

Value of Anonymity: Informed Trading through Tax Havens

Woojin Kim and Cheol-Won Yang*

October, 2016

Abstract

We document that cross-border trades originating from tax havens provide significant information for future stock returns. Based on a unique proprietary dataset that includes all trades in Korea from 2006 to 2009 with buyer and seller identifiers and their country of origin, we find that hedged portfolio return based on net buys from tax havens amounts up to 25 basis points per day. Hedged returns are higher for portfolios composed of accounts that trade small stocks or those that exhibit weak governance or low foreign ownership. Moreover, returns are higher when net buys are constructed from accounts that only trade a single stock, especially a non-top 20 cap stock. We also find that these accounts engage in active buying immediately prior to the disclosure of positive earnings shocks or monopoly supply contract establishments. These findings suggest that one important motivation behind setting up paper companies in tax havens is not simply to hide *existing* income or wealth to avoid taxes, but to actively utilize insider information to *increase* their income or wealth.

Keywords: Tax haven; Insider trading; Stock picking; Korea

JEL classification: G10; G14; G18

* Kim is an Associate Professor of Finance, Seoul National University Business School (woojinkim@snu.ac.kr). Yang is an Associate Professor of Finance, Dankook University, College of Business and Economics (yang@dankook.ac.kr). We would like to thank Tae Jun Yoon and Chan Lim for excellent research assistance. Financial support from the Institute for Research in Finance and Economics of Seoul National University is gratefully acknowledged. The paper has previously circulated with the title "Profitability of Trades from Tax Havens: Stock Picking Ability or Insider Information?"

Correspondence to: Woojin Kim, SNU Business School, Seoul National University, Gwanak Ro, Gwanak-gu, Seoul 151-916, Korea; tel/fax: 82-2-880-5831, Email: woojinkim@snu.ac.kr

Value of Anonymity: Informed Trading through Tax Havens

Woojin Kim and Cheol-Won Yang*

October, 2016

Abstract

We document that cross-border trades originating from tax havens provide significant information for future stock returns. Based on a unique proprietary dataset that includes all trades in Korea from 2006 to 2009 with buyer and seller identifiers and their country of origin, we find that hedged portfolio return based on net buys from tax havens amounts up to 25 basis points per day. Hedged returns are higher for portfolios composed of accounts that trade small stocks or those that exhibit weak governance or low foreign ownership. Moreover, returns are higher when net buys are constructed from accounts that only trade a single stock, especially a non-top 20 cap stock. We also find that these accounts engage in active buying immediately prior to the disclosure of positive earnings shocks or monopoly supply contract establishments. These findings suggest that one important motivation behind setting up paper companies in tax havens is not simply to hide *existing* income or wealth to avoid taxes, but to actively utilize insider information to *increase* their income or wealth.

Keywords: Tax haven; Insider trading; Stock picking; Korea

JEL classification: G10; G14; G18

1. Introduction

Tax havens are allegedly used by corporations and individuals who wish to avoid taxes. According to OECD (1998), there are four factors that characterize a tax haven; nil or nominal taxes, protection of personal financial information, lack of transparency, and no substantial activities. Despite huge interests from regulators around the world on various implications of tax havens, there are relatively very few academic studies in this area primarily because the data are simply not available.

Discussions on tax havens are mostly focused on how these jurisdictions promote tax avoidance, the very first defining characteristic of a tax haven.¹ The second and third characteristic, protection of personal information and lack of transparency, are generally considered technical tools or auxiliary conditions to effectively secure the first characteristic.

From an investor's perspective, however, protection of personal information and lack of transparency may provide additional benefits above and beyond avoidance of taxes on existing income or wealth. Specifically, since the identity of the ultimate account holder is effectively concealed, investors with material private information may engage in insider trading through accounts in tax havens. The following provides anecdotal piece of evidence on how corporate insiders may utilize tax havens to materialize their private information.

In July 2013, Mr. Jae Hyun Lee, the controlling shareholder of CJ Group, 14th largest *chaebol* or family-controlled business group in Korea, was indicted for illegal tax evasion of the profits he made by trading stocks of member firms within CJ Group through anonymous accounts he opened up in Virgin Islands. For example, foreign investors intensely bought CJ stock, just before the company announced share repurchase

¹ Strictly speaking, tax avoidance generally refers to legal reduction of taxes while tax evasion refers to illegal reduction. In this paper, we use the term interchangeably to refer to any reduction in taxes and thus an increase in after-tax income.

on March 3, 2008. The prosecutor's office raised suspicion that ultimate beneficiary of at least a part of these purchases could be Mr. Lee himself who allegedly directed the trades using accounts in Hong Kong.

Korean media often refers to these accounts as 'black-haired foreigners'. Specifically, local investors may set up paper companies in tax havens and camouflage themselves as foreign investors by trading local securities through these paper companies. According to a press release by the Korea Financial Supervisory Service in June 2014, there are many motivations for local investors, especially company insiders such as controlling families, to camouflage themselves as foreign investors through tax havens.

First, black-haired foreigners may avoid certain regulatory restrictions. For example, investors who are company insiders may effectively skip mandatory filing of changes in their shareholdings.² Second, they may utilize insider information to trade their own stocks and benefit themselves at the expense of other uninformed minority investors. Third, they may avoid taxes on income generated through trading stocks or other activities. Fourth, they may create off-shore slush funds by tunneling corporate resources into tax havens. From the regulators' perspective, it is extremely difficult to identify the ultimate beneficiary of these accounts because one of the key characteristics of tax haven is to protect personal information.³

In this paper, we examine whether trades originating from tax havens contain information for future stock returns. There are a few reasons to believe that these trades are informed trades. First, they may be based on material non-public information which may constitute illegal insider trading if traded through local accounts and identified by

² According to U.S. SEC regulations, corporate insiders must file with the SEC a statement of ownership regarding their shares through forms 3, 4, and 5. Similar reporting requirements also exist in Korea.

³ In May 2013, Newstapa, an independent non-profit local media, in collaboration with International Consortium of Investigative Journalists (ICIJ), obtained a list of 245 Korean individuals who set up paper companies in tax havens. They sequentially released the names and affiliations of these individuals, some of whom are current and former executives of prominent large business groups or chaebols, which subsequently incurred intense social and political controversy.

regulators. Although this is certainly a possibility, not all trades from tax havens are made by ‘black-haired’ foreigners, obviously. Some of these trades may well be made by ‘genuine’ foreign investors who simply possess better stock picking abilities. Since it is costly to move capital to tax haven in the first place and then to set up trading schemes there, we believe that traders from tax havens could well be more sophisticated than an average local investor.

To test whether trades from tax havens contain information for future stock prices, we utilize a unique proprietary dataset provided by the Korea Exchange (KRX) that contains detailed records of all transactions in Korea with buyer and seller identifiers and their country of origin between January 2006 and August 2009. Based on this account-level data, we are able to create various net purchase measures based on the characteristics of each account, and further test which type of accounts provide better return predictability.

We first document that trades from tax havens in general provide significant information for future stock returns. For example, hedged portfolio return formed by simultaneously buying and selling top and bottom quintile stocks based on net buys from tax havens amounts up to 25 basis points per day. The magnitude of this return is much larger than corresponding numbers based on net buys from the remaining foreign countries or net buys from local institutions. These findings suggest that traders from tax havens are more informed than other types of traders, either due to better access to private information or greater ability to pick stocks.

We next form double-sort portfolios based on net purchases from tax havens as well as certain stock characteristics. Specifically, stocks are grouped into two based on size, governance level, or degree of foreign ownership, before being assigned to net purchase quintiles. We find that return predictability of tax haven trades is more pronounced in small stocks or stocks with weak governance or low foreign ownership.

These findings are difficult to reconcile with the conventional findings on foreign investors who generally tend to prefer large, well-known stocks.

A direct motivation behind trading through tax havens may be to literally reduce taxes, as suggested by Hanlon et al. (2015). To test whether tax-based incentives may be the primary motivation, we examine the dynamics of net capital inflows into Korea against changes in local tax rates. Unlike Hanlon et al. (2015) who document a positive relationship between U.S. tax rates and inbound capital inflow from tax havens to U.S., we find a weak negative relationship between Korean tax rates and capital inflows. This implies that increases in local tax rates does not necessarily trigger more 'round-trip' investments through tax havens, suggesting that incentives to reduce taxes may not be a primary motivation for trading through tax havens.

