percentage of market capitalization for the respective company. "% Market Turnover" is the total value of insider trading as a percentage of HK dollar turnover.

Panel A: Purchases								
Industry	Total Trades	Total Value (HK$ Mill)	Mean Value (HK$ Mill)	Mean Shares (Mill)	# Companies/ Year	# Trades/ Company	% Market Cap	% Market Turnover
All	14,123	89,557.97	6.34	2.28	235.0	12.02	5.75	1.31
Finance	525	3,409.08	6.49	1.53	18.8	5.59	3.42	0.28
Utilities	87	1,512.59	17.39	2.80	3.6	4.83	2.67	0.26
Properties	5,158	39,993.18	7.74	2.60	47.0	21.95	7.92	1.98
Consolidated	3,432	29,693.65	8.65	2.35	80.2	8.56	4.76	1.59
Industrials	4,098	10,820.84	2.64	1.75	74.6	10.99	6.40	1.16
Hotels	776	3,953.52	5.09	2.02	8.2	18.93	3.10	4.14
Others	47	235.11	5.00	19.04	2.6	3.62	7.46	0.18

Table 2 (Continued)

Panel B: Sales								
Industry	Total Trades	Total Value (HK$ Mill)	Mean Value (HK$ Mill)	Mean Shares (Mill)	# Companies/ Year	# Trades/ Company	% Market Cap	% Market Turnover
All	6,872	73,167.22	10.65	4.09	198.2	6.93	8.45	1.07
Finance	400	4,066.23	10.17	2.03	13.6	5.88	2.38	0.34
Utilities	81	228.44	2.82	1.21	2.6	6.23	1.49	0.04
Properties	1,450	18,831.55	12.99	4.61	38.6	7.51	9.13	0.93
Consolidated	2,882	32,328.89	11.22	3.57	70.0	8.23	8.86	1.73
Industrials	1,823	13,597.07	7.46	5.15	63.2	5.77	10.08	1.46
Hotels	135	3,286.81	24.35	4.06	6.4	4.22	1.47	3.45
Others	101	828.23	8.20	2.82	3.8	5.32	5.14	0.62

Table 3

Insider Trading Summarized by Market Capitalization and B/M Ratios

This table provides summary statistics on insider trading in Hong Kong from 1993-1997. We include only those firms with sufficient data to identify firm size and B/M ratios. At the beginning of October of each year, all listed stocks are divided into thirds based on market value. Firms with the lowest, next lowest, and largest market values are placed in the "Small," "Medium," and "Large" stock portfolios, respectively. Stocks in each market value portfolio are further broken down into subgroups based on their B/M ratios. Panel A summarizes purchases for CEOs and directors; panel B summarizes sales. Column definitions are the same as in Table 2.

Panel A: Purchases								
Firm Size/ BM Category	Total Trades	Total Value (HK$ Mill)	Mean Value (HK$ Mill)	Mean Shares (Mill)	# Companies/ Year	# Trades/ Company	% Market Cap	% Market Turnover
Small Firms								
Low B/M	947	2,575.08	2.72	2.47	25.2	7.69	9.68	1.57
Medium B/M	931	3,418.58	3.67	2.92	22.8	7.86	11.42	3.02
Large B/M	1,020	3,320.49	3.26	3.24	18.0	11.28	13.37	1.99
Total	2,898	9,314.15	3.21	2.89	66.0	8.73	11.29	2.10
Medium Firms								
Low B/M	1,541	4,767.68	3.09	2.16	28.8	11.94	4.69	1.70
Medium B/M	1,956	4,755.74	2.43	1.20	26.4	13.68	4.56	2.10
Large B/M	1,612	5,393.31	3.35	2.04	26.2	12.50	4.54	2.54
Total	5,109	14,916.73	2.92	1.75	81.4	12.68	4.60	2.08
Large Firms								
Low B/M	1,007	18,744.24	18.61	2.78	28.0	7.18	1.86	0.90
Medium B/M	1,720	20,556.03	11.95	1.53	30.8	10.95	1.78	0.79
Large B/M	3,389	26,026.83	7.68	2.79	28.8	23.54	4.30	2.66
Total	6,116	65,327.10	10.68	2.43	87.6	13.88	2.63	1.15

Table 3 (Continued)