To further examine the nature of private information being utilized in these trades, we create net buy measures based on characteristics of each tax haven account. First, we classify accounts based on number of stocks traded during the whole sample period. Surprisingly, 30% of all accounts from tax havens traded only one stock during the whole sample period. One possibility of such concentrated trading is that Korean stocks may simply be a part of a diversified global portfolio that the tax haven account holder is running. But among these one-stock trading accounts, more than half of them trade a non-top 20 cap stock, which are less likely to reflect a part of a globally diversified portfolio. Another possibility is that they may reflect disguised foreign investors who are actually corporate insiders in Korean firms. It is more likely that insiders would have information about a single firm, rather than multiple firms simultaneously (Berkman, Koch, and Westerholm (2014)).

Based on this logic, we separately group all accounts that traded only one stock, all accounts that traded between two and 10 stocks, and all accounts that traded more than 10

(at least 11) stocks throughout the sample period. Our conjecture is that accounts with more than 10 stocks traded is relatively well diversified even within Korean stocks, and as such less likely to be utilizing firm-specific insider information to trade. When we form quintile portfolios based on net buys of these three groups, we find that daily hedged portfolio returns based on net buys of single-stock trading accounts are twice as large as those based on multiple stocks. Moreover, the large returns from single-stock trading accounts are mostly driven by those that trade a non-top 20 cap stock, further indicating possible access to private information.

Our final set of analysis directly tests whether single stock trading accounts actually trade prior to important corporate announcements. For this analysis, we focus on two types of potential good news; earnings disclosures with positive shocks and disclosures of monopoly supply contract establishments. We find that accounts from tax havens as a whole do not predict the upcoming disclosure of the good news. However, once we restrict our attention to accounts that trade a single stock or stocks from the same business group, we find a statistically significant abnormal net buys occurring 4 to 6 days prior to the disclosure. In a strict contrast, we do not observe a similar pattern across the remaining accounts.

Overall, the findings in this paper clearly suggest that one important source of return predictability of trades from tax havens is access to firm-specific private information in advance of the public disclosure. If insiders try to exploit this information using local accounts, they could well be identified and prosecuted for illegal insider trading. But, if they can hide their true identity by directing their trades through paper companies set up at tax havens, they can effectively circumvent such legal risk and pursue their incentives to increase their *before-tax* profits.

Our study adds to the literature in the following important ways. First, we are the first to formally document that investors from tax havens are informed traders. While there is a lot of regulatory discussion on how these regions may promote various forms of tax evasion, there is virtually no academic research on whether investors from tax havens are indeed informed traders. Second, more importantly, we find that return predictability of tax haven accounts is largely driven by access to private information before it becomes public. These findings suggest that one important motivation behind setting up paper companies in tax havens is not simply to hide *existing* income or wealth to avoid taxes, but to actively utilize insider information to *increase* their income or wealth that would otherwise have been illegal. To the best of our knowledge, our study is the first to raise the point that tax havens may be an important channel through which insider trading is materialized.⁴ Our study also suggests that informed trading by foreign investors that has been documented in the previous literature may at least be partially attributable to 'round-trip' trading through tax havens by local investors.

The remainder of the paper is organized as follows. Section 2 reviews the relevant literature on tax haven and informed trading. Section 3 describes our data and sample. Section 4 provides empirical results, and section 5 concludes.

2. Literature Review

Our study builds on two streams of literature which are somewhat unbalanced in terms of the breadths and depths of existing research; literature on tax haven, and literature on informed trading. Although regulators around the world have been seriously concerned about off-shore tax evasion through tax havens for years, there is very little empirical evidence precisely due to the unavailability of data. A prominent exception is a recent

⁴ Yang (2014) uses similar dataset to analyze the predictability of trades from tax havens, but he does not compare them against those from other foreign countries or local institutions, nor does he explore the possibility of potential insider trading.

study by Hanlon, Maydew, and Thornock (2015) who examine ‘round-trip’ investment by U.S. investors who disguise themselves as true foreign investors. According to their study, this allows U.S. investors to effectively reduce taxes since U.S. tax authorities impose much less taxes on foreign investors investing in U.S. securities compared to domestic investors. Their major finding is that foreign portfolio investment into U.S. from tax havens, especially from those without bilateral tax information exchange agreements, increases when U.S. tax rates increase.

To the extent that we also examine potential ‘round-trip’ investments by ‘black-haired’ foreigners, our approach is similar to theirs. However, our study is fundamentally different in at least the following two respects. First, although their identification strategy is clever, it only provides circumstantial evidence that is consistent with round tripping, since their analysis is based on economy-level tax rate changes and aggregate capital flows at monthly frequency. In contrast, our trade-level analysis provides a more direct test of existence of ‘round-tripping’ by showing that trades originating from tax havens contain substantial information for future stock returns. Second, and more importantly, their focus is solely on potential tax evasion. That is, they argue that such round trip investments may be driven by incentives to reduce taxes on *existing* income or wealth. In a strict contrast, we argue that one important motivation to use round trip investments through tax havens is not only to reduce taxes and maximize *after-tax* income, but also to actively increase *before-tax* income by utilizing insider information.

Another study that is related to ours is Mironov (2013) who studies tax avoiding behavior of Russian firms by setting paper companies. His study does not directly focus on tax havens, but he shows that managerial diversion of corporate resources rather than tax evasion *per se* may be more important motivation for setting up paper companies. Our

implications share his in the sense there could be motivations for setting up paper companies in tax havens other than traditional tax evasion purposes.

While there are very few studies that examine tax havens, extant literature exists on informed trading. Many studies document that certain subset or type of investors may be informed traders. For example, short sellers are in general reported to possess information for future stock returns (Asquith and Meulbroek(1995), Aitken, Frino, McCorry, and Swan (1998), Desai, Ramesh, Thiagarajan, and Balachandran (2002), Diether, Lee, and Werner(2009)). Similarly, certain institutional investors, e.g. hedge funds, are found to be informed traders (Stulz, 2007).

Investors with higher intelligence (Grinblatt, Keloharju, and Linnainma (2011, 2012)), more experience (Seru, Shumway, and Stoffman (2010)) , better social networks (Cohen, Frazzini, and Malloy (2008, 2010) and Cohen, Malloy, and Pomorski (2012)), and local familiarity (Ivkovic and Weisbenner (2005)) are also found to be informed traders. Some studies examine whether local investors or foreign investors are better informed, but the results are somewhat inconclusive (Grinblatt and Keloharju (2000), Choe, Kho, and Stulz (2005), Dvorak (2005)).

An obvious class of informed traders is corporate insiders (Cohen, Frazzini, and Malloy (2008, 2010), Cohen, Malloy, and Pomorski (2012), and Lakonishok and Lee (2001)), whose active exploitation of private information before public disclosure may constitute a criminal offense. Our study is related to this literature in the sense that we propose investors from tax havens, who are likely to be round-tripping insiders, as another class of potential informed traders.

A few studies note that informed traders may want to hide their identity to maximize their trading profits. For example, Barclay and Werner (1993) and Chakravarty (2001) argue that informed traders may split their orders into medium-size trades to

maintain anonymity, which they referred to as ‘stealth trading’. Grammig, Schiereck, and Theissen (2001) show that there is more informed trading in a market where the trader’s identity is kept anonymous than where it is revealed. Our study extends this literature by noting that tax havens could be an important channel through which informed traders may effectively hide their identities.

An interesting recent study by Berkman, Koch, and Westerholm (2014) shows that investors may hide their trades through their children’s accounts. Based on Finnish trading data that has age information for each account holder, they find that guardians behind underaged accounts are successful at picking stocks. They conclude that both inside information and stock-picking ability may be driving the superior performance of children’s accounts. Our study is related with theirs to the extent that we also examine ‘camouflaged’ trading. But since guardians behind these children’s accounts are easily identifiable, they would have less incentive to utilize illegal private information than investors in tax haven.

3. Data and Sample Construction

Our primary data source is a proprietary dataset provided by the Korea Exchange (KRX) that includes the full history of all trades made in the KOSPI market, the main bourse in Korea, between January 2006 and August 2009. Each trade record contains the price, quantity, time-stamp, investor class, and most importantly, masked account identifiers of both buyers and sellers and their country of origin.⁵

Investors are classified into four broad categories; local individuals, local institutions, foreign investors, and Korean citizens with permanent overseas residency. Table 1 provides a brief summary of our dataset. There are a total of 6.4 million accounts

⁵ Identifiers are available for each account, implying that multiple accounts that belong to a single investor are treated as multiple investors.

with a valid trade during our sample period. 97% of these accounts are held by local individual investors. These individual investors account for slightly more than half of all dollar amount trading volume, while the remaining half are roughly evenly split between local institutions and foreign investors. Per account trading volume for local individual investors is KRW 389 million on average, roughly USD 350,000 during the 32 months, which is less than 4% (3%) of those for institutional (foreign) accounts.

In terms of the number of stocks traded, individuals trade about 13 stocks while institutions and foreigners trade 30 and 9 stocks on average, respectively. These numbers are somewhat larger than those reported in Barber and Odean (2000), who report that U.S. households hold 4.3 stocks on average.⁶ Relatively smaller number of stocks held by foreign investor accounts may reflect that Korean stocks constitute only a part of their globally diversified portfolio.

There are a total of 246 country codes provided in the KRX dataset. We first identify a list of tax havens following Hanlon et al. (2015).⁷ We then match these tax havens with the country codes in our dataset which yields an intersection of 22 countries, including Cayman Islands and Bermuda among many others. We also classify Labuan, Malaysia, as a tax haven, although it is not included in Hanlon et al. (2015) list, since it is widely recognized as a tax haven in the local media.

In Appendix Table 1, we provide a list of all foreign countries investing in KOSPI market, sorted by aggregate dollar amount trading volume. All countries that are identified as tax havens are represented in bold letters. The summary statistics indicate that accounts based in U.K. constitute a quarter of total trading activity of all foreign investors in Korea. U.S. investors account for roughly 16% of all trades from foreign countries.

⁶ These figures are not directly comparable since our numbers are based on trades while theirs are based on position statements or holdings.

⁷ Hanlon et al. (2015)'s classification is based on Dharmapala (2009) who define a country as a tax haven if it was listed on the 1998 OECD report on tax havens or if it was included in the list provided by Hines and Rice (1994). Appendix 1 provides a detailed list of tax havens as identified in Hanlon et al. (2015).

Although U.S. is the second in terms of the dollar amount, the number of U.S.-based accounts constitutes 35% of all foreign accounts, implying that U.S. investors are much smaller than U.K. investors on average.

The third largest foreign country investing in Korean stocks, accounting for 8% of all foreign trading, is Cayman Islands which is a tax haven. In fact, out of the top 10 foreign countries that invest in Korean stocks, 6 of them are tax havens. These numbers suggest that trades from tax havens take up a non-trivial portion of all foreign trading. In figure 1, we provide the dollar trading volume from each foreign country scaled by respective population in a descending order as in Hanlon et al. (2015). The results indicate that once scaled by the population, aggregate trading activity from tax havens is even more conspicuous. For example, top 10 countries in terms of scaled trading volume are all tax havens. In fact, the first and second largest countries, Cayman Islands and Bermuda, are also the first and second largest portfolio investors in U.S., as reported in Hanlon et al. (2015).

In subsequent analysis, we treat U.K. as a separate category for two reasons. First, it is the largest source of foreign investment accounting for a quarter of all foreign trading activity. Second, some researchers argue that trades from U.K. may be based on some insider information. For example, Kim and Jung (2014) show that institutions from U.K. actively short sell Korean index shortly before North Korean aggressions. Similarly, Kang, Kim, and Lee (2014) find that the tone of British media has significant predictive power of North Korea's forthcoming actions. A recent CNN report also argues that U.S. companies are increasingly viewing the U.K. as a place to relocate to pare their tax bills.⁸ In fact, U.K. is also included as one of the 62 tax havens in a list maintained by the Korea Customs Service.

⁸ Petroff, A., May 29, 2014, Has the U.K. become a tax haven? CNN Money (<http://money.cnn.com/2014/05/29/news/companies/london-corporate-taxes/>)

In Table 2, we provide a more detailed breakdown of foreign investors and their trading activities. Panels A, B, and C report those from 23 tax havens, U.K, and the remaining foreign countries, respectively. For an easier comparison, we also provide the corresponding numbers for local institutions and local individuals in Panels D and E, respectively.⁹

The results from Panels A, B, and C indicate that trading behavior of accounts from foreign countries is not particularly different between tax havens or non-tax havens. For example, average number of stocks traded is roughly 10 for tax haven accounts and 8 for non-tax haven accounts. Similarly, the number of trading days is 16 days for tax haven accounts and 14 days for non-tax haven accounts. Median number of stocks traded and number of trading days are also largely similar across the two groups. In addition, accounts from U.K. also exhibit similar trading behavior as accounts from other foreign countries, on average. Overall trading volume per account is also similar between tax havens and non-tax havens, although those from U.K. are in general larger. These results suggest that if there is any difference in performance of trading strategies based on net buys from respective countries, it is less likely to be related with any systematic differences in trading patterns.

The results from Panels D and E indicate, however, that trading patterns of local institutions and individual investors are substantially different from foreign accounts. First, average local investor's trading activity, both institutions and individuals, is much more intense compared to foreign accounts. For example, local institutions trade 30 stocks on average, which is roughly three times as large as those of foreign accounts. The number of trading days for local institutions is 49 days, which is again more than three times as large as those of foreign accounts. Part of this trading is obviously related with diversification

⁹ Since there are more than 6 million individual investor accounts, we randomly select 1% (62,253 accounts) and calculate their summary statistics.

efforts, since vast majority of local institutions do not diversify globally for various institutional restrictions. Even so, considering that their mean and median trading volumes are somewhat smaller than those of foreign accounts, local institutions seem to trade more than foreign investors.

The results from Panel E indicate that local individual investors also engage in active stock trading compared to foreign accounts. They trade on average 13 stocks during 39 trading days. Since local investors exhibit more intense trading behavior, differences in performance between foreign and local accounts may be related with differences in these trading patterns.

Other than the transaction level data, we resort to the following additional sources. Daily individual stock returns and market index returns (KOSPI returns) are obtained from the Korea Capital Market Institute (KCMI). Firm characteristics such as size and foreign ownership are obtained from FnDataGuide database provided by the FnGuide. Firm-level corporate governance index is provided by the Korea Corporate Governance Service (KCGS), a non-profit organization under Korea Exchange.

4. Empirical Results

4.1. Portfolio Returns based on Net Buys by Investor Location

Table 3 reports portfolio returns based on net purchases of different investor types. We consider five investor classes in this analysis; those from tax havens, first excluding U.K., and then including U.K., other foreign countries, local institutions and local individuals. For each trading day, we sort all stocks in KOSPI market according to aggregated net purchases of each investor class scaled by the total dollar trading volume of the stock during the same day and group them into quintiles. HPR_{t+1} represents one day return where the portfolio is formed just before the market close after observing the net

purchase during the whole trading day. To gauge the extent of potential information contained in trading activities, we also calculate HPR_t , which is a hypothetical one day return where the portfolio is formed on the same day as the net purchase is made. Each column presents average one-day return for daily rebalanced quintile portfolios. The last column presents the returns from a hedged portfolio where proceeds from short selling the lowest quintile stocks are assumed to be invested in highest quintile stocks (i.e. highest net buy stocks).

The results from the last two rows of Table 3 indicate that hedged portfolio based on local individual investors' trading activity yields significant negative returns. Selling those that are sold by individuals and buying those that are bought by individuals yields a daily return of negative 29 basis points. While highest quintile portfolios does not generate statistically significant returns, the lower quintiles provides statistically significant positive returns. These results suggest that individuals sell sub-optimally before (further) run-ups in prices, which is largely consistent with disposition effect.

On the other hand, portfolios based on net buys of local institutions or foreign investors generate significantly positive hedged returns. For example, hedged returns based on both local institutions and 'other' foreign country accounts that are neither from tax haven nor U.K. amount up to 14 basis points per day.

Once we focus on returns based on trades from tax havens excluding U.K., the magnitude is much larger than those based on non-tax haven accounts. For example, hedged return based on tax haven net buys is 25 basis points per day, 75% larger than those based on non-tax havens. The source of the profit is mostly from the long position rather than short position. That is, tax haven accounts are better at predicting good news rather than bad news. If we relax the restriction of next-day portfolio formation and allow the portfolio to be formed on the day of the net buy rankings as reported in the third and

fourth row of Table 3, the return is much higher. Under this stronger assumption, even the sell trade contains significant negative information, and the hedged return amounts up to 1% per day. Portfolio returns based on net buys of tax haven accounts including U.K. yield similar, yet stronger results.