Panel B: Sales								
Firm Size/ BM Category	Total Trades	Total Value (HK$ Mill)	Mean Value (HK$ Mill)	Mean Shares (Mill)	# Companies/ Year	# Trades/ Company	% Market Cap	% Market Turnover
Small Firms								
Low B/M	724	4,180.36	5.77	5.30	24.4	5.99	18.99	2.55
Medium B/M	475	3,009.27	6.34	7.00	18.6	5.00	10.52	2.66
Large B/M	262	3,233.76	12.34	11.12	13.4	3.88	21.21	1.93
Total	1,461	10,423.38	7.13	6.90	56.4	5.16	16.72	2.35
Medium Firms								
Low B/M	797	9,039.10	11.34	6.65	27.2	5.93	8.71	3.23
Medium B/M	631	4,836.63	7.67	4.30	19.6	6.55	7.92	2.13
Large B/M	685	5,124.30	7.48	2.98	18.0	7.60	6.64	2.42
Total	2,113	19,000.03	8.99	4.76	64.8	6.58	7.90	2.64
Large Firms								
Low B/M	1,042	17,143.21	16.45	2.08	24.2	8.55	2.82	0.82
Medium B/M	1,299	13,106.22	10.09	1.24	25.8	10.02	2.21	0.50
Large B/M	957	13,494.37	14.10	4.37	27.0	7.08	3.52	1.38
Total	3,298	43,743.80	13.26	2.41	77.0	8.53	2.86	0.77

Table 4
Performance Evaluation Results for Insider Portfolios
Based on CAPM and Characteristic Selectivity Criteria over Various Assumed Insider Holding Periods

This table presents performance-evaluation results for the insider portfolio based on the CAPM and the Characteristic Selectivity criteria. For the CAPM, we regress the daily excess return on the insider portfolio on the daily excess return on the value-weighted market return in Hong Kong. To calculate excess returns, we extract a daily risk-free rate from the three-month Interbank Offer Rate in Hong Kong. The intercept in these regressions is an estimate of the abnormal return on the insider portfolio. The estimate of the abnormal return for the Characteristic Selectivity criterion is the spread between the return on the insider portfolio and a matching portfolio of stocks with the same characteristics as the stocks in the insider portfolio in terms of firm size, B/M ratios, and momentum. The t-statistics test the hypothesis that daily mean abnormal returns under various holding period assumptions (one month, six months, and one year) are insignificantly different from zero. The symbols + and ** indicate rejection of that hypothesis at the .10 and .05 levels, respectively.

Panel A: Purchase				
	CAPM Daily		Characteristic Selectivity	
1 month	**0.066***	2.23	**0.061***	2.34
6 month	0.037	1.62	**0.035+**	1.68
12 month	**0.057***	2.50	**0.036+**	1.77
Panel B: Sale				
	CAPM Daily		Characteristic Selectivity	
1 month	**0.011***	2.50	**0.074+**	1.89
6 month	0.030	0.71	0.027	0.80
12 month	0.046	1.49	0.026	1.06

Table 5

Performance Evaluation Results for Time Decomposition of Insider Portfolios with CAPM and Characteristic Selectivity Criteria with and without the Effects of the Asian Crisis

This table presents performance-evaluation results for the insider portfolio based on the CAPM and the Characteristic Selectivity criteria with abnormal returns defined as in Table 4. On the day of an insider transaction, the purchase or sale is placed into a day 0 – day 5 portfolio; at the end of day 5, the trade is removed from the previous portfolio and is placed into the day 6 – day 21 portfolio. Similarly, the trade is placed into day 22 – day 126 and into day 6 – day 252 portfolios at the end of the 21st day and the 126th day, respectively. The t-statistics test the hypothesis that daily mean abnormal returns are insignificantly different from zero. The symbols +, *, and ** indicate rejection of that hypothesis at the .10, .05, and .01 levels, respectively.

Panel A: Purchase				
Portfolio	CAPM Daily Abnormal Return (%)	t-statistic	Characteristic Selectivity Daily Abnormal Return (%)	t-statistic
Day 0 – Day 5	**0.078+**	1.90	**0.072+**	1.92
Day 6 – Day 21	**0.064***	2.21	**0.057***	2.13
Day 22 – Day 126	0.035	1.46	0.021	1.02
Day 127 – Day 252	0.017	0.65	0.020	0.93

Table 5 (Continued)

Panel B: Sale				
Portfolio	CAPM Daily Abnormal Return (%)	t-statistic	Characteristic Selectivity Daily Abnormal Return (%)	t-statistic
Day 0 – Day 5	**0.242****	3.01	**0.148***	2.01
Day 6 – Day 21	0.010	0.24	0.011	0.28
Day 22 – Day 126	0.035	0.84	0.012	0.33
Day 127 – Day 252	-0.021	-0.60	0.013	0.48

Table 6

Performance Evaluation Results for Time Decomposition of Insider Portfolios with CAPM and Characteristic Selectivity Criteria across Size-Ranked Portfolios, with and without the Effects of the Asian Crisis

This table presents performance-evaluation results for the insider portfolio across size-ranked portfolios based on the CAPM and the Characteristic Selectivity criteria with abnormal returns defined as in Table 4. The t-statistics test the hypothesis that daily mean abnormal returns under various holding period assumptions (one month, six months, and one year) are insignificantly different from zero. The symbols +, *, and ** indicate rejection of that hypothesis at the .10 and .05 levels, respectively.