The results so far suggest that there may be some heterogeneity with respect to the quality and quantity of information contained in trades from different countries. While the predictability of non-tax haven foreign accounts is largely similar to those from local institutions, those from tax havens exhibit significantly higher predictability.

Since this trading strategy involves daily rebalancing, hedged return of 24.5 basis points per day (5.39% per month) may be substantially reduced once appropriate trading costs are taken into account. We provide an estimate of the economic magnitude after explicitly considering the transaction costs as follows. Explicit round-trip transaction costs including brokerage commission and securities transaction tax is 0.33% in Korea on average.¹⁰ Implicit transaction costs reflected in percentage bid-ask spread is about 0.97% on average.¹¹ This implies that total round-trip transaction cost is roughly 1.30%. Assuming 10% of hedged portfolio stocks are replaced each day, transaction cost amounts up to 2.86% per month.¹² Subtracting this from the raw monthly return, we obtain 2.53% monthly hedged return after transaction cost, which still remains economically significant.

One potential reason behind the superior performance may be inadequate adjustment for various risks. To address this issue, we report two types of alphas in Table 4. One is based on market model, and the other is based on Fama and French (1993) three factors. The alphas are obtained by regressing daily portfolio returns on daily factor returns. The

¹⁰ Round-trip brokerage commission, 0.03% is based on typical home trading system (HTS). A 0.3% securities transaction tax is charged whenever there is a sale.

¹¹ This value is based on average annual spreads after 2006 reported by Korea Exchange (KRX).

¹² We assume that there are 22 trading days in a month. In each of the Low and High portfolio, about 70 stocks are included per day and total number of stocks included in the portfolio during the sample period is roughly 700.

results from Table 4 indicate that reported alphas, both market-model-adjusted and 3 factors-adjusted, are almost identical to the raw portfolio returns reported in Table 3. These results suggest that observed superior performance of tax haven accounts holds even after appropriately controlling for risk.

Another possibility is that return predictability of tax haven accounts is not really persistent, but only short-lived. To check for this possibility, we extend the holding period of each of our portfolios using the overlapping holding period methodology of Jegadeesh and Titman (1993). We also calculate hedged returns up to 5 days after the formation date, the results of which are reported in Figure 2. The returns for the first event day, denoted as $t+1$, replicates those reported in the last column of Table 3.

Once we extend the holding period beyond one day, however, we observe some interesting patterns. Specifically, the return predictability of trades from tax havens, both including and excluding U.K., are quite persistent up to 5 days after the portfolio formation date. In strict contrast, those from the other investor categories, namely other foreign investors, local institutions, and local individuals, are substantially short-lived. In fact, hedged portfolio return reverses its signs within 5 days for the remaining three investor categories. These findings suggest that information contained in trading from tax haven is not transitory but persistent.

4.2. Cross-Sectional Differences in Predictability.

In this subsection, we examine whether there is any difference in hedged portfolio returns that varies with cross-sectional characteristics of the constituent stocks. Previous literature suggests that return predictability may be more conspicuous in stocks with certain characteristics. For example, both Diether, Lee, and Warner (2009) and Boehmer,

Jones, and Zhang (2008) document that return predictability of short sellers is stronger among small stocks than among large stocks.

We consider three stock-level dimensions; size, governance, and foreign ownership. Each of these variables are broad proxies for the degree of information asymmetry or transparency. We measure size by market capitalization during the year. Firm-level corporate governance index is obtained from the Korea Corporate Governance Service (KCGS), a non-profit organization under Korea Exchange, which provides information for all listed Korean companies at annual frequency.¹³

We first categorize all stocks in our sample into two disjoint groups based on above three dimensions; small vs. large, low governance vs. high governance, and low foreign ownership vs. high foreign ownership. Then, for each group of stocks, we repeat the procedure in Table 4. Specifically, we sort all stocks in each group according to aggregated net purchases from tax havens scaled by the total dollar trading volume, and assign them into quintiles.

Table 5 reports the results of this double-sort analysis. Panels A, B, and C report results based on size, governance, and foreign ownership, respectively. The results indicate that the hedged returns from mimicking trading patterns of accounts from tax havens is much higher when portfolios are composed of small stocks or stocks that exhibit low governance or low foreign ownership. For example, one day hedged return for small stocks traded by tax haven accounts amounts up to more than 35 basis points per day, which is three times as large as those for large stocks. Similar differences are observed between portfolios composed of low versus high governance stocks and low versus high foreign ownership stocks.

¹³ As of 2006, they had a total of 130 assessment items with a total score of 300 points. 60% of items are evaluated by various disclosures while the remaining 40% are filled in through questionnaires. Byun, Kwak, and Hwang (2008) and Byun, Lee, and Park (2012) provide a detailed description of the index.

In Table 6, we run a panel regression where the dependent variable is the firm-level daily return and the main independent variable is the net purchase information from tax havens, denoted as TaxHaven_{t-1} . This analysis allows us to control for other potential stock characteristics that may affect returns other than net buys from tax havens.

The results, reported in columns (1) and (2) of Table 6, indicate that net purchases from tax havens are indeed informative for future returns even after controlling for previous day's return, previous day's volatility measured by absolute return, size, and book to market. Since standard deviation of TaxHaven_{t-1} is 8.97%, a one standard deviation increase in tax haven net buys implies a 4.1 basis points increase in daily return. The economic magnitude may seem a bit small, but this precisely reflects the fact that tax haven account holders rarely trade, so that the value of TaxHaven_{t-1} is zero for most trading days.

The results from columns (3) to (5) indicate that net purchases for small firms and firms with weak governance explain the next day's return significantly more than those for large firms and firms with better governance. This suggests that net purchases are more informative in small stocks and low governance stocks even after controlling for other stock characteristics.

Overall, the results from this subsection suggest that information contained in trades from tax haven is more pronounced in stocks with potentially more information asymmetry or less transparency. One possible interpretation is that these stocks are more difficult to value so that stock picking ability, if it exists at all, is more effective among these stocks. Although this explanation seems plausible, it is difficult to reconcile with the fact that genuine foreign investors in general prefer large cap, well-known, blue-chip stocks, e.g. Samsung Electronics (Kang and Stulz, 1997). A more plausible explanation

may be that insiders of these relatively murkier firms may engage in round-trip transactions through accounts set up in tax havens.

4.3. Local Tax Rates and Net Capital Flows

As suggested by Hanlon et al. (2015) a direct motivation behind 'round-trip' investment may be to simply avoid or reduce taxes. They examine how capital inflow into U.S. changes when U.S. tax rate changes and find that inflows increase when local tax rates go up. The intuition is that incentives to engage in round tripping to reduces taxes would be greater when local tax rates are higher. Similar to their approach, we also examine the relationship between Korean tax rates and net capital inflow into Korea over time to gauge the importance of tax-driven motivations in our sample.

Figure 3 provides time-series plot of capital flows from tax havens into Korea over time. Maximum bracket rates for corporate taxes and personal income taxes are also provided. Although there is only one variation in personal tax rates, there were several points in time where corporate tax rate changed. From 2009 to 2011, there was a reduction in corporate tax rates. During the same period, however, net purchases from tax havens actually increased rather than decreased.

We further verify this negative relationship between local tax rates and capital inflows in Table 7. Specifically, we run time-series regressions where the dependent variable is the monthly net capital inflow from tax havens defined as the inflow minus outflow scaled by inflow plus outflow. The main explanatory variable is the maximum bracket corporate tax rate and control variables are market index return, market volatility, and aggregate trading volume. The coefficient estimates from Table 7 confirm that local tax rates are rather negatively correlated, if any, with net capital inflow from tax havens than positively correlated. These results suggests that incentives to reduce or avoid taxes

may not be the primary motivation behind trading through tax havens at least in our sample.

4.4. Portfolio Returns based on Tax Haven Accounts: Concentrated vs. Diversified Trading

There are two potential reasons that could explain the superior performance of tax haven accounts (Berkman, Koch, and Westerholm (2014)). One is that investors based in tax haven are more sophisticated in terms of stock picking abilities. Since one of the most important motivations for setting up accounts in tax haven is to reduce taxes, which is typically a concern for high net-worth investors, they may possess better overall ability in picking stocks. On the other hand, some investors investing through tax haven may trade on illegal insider information. Since a key characteristic of tax haven accounts is guaranteed secrecy, local regulators cannot effectively identify who the ultimate holder is. Thus, for any trader who has access to material non-public information, it is in their interest to camouflage their identity through tax haven accounts and trade based on insider information.

There are potentially two types of insiders. One is the controlling shareholders, their family members, or other executives, who are actually running the company. Since these individuals have access to important good or bad news prior to their release, they may well trade based on these information. Another potential insider category is large outside shareholders. Although regulation Fair Disclosure (FD) is also in place in Korea, there is still a controversy as to whether certain investors, potentially large institutions or foreign investors, are favorably treated and provided with early tipping of certain information.

To further explore these possible explanations, we utilize the account-level information from tax havens. We first make use of the number of stocks that each account

trades during the sample period. Our approach is based on the idea that it is more likely that insiders would have information about one firm, rather than multiple firms simultaneously. Specifically, we first classify tax haven accounts into those that traded only a single stock, those that traded between two and 10 stocks, and those that traded at least 11 stocks. Figure 4 presents the detailed distribution of number of stocks traded by each tax haven account. We first note that the mode of distribution is one. That is, the largest number of accounts trade only one stock during the whole sample period. According to Panel B in Figure 3, the proportion of accounts that only trade one stock amounts up to 30%. We conjecture that those that trade only one stock is possibly owned by some insider who has access to firm-specific private non-public information. We further break down these accounts into those that traded top 20 cap stocks and non-top 20 cap stocks, where the latter is subject to more information asymmetry or less transparency.

Next, for a given account, we create an Herfindahl type index that measures concentration of trading volume in each stock it trades. The intuition behind this analysis is similar to the previous analysis based on number of stocks traded by each account. That is, even if an account trades multiple stocks, those that trade one stock more intensely over other stocks are more likely reflect insider information.

We sort all accounts into 5 groups based on this account-level Herfindahl measure of stock trading concentration. Accounts that trade only a single stock whose Herfindahl measure is 1 by construction are assigned to the highest quintile. As a result, the size of the highest two quintiles are uneven. The next three quintiles are evenly distributed with each quintile containing 3,549 accounts.

We then aggregate net buys across each account type, either based on number of stocks traded or Herfindahl index of stock trading concentration, sort portfolios based on these account-type-level net buys, and calculate daily rebalanced portfolio returns. The

results are reported in Table 8. Panel A presents results based on number of stocks traded per account while panel B presents those based on Herfindahl index of trading concentration.

The results from Panel A indicate that hedged portfolio returns are larger for those based on net buys of single-stock trading accounts than multiple-stock trading accounts. Specifically, daily hedged return is on average 52 basis points for one-stock account net buys while the corresponding numbers for multiple-stock accounts are only 21 to 22 basis points. Once we break down single-stock trading accounts to those that trade non-top 20 cap stocks and top 20 cap stocks, we find that return predictability is mostly driven by those accounts that trade non top 20 cap stocks. These results suggest that superior performance of tax haven accounts reported so far may reflect certain insider information.

Panel B presents portfolio returns for accounts assigned to quintiles based on Herfindahl index of trading concentration. The results are largely similar to those reported in Panel A. That is, accounts that are concentrated in trading exhibit higher return predictability than those that are relatively diversified in trading. Such superior performance may well reflect trading based on insider information.

4.5. Trading Activity Prior to Disclosure of Good News

In this subsection, we provide more direct piece of evidence consistent with insider trading by examining abnormal net purchases of each account type prior to disclosures of specific good information. We consider two sets of events; earnings disclosures with positive shocks and disclosures of monopoly supply contract establishments.

Positive earnings shocks are identified as follows. We first hand collect the earnings announcement dates of each firm from KIND (Korea Investorgs shocks are identified as follo provided by the KRX and DART(Data Analysis, Retrieval and Transfer System)

maintained by the Financial Supervisory Service. For annual announcements, we select the earliest date among disclosures of tentative earnings, changes in earnings structure (of more than 30%), audit report filings, AGM (annual general meeting) notifications, and actual AGM dates. For quarterly announcements date, we choose the earlier date between disclosures of tentative earnings and filings or quarterly (or semi-annual) reports. To remove any potential confounding events, we next filter out dates where another operation-related disclosure is made on the same day, or other types of earnings announcements are made within five days, or a Fair Disclosure is made within ten days. Finally, we require 3-day cumulative market-adjusted abnormal return (CAR) following the announcement to be at least 3% to proxy for substantial information. This procedure yields a sample of 2,469 announcement dates with positive earnings shocks.

We also obtain the disclosure dates for closing of monopoly supply contracts from DART. Similar to earnings announcements, we only keep the first announcement if there is another announcement within the next 5 trading days. We again restrict the events to those dates where 3-day CAR is at least 3%. This process results in 503 disclosures of monopoly supply contracts.

We define abnormal net purchase of tax haven accounts for stock i on day t following Kaniel, Saar, and Titman (2012) as

$$\text{Abnormal Net Purchase}_{i,t} = \text{Net Purchase}_{i,t} - \frac{1}{T_{\text{All Days In 2006.1.-2009.8.}}} \sum \text{Net Purchase}_{i,t} \quad (1)$$

where

$$\text{Net Purchase}_{i,t} = \frac{\text{Tax Haven Buy Dollar Volume}_{i,t} - \text{Tax Haven Sell Dollar Volume}_{i,t}}{\text{Average Daily Dollar Volume in the Calendar Year}_{i,t}} \quad (2)$$

In Table 9, we report the averages of abnormal net purchases of different types of tax haven accounts immediately prior to the disclosure. Panel A reports the results for positive earnings shocks while panel B reports those for monopoly supply contracts. We

report the results for all tax haven accounts as well as those that trade a single stock or stocks within the same business group, and the remaining accounts.

The results from Panels A and B of Table 9 first indicate that accounts that trade a single stock or stocks within the same business group only account for a very small portion, roughly 10% or less, of all tax haven accounts that trade immediately prior to the disclosure of potential good news. Nevertheless, these accounts engage in significantly active buying 4 to 6 days prior to the disclosure. For example, cumulative abnormal net buy from these accounts during the 6 days prior to the disclosure is 0.026 in Panel A and 0.029 in Panel B, respectively, both of which are statistically significant. In a strict contrast, we do not find any significant net buying activity from the remaining accounts prior to the disclosure in both Panels A and B.

In figure 5, we plot cumulative abnormal net purchases of tax haven accounts around the disclosures of the previous two types of potential good news. Panel A reports those for positive earnings shocks and Panel B presents those for monopoly supply contracts. Consistent with Table 9, we observe a conspicuous increase in net purchase leading up to the disclosure date for accounts that trade a single stock or stocks within the same business group. Moreover, we also observe that this trend reverses once the good news is made public. This reversal may well reflect insiders' efforts to lock-in a quick profit around disclosures of good news. In strict contrast, we do not observe such a pattern for other types of accounts, including those from U.K. Overall, the findings in Table 9 and Figure 5 strongly suggest that insiders may be actively utilizing non-public information and trade through tax haven accounts.

4.5. Potential Insiders vs. Potential Stock Pickers

In this subsection, we follow Berkman et al. (2014) and classify tax haven accounts into potential insiders and potential stock pickers. Specifically, we assign accounts who trade before more than one event type for a specific firm as potential insiders. These accounts do not necessarily trade a single stock. They can trade multiple stocks as long as they trade prior to multiple types of information events for a given stock. As in Table 9, we consider both positive earnings shocks and monopoly supply contracts. Potential stock pickers are defined as accounts that trade before a single event type for a specific given firm, but do so for two or more different firms. These accounts by definition trades multiple stocks. But for a given stock among these multiple stocks, there must be only one information event type prior to which trades are made. The intuition behind this classification is largely similar to the classification based on number of stocks traded. That is, insiders are more likely to possess information about multiple events for a given firm, while stock pickers are more likely to possess information across multiple firms with similar events.

We first identify these two subsets of tax haven accounts by investigating the trading activity of each account during 10 days before each information event. Next, we calculate the average signed $CAR(0,2)$ and frequency of correct traders for each subset around the event date. Signed $CAR(0,2)$ is defined as $CAR(0,2)$ multiplied by 1 if an account is net buyer of a stock during $t-10$ and $t-1$ or multiplied by -1 if an account is net seller. Frequency is the proportion of net buyer of a stock during $t-10$ and $t-1$. For both groups, we calculate the averages across all events and test the differences in group means.

Table 10 reports the performance of these two subsets of tax haven accounts before good news. The results for both types of events combined in Panel A indicate that average $CAR(0,2)$ of potential insiders is 1.10% and statistically significant while that of potential stock pickers is 0.003% and insignificant. The difference of 1.10% is also statistically

significant with a t-value of 3.95. The frequency of net buyers for potential insiders (54.62%) also exceeds that of potential stock pickers (50.62%) and the difference is statistically significant. This pattern strictly contrasts with those reported in Berkman et al. (2014) where potential stock pickers also exhibit similar results as potential insiders and as such there is no significant difference between the two groups.

Panels B and C present the results for positive earnings shocks and monopoly supply contracts, respectively. In both panels, potential insiders also outperform potential stock pickers. These results provide additional piece of evidence that insiders may be actively buying stocks before good news through tax haven accounts.

5. Conclusion

Tax havens are a subject of immense interest among regulators around the world. Despite such regulatory interests, systematic evidence on the implications of tax havens has been very scant precisely due to the lack of data. In this paper, we provide first piece of evidence that trades originating from tax havens contain significant information for future stock returns.

The superior performance of tax haven accounts may be due to either inherent stock picking ability or preferential access to certain private, potentially illegal, firm-specific information. We are especially interested in the latter possibility since it is very difficult to identify the ultimate beneficiary of accounts in tax havens, and as such they have incentives to utilize insider information.

Based on a unique proprietary dataset that includes all trades in KOSPI market, the main bourse in Korea, between January 2006 to August 2009 with buyer and seller identifiers and their country of origin, we document that hedged portfolio return based on net buys from tax havens amounts up to 25 basis points per day, which is statistically and

economically substantial. Cross-sectionally, such superior performance is more pronounced in small, low governance, or low foreign ownership stocks. More importantly, hedged returns are larger if net buys are constructed from accounts that only trade one stock with relatively smaller market cap. We also document that these accounts engage in active buying just prior to the disclosure of good news, namely positive earnings shocks and establishments of monopoly supply contracts.

Overall, the findings in this paper suggest that tax haven account holders may indeed be ‘black-haired’ foreign investors who camouflage themselves as genuine foreign investors and engage in ‘round-trip’ investments. Our paper is the first to suggest that exploitation of illegal insider information may be one important reason behind setting up paper companies in tax havens. An important policy implication is that tax havens are not just a way of reducing taxes on the existing *after-tax* income but may be actively utilized to increase *before-tax* income. Our findings also suggest that at least a part of informed trading by foreign investors documented in the previous literature may be driven by local insiders' round-trip investment through tax havens.

References

- Aitken, Michael J., Alex Frino, Michael S. McCorry, and Peter L. Swan, 1998, Short sales are almost instantaneously bad news: Evidence from the Australian Stock Exchange, *Journal of Finance* 53, 2205-2223.
- Asquith, Paul, and Lisa K. Meulbroek, 1995, An empirical investigation of short interest (Division of Research, Harvard Business School).
- Barber, B. M., and T. Odean, 2000, Trading is hazardous to your wealth: The common stock investment performance of individual investors, *Journal of Finance* 55, 773-806.
- Barclay, M.J., and J.B. Warner, 1993, Stealth trading and volatility, *Journal of Financial Economics* 34, 281-305.
- Berkman, Henk, Paul D. Koch, and P. Joakim Westerholm, 2014, Informed trading through the accounts of children, *Journal of Finance* 69, 363-404.
- Boehmer, E., C. M. Jones, and X. Y. Zhang, 2008, Which shorts are informed?, *Journal of Finance* 63, 491-527.
- Byun, H., J. Lee, and K. Park, 2012, How does product market competition interact with internal corporate governance?: Evidence from the Korean economy, *Asia-Pacific Journal of Financial Studies* 41, 377-423.
- Byun, H., S. Kwak, and L. Hwang, 2008, The implied cost of equity capital and corporate governance practices, *Asia-Pacific Journal of Financial Studies* 37, 139-184.
- Chakravarty, S., 2001, Stealth-trading: Which traders' trades move stock prices?, *Journal of Financial Economics* 61, 289-307.
- Choe, Hyuk, Bong-Chan Kho, and Rene M. Stulz, 2005, Do domestic investors have an edge? The trading experience of foreign investors in Korea, *Review of Financial Studies* 18, 795-829.
- Cohen, Lauren, Andrea Frazzini, and Christopher Malloy, 2008, The small world of investing: Board connections and mutual fund returns, *Journal of Political Economy* 116, 951-979.
- Cohen, Lauren, Andrea Frazzini, and Christopher Malloy, 2010, Sell-side school ties, *Journal of Finance* 65, 1409-1437.
- Cohen, Lauren, Christopher Malloy, and Lukasz Pomorski, 2012, Decoding inside information, *Journal of Finance* 67, 1009-1043.

- Desai, Hemang, K. Ramesh, S. Ramu Thiagarajan, and Bala V. Balachandran, 2002, An investigation of the informational role of short interest in the Nasdaq market, *Journal of Finance* 57, 2263-2287.
- Dharmapala, Dhammika, 2009, What problems and opportunities are created by tax havens?, *Oxford Review of Economic Policy* 24, 661-679.
- Diether, Karl B., Kuan-Hui Lee, and Ingrid M. Werner, 2009, Short-sale strategies and return predictability, *Review of Financial Studies* 22, 575-607.
- Dvorak, Tomas, 2005, Do domestic investors have an information advantage? Evidence from Indonesia, *Journal of Finance* 60, 817-839.
- Fama, Eugene F., and Kenneth R. French, 1993, Common risk-factors in the returns on stocks and bonds, *Journal of Financial Economics* 33, 3-56.
- Grammig, J., Schiereck, D., and E. Theissen, 2001, Knowing me, knowing you: Trader anonymity and informed trading in parallel markets, *Journal of Financial Markets* 4, 385-412.
- Grinblatt, Mark, and Matti Keloharju, 2000, The investment behavior and performance of various investor types: a study of Finland's unique data set, *Journal of Financial Economics* 55, 43-67.
- Grinblatt, Mark, Matti Keloharju, and Juhani Linnainma, 2011, IQ and stock market participation, *Journal of Finance* 66, 2121-2164.
- Grinblatt, Mark, Matti Keloharju, and Juhani Linnainma, 2012, IQ, trading behavior, and performance, *Journal of Financial Economics* 104, 339-362
- Hanlon, Michelle, Edward L. Maydew, and Jacob R. Thornock, 2015, Taking the long way home: U.S. tax evasion and offshore investments in U.S. equity and debt markets, *Journal of Finance* 70, 257-287.
- Hines, Jr., James R., and Eric M. Rice, 1994, Fiscal paradise: Foreign tax havens and American business, *Quarterly Journal of Economics* 109, 149-182.
- Ivkovic, Zoran, and Scott Weisbenner, 2005, Local does as local is: Information content of the geography of individual investors' common stock investments, *Journal of Finance* 60, 267-306.
- Jegadeesh, N., and S. Titman, 1993, Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency, *Journal of Finance* 48, 65-91.
- Kang, Hyoung Goo, Kim, Y. Han (Andy) and Lee, Jong Kyu, 2014, Can big data predict the behavior of North Korea?, Working paper. Available at SSRN: <http://ssrn.com/abstract=2490693> .

- Kang, J.-K., and Stulz, R. M., 1997, Why is there a home bias? An analysis of foreign portfolio equity ownership in Japan, *Journal of Financial Economics* 46, 3-28.
- Kaniel, Ron, Shuming Liu, Gideon Saar, and Sheridan Titman, 2012, Individual investor trading and return patterns around earnings announcements, *Journal of Finance* 67, 639-680.
- Kim, Y. Han (Andy) and Jung, Hosung, 2014, Investor trading behavior around the time of geopolitical risk events: Evidence from South Korea, Working paper. Available at SSRN: <http://ssrn.com/abstract=2490699> .
- Lakonishok, Josef, and Inmoo Lee, 2001, Are insider trades informative?, *Review of Financial Studies* 14, 79-111.
- Mironov, Maxim, 2013, Taxes, theft, and firm performance, *Journal of Finance* 68, 1441-1472.
- OECD, 1998, "Harmful tax competition: An emerging global issue".
- Stulz, Rene M., 2007, Hedge funds: Past, present, and future, *Journal of Economic Perspectives* 21, 175-194.
- Yang, Cheol-Won, 2014, The return predictability of foreign investors' trading from tax havens in the Korean KOSPI market(In Korean), Working paper, The Korean Security Association.

Appendix 1. List of Tax Havens

The following is the list of tax havens as identified in Hanlon et al. (2015). It is based on Dharmapala (2009) who define a country as a tax haven if it was listed on the 1998 OECD report on tax havens or if it was included in the list provided by Hines and Rice (1994).

Andorra
 Anguilla
 Antigua and Barbuda
 Aruba
 Bahamas
 Bahrain
 Barbados
 Belize
 Bermuda
 British Virgin Islands
 Cayman Islands

Cook Islands
Cyprus
Dominica
Gibraltar
Grenada
Guernsey
Hong Kong
Ireland
Isle of Man
Jersey
Jordan
Lebanon
Liberia
Liechtenstein
Luxembourg
Macao
Maldives
Malta
Marshall Islands
Mauritius
Monaco
Montserrat
Nauru
Netherlands Antilles
Niue
Panama
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and the Grenadines
Samoa
San Marino
Seychelles
Singapore
Switzerland
Tonga
Turks and Caicos Islands
Vanuatu
Virgin Islands (US)

Table 1
Summary of Trading Activity by Investor Class

This table reports the summary of trading activities of each account in our dataset. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009. Each account is classified into four types based on the identity of the account holder; local individuals, local institutions, foreign investors, and Korean citizens with overseas permanent residency.

Investor Class	Number of Accounts		Average number of stocks traded per account	Trading Volume				
				Aggregate (KRW trillion)			Per Account (KRW million)	
				Buy	Sell	Total (%)	Buy	Sell
Local individuals	6,225,337	97.3	12.8	2,423.7	2,421.7	53.62	389.3	389.0
Local institutions	101,989	1.6	30.2	1,078.1	1,032.1	23.35	10,570.3	10,119.2
Foreigners	64,761	1.0	9.0	1,013.4	1,061.5	22.96	15,649.0	16,390.4
Overseas Permanent Residents	9,008	0.1	13.1	3.4	3.3	0.07	376.1	363.1
Total	6,401,095	100.0	13.1	4,519	4,518	100.00	705.9	705.9

Table 2

Distribution of Trading Activity at the Account-Level: Tax Haven Accounts vs. Others

This table reports the distribution of trading activities at the account level. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009. Panels A, B, C, D, and E presents those from tax havens, U.K., the remainder of foreign countries, those of local institutions and local individuals, respectively.

Panel A : Accounts from Tax Havens (17,745 accounts)

	Mean	Std. Dev.	Q1	Median	Q3
Number of stocks traded	9.7	19.5	1	3	10
Number of trading days	15.8	42.6	1	4	12
Trading Volume (KRW mil)	29,160	521,254	356	1,812	9,053
Net Buy (KRW mil)	-926	34,439	-1,048	-25	634

Panel B : Accounts from U.K. (6,429 accounts)

	Mean	Std. Dev.	Q1	Median	Q3
Number of stocks traded	11.1	31.6	1	3	9
Number of trading days	14.6	50.6	1	3	10
Trading Volume (KRW mil)	81,018	1,301,039	378	1,858	8,326
Net Buy (KRW mil)	-1,894	50,909	-1,287	-56	522

Panel C : Accounts from Other Foreign Countries (40,587 accounts)

	Mean	Std. Dev.	Q1	Median	Q3
Number of stocks traded	8.3	18.2	1	3	8
Number of trading days	13.9	38.6	1	3	11
Trading Volume (KRW mil)	25,540	480,513	159	852	4,547
Net Buy (KRW mil)	-478	40,465	-542	-4	300

Panel D : Accounts of Local Institutions (101,989 accounts)

	Mean	Std. Dev.	Q1	Median	Q3
Number of stocks traded	30.2	47.3	5	9	32
Number of trading days	48.5	76.9	5	22	57
Trading Volume (KRW mil)	20,690	312,044	42	183	3,746
Net Buy (KRW mil)	451	70,694	-35	-2	21

Panel E : Accounts of Local Individuals (randomly selected 62,253 accounts: 1% of total)

	Mean	Std. Dev.	Q1	Median	Q3
Number of stocks traded	13.0	22.4	2	5	15
Number of trading days	38.9	72.6	3	12	41
Trading Volume (KRW mil)	768	5,048	8	51	296
Net Buy (KRW mil)	2	369	-2	0	6

Table 3

Portfolio Returns Sorted by Net Purchase: Tax Haven Accounts vs. Others

This table reports portfolio returns (in percentages) based on net purchases. For each trading day, we sort all stocks according to aggregated net purchases of each investor class scaled by the total dollar trading volume of the stock during the same day and group them into quintiles. We consider five investor classes; those from tax haven, U.K., other foreign countries, those of local institutions and local individuals. HPR_{t+1} represents one day return where the portfolio is formed just before the market close after observing the net purchase during the whole trading day. HPR_t represents a hypothetical one day return where the portfolio is formed before observing the net purchase. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009.

		Low	Q2	Q3	Q4	High	High-Low
Tax Haven (excluding U.K.)	HPR_{t+1}	-0.040	-0.045	0.073	0.169	0.205	0.245
	t-stat	-0.701	-0.674	1.057	2.458	3.388	12.612
	HPR_t	-0.391	-0.162	0.097	0.481	0.574	0.966
	t-stat	-7.075	-2.436	1.339	6.760	9.578	45.069
Tax Haven (including U.K.)	HPR_{t+1}	-0.081	-0.148	0.032	0.225	0.277	0.358
	t-stat	-1.434	-2.289	0.477	3.211	4.542	18.813
Other Foreign Countries	HPR_{t+1}	0.027	0.025	0.040	0.113	0.166	0.140
	t-stat	0.462	0.358	0.548	1.642	3.044	6.529
Local Institutions	HPR_{t+1}	0.020	-0.031	0.023	0.153	0.161	0.141
	t-stat	0.337	-0.486	0.348	2.558	3.548	5.940
Local Individuals	HPR_{t+1}	0.223	0.219	0.060	-0.112	-0.065	-0.288
	t-stat	4.666	3.548	1.126	-1.775	-1.081	-13.078

Table 4

Risk-Adjusted Portfolio Returns Sorted by Net Purchase: Tax Haven Accounts vs. Others

This table reports risk-adjusted portfolio returns (in percentages) based on net purchases. For each trading day, we sort all stocks according to aggregated net purchases of each investor class scaled by the total dollar trading volume of the stock during the same day and group them into quintiles. We consider five investor classes; those from tax haven, U.K., other foreign countries, those of local institutions and local individuals. We report two risk-adjusted return measures; alphas from daily market model regressions, and alphas from Fama-French 3 factor model. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009.

			Low	Q2	Q3	Q4	High	High-Low
Tax Haven (excluding U.K.)	Alpha _{CAPM}	coef.	-0.058	-0.065	0.052	0.148	0.186	0.243
		t-stat	-2.740	-2.272	1.572	4.578	8.273	12.784
	Alpha _{3factor}	coef.	-0.064	-0.069	0.050	0.147	0.183	0.247
		t-stat	-4.018	-3.482	2.316	6.204	10.408	12.962
Tax Haven (including U.K.)	Alpha _{CAPM}	coef.	-0.099	-0.168	0.012	0.203	0.257	0.356
		t-stat	-4.594	-5.595	0.348	6.115	11.033	19.182
	Alpha _{3factor}	coef.	-0.108	-0.174	0.005	0.199	0.253	0.360
		t-stat	-7.551	-9.631	0.226	9.698	14.943	19.363
Other Foreign Countries	Alpha _{CAPM}	coef.	0.091	0.035	0.086	0.130	0.053	0.141
		t-stat	4.821	1.344	3.042	5.026	2.687	6.659
	Alpha _{3factor}	coef.	-0.002	-0.002	0.019	0.089	0.146	0.147
		t-stat	-0.104	-0.083	0.712	4.058	8.300	7.004
Local Institutions	Alpha _{CAPM}	coef.	0.001	-0.051	0.004	0.134	0.147	0.146
		t-stat	0.058	-1.710	0.106	5.420	7.239	7.052
	Alpha _{3factor}	coef.	-0.007	-0.058	-0.002	0.125	0.133	0.140
		t-stat	-0.386	-3.270	-0.078	7.763	9.010	6.952
Local Individuals	Alpha _{CAPM}	coef.	0.208	0.200	0.045	-0.131	-0.084	-0.292
		t-stat	10.287	7.116	1.418	-4.122	-3.181	-15.277
	Alpha _{3factor}	coef.	0.196	0.196	0.031	-0.140	-0.094	-0.290
		t-stat	13.704	11.876	1.967	-8.077	-6.086	-16.396

Table 5

Portfolio Returns Sorted by Net Purchase from Tax Haven Accounts: Cross-Sectional Analysis

This table reports portfolio returns (in percentages) based on net purchases from tax haven accounts. We categorize all stocks into two disjoint groups based on the following three different dimensions; size measured by market capitalization, governance proxied by firm-year level index provided by Korea Corporate Governance Service, and foreign ownership. Panels A, B, and C report results based on size, governance, and foreign ownership, respectively. For each trading day, we sort all stocks in each group – small vs. large, low governance vs. high governance, and low foreign ownership vs. high foreign ownership, according to aggregated net purchases from tax havens scaled by the total dollar trading volume of the stock during the same day and group them into quintiles. HPR_{t+1} represents one day return where the portfolio is formed just before the market close after observing the net purchase during the whole trading day. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009.

Panel A: Small vs. Large Stocks

		Low	Q2	Q3	Q4	High	High-Low
Small	HPR_{t+1}	-0.112	-0.106	0.059	0.155	0.240	0.352
	t-stat	-1.923	-1.525	0.825	2.227	3.657	12.009
Large	HPR_{t+1}	0.013	0.033	0.114	0.187	0.130	0.117
	t-stat	0.231	0.487	1.582	2.693	2.132	4.811

Panel B: Low Governance vs. High Governance Stocks

		Low	Q2	Q3	Q4	High	High-Low
Low Governance	HPR_{t+1}	-0.079	-0.079	0.047	0.173	0.258	0.337
	t-stat	-1.393	-1.143	0.664	2.492	4.089	12.172
High Governance	HPR_{t+1}	-0.001	-0.005	0.109	0.157	0.134	0.136
	t-stat	-0.023	-0.076	1.507	2.237	2.169	5.614

Panel C: Low Foreign Ownership vs. High Foreign Ownership Stocks

		Low	Q2	Q3	Q4	High	High-Low
Low	HPR_{t+1}	-0.069	-0.066	0.097	0.173	0.252	0.322
	t-stat	-1.068	-0.905	1.291	2.321	3.646	11.344
High	HPR_{t+1}	-0.040	0.004	0.059	0.148	0.165	0.205
	t-stat	-0.736	0.072	0.902	2.332	2.851	8.347

Table 6
Panel Regression Analysis

This table presents panel regression results where the dependent variables are daily returns of firms that have ever been traded by a tax haven account during the sample period. TaxHaven_{t-1} is the aggregated net purchases from tax havens a day before scaled by the total dollar trading volume of the stock on that day. We create three dummy variables based on size, governance, and foreign ownership, which are interacted with TaxHaven_{t-1}. Dummy(Small Size) equals one if market capitalization is below the sample median during a given year. Dummy(Low Governance) equals one if the governance index compiled by Korea Corporate Governance Service is below the sample median during a given year. Dummy(Low Foreign Ownership) equals one if the foreign ownership is below the sample median during a given year. Return_{t-1} is the previous day's return, and Vol_{t-1} is the previous day's absolute return. The table reports the coefficient of each dependent variable and its t-statistics below the coefficient. All specifications include stock fixed effects and day fixed effects. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009.

	(1)	(2)	(3)	(4)	(5)
TaxHaven _{t-1}	0.0046	0.0039	0.0034	0.0031	0.0038
	9.35	8.27	6.4	5.42	7.71
TaxHaven _{t-1} *Dummy(Small Size)			0.0023		
			2.01		
TaxHaven _{t-1} *Dummy(Low Governance)				0.0025	
				2.56	
TaxHaven _{t-1} *Dummy(Low Foreign Ownership)					0.0018
					1.02
Return _{t-1}		0.0331	0.0331	0.0321	0.0320
		24.87	24.87	24.1	24.03
Vol _{t-1}		0.0330	0.0330	0.0330	0.0328
		18.85	18.85	18.79	18.7
Log(Size)		0.2570	0.2568	0.2650	0.2642
		18.91	18.9	18.77	18.69
Book to Market		0.0135	0.0136	0.0195	0.0196
		2.47	2.49	3.17	3.18
Stock-fixed effects	Yes	Yes	Yes	Yes	Yes
Day-fixed effects	Yes	Yes	Yes	Yes	Yes
N (stocks)			736		
N (trading days)			908		
R ²	0.1967	0.2161	0.2161	0.2167	0.2169

Table 7
Local Tax Rates and Net Capital Flows

This table reports time-series regression results where the dependent variable is the monthly net capital inflow from tax havens. Net capital inflow is defined as inflow minus outflow scaled by inflow plus outflow. The main explanatory variable is the statutory Korean corporate tax rate for the highest bracket as reported in figure 3. We also include the following control variables; monthly KOSPI index return, monthly KOSPI index volatility defined as the absolute value of the monthly return, and log of KOSPI aggregate trading volume (in number of traded shares).

Dependent Variable: Net Capital Inflow from Tax Haven	(1)	(2)	(3)	(4)
Local Corporate Tax Rate (Max)	-0.1855 -1.87	-0.1565 -1.83	-0.1428 -1.67	-0.1074 -1.23
Market Index Return		0.1780 6.19	0.1741 6.07	0.1647 5.68
Market Volatility			-0.0657 -1.55	-0.0910 -2.03
Aggregate Trading Volume				0.9504 1.68
Intercept	4.5740 1.84	3.7647 1.75	3.6917 1.73	-12.1055 -1.26
N	108	108	108	108
R2	0.023	0.277	0.287	0.299

Table 8
Portfolio Returns by Account Types from Tax Havens:

This table reports portfolio returns (in percentages) based on net purchases of specific tax haven accounts. For each trading day, we sort all stocks according to aggregated net purchases of each account types within tax haven scaled by the total dollar trading volume of the stock during the same day and group them into quintiles. In panel A, we classify tax haven accounts into those that traded only one stock, those that traded between two and 10 stocks, and those that traded at least 11 stocks. In panel B, we sort all tax haven accounts based on Herfindahl index of trading volume for each stock traded by a given account during the sample period and group them into quintiles. HPR_{t+1} represents one day return where the portfolio is formed just before the market close after observing the net purchase during the whole trading day. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009.

Panel A: 1 Accounts sorted by Number of Stocks Traded

			Low	Q2	Q3	Q4	High	High-Low
accounts trading	All	HPR_{t+1}	-0.104	0.054	0.151	0.300	0.416	0.520
only 1 stock		t-stat	-0.912	0.531	1.585	2.752	3.988	3.807
(5,273 accounts)								
	Non-top 20	HPR_{t+1}	-0.315	0.065	0.048	0.137	0.322	0.627
cap stocks		t-stat	-1.901	0.419	0.266	0.717	1.998	3.004
(2,972 accounts)								
	Top 20	HPR_{t+1}	0.067	0.231	-0.071	0.076	0.232	0.165
cap stocks		t-stat	0.314	0.900	-0.297	0.247	0.979	0.572
(2,321 accounts)								
accounts trading		HPR_{t+1}	-0.005	-0.021	0.065	0.194	0.205	0.210
$2 \leq \text{stocks} \leq 10$		t-stat	-0.092	-0.327	0.970	2.832	3.116	4.181
(5,828 accounts)								
accounts trading		HPR_{t+1}	-0.033	-0.031	0.075	0.161	0.187	0.220
≥ 11 stocks		t-stat	-0.577	-0.473	1.086	2.335	3.095	11.255
(4,150 accounts)								

Panel B. Accounts sorted by Herfindahl Index of Stock Trading Volume

			Low	Q2	Q3	Q4	High	High-Low
Q5 (High Concentration)		HPR_{t+1}	-0.104	0.054	0.151	0.300	0.416	0.520
(5,273 accounts)		t-stat	-0.912	0.531	1.585	2.752	3.988	3.807
Q4		HPR_{t+1}	-0.069	-0.125	0.053	0.149	0.255	0.325
(1,825 accounts)		t-stat	-0.746	-1.427	0.633	1.639	2.390	2.568
Q3		HPR_{t+1}	0.041	0.026	0.009	0.194	0.275	0.234
(3,549 accounts)		t-stat	0.559	0.379	0.121	2.585	3.573	3.163
Q