Panel A: Purchase						
CAPM and Characteristic Selectivity (CS) Daily Abnormal Return (%)						
	Small Firms		Medium Firms		Large Firms	
Portfolio/Industry	CAPM	CS	CAPM	CS	CAPM	CS
1 month	0.035 (0.53)	-0.017 (-0.29)	0.039 (0.80)	0.047 (1.14)	**0.068*** (2.13)	**0.066*** (2.308)
6 month	0.021 (0.44)	-0.028 (-0.75)	-0.004 (-0.01)	0.036 (1.17)	**0.042+** (1.81)	0.036 (1.616)
12 month	0.066 (1.30)	-0.025 (-0.64)	-0.001 (-0.03)	0.033 (1.28)	0.038 (1.58)	0.035 (1.608)

Table 6 (Continued)

Panel B: Sale						
CAPM and Characteristic Selectivity (CS) Daily Abnormal Return (%)						
	Small Firms		Medium Firms		Large Firms	
Portfolio/Industry	CAPM	CS	CAPM	CS	CAPM	CS
1 month	0.053 (0.60)	0.012 (0.15)	-0.008 (-0.126)	-0.027 (-0.49)	**0.156**** (3.05)	**0.116**** (2.58)
6 month	0.001 (0.02)	-0.031 (-0.57)	0.017 (0.34)	0.012 (0.31)	0.030 (0.64)	0.028 (0.66)
12 month	-0.037 (-0.59)	**-0.097* (-2.16)	-0.001 (0.03)	0.005 (0.16)	0.038 (1.12)	0.040 (1.36)

Table 7

Performance Evaluation Results for Time Decomposition of Insider Portfolios with CAPM and Characteristic Selectivity Criteria across Industries, with and without the Effects of the Asian Crisis

This table presents performance-evaluation results for the insider portfolio across industries based on the CAPM and the Characteristic Selectivity criteria with abnormal returns defined as in Table 4. The symbols +, *, and ** indicate rejection of the hypothesis at the .10, .05, and .01 levels, respectively, that CAPM (Characteristic Selectivity) estimates of monthly abnormal returns equal zero.

Panel A: Purchase

CAPM and Characteristic Selectivity (CS) Daily Abnormal Return (%)

	Finance		Properties		Consolidated		Industrials		Hotels	
Portfolio/Industry	CAPM	CS	CAPM	CS	CAPM	CS	CAPM	CS	CAPM	CS
1 month	0.073	0.073	**0.069+**	**0.072***	**0.128****	**0.121****	0.098	0.037	0.011	0.021
	(1.32)	(1.36)	(1.80)	(2.02)	(2.97)	(3.15)	(1.53)	(0.72)	(0.24)	(0.45)
6 month	0.074	0.045	0.007	0.015	**0.075***	**0.076****	0.038	0.023	0.040	0.031
	(1.62)	(1.00)	(0.27)	(0.67)	(2.30)	(2.63)	(0.84)	(0.66)	(0.82)	(0.66)
12 month	**0.100***	0.071	-0.005	0.016	**0.085****	**0.067****	**0.077+**	0.042	0.017	0.025
	(2.13)	(1.53)	(-0.22)	(0.82)	(3.06)	(2.73)	(1.80)	(1.27)	(0.38)	(0.59)

Table 7 (Continued)

Panel B: Sale

CAPM and Characteristic Selectivity (CS) Daily Abnormal Return (%)

	Finance		Properties		Consolidated		Industrials		Hotels	
Portfolio/Industry	CAPM	CS	CAPM	CS	CAPM	CS	CAPM	CS	CAPM	CS
1 month	0.067 (1.29)	0.009 (0.19)	**0.149*** (2.29)	**0.151*** (2.15)	0.011 (0.18)	-0.004 (-0.07)	0.103 (1.44)	0.058 (0.90)	0.007 (0.16)	-0.056 (-0.91)
6 month	-0.000 (-0.01)	-0.006 (-0.14)	0.030 (0.72)	0.023 (0.65)	0.053 (1.18)	0.052 (1.24)	-0.018 (-0.32)	-0.014 (-0.33)	0.010 (0.21)	0.001 (0.01)
12 month	-0.014 (-0.37)	-0.017 (-0.48)	0.034 (1.01)	0.047 (1.62)	0.049 (1.29)	0.039 (1.16)	0.003 (0.06)	-0.005 (-0.14)	-0.012 (-0.24)	-0.000 (-0.01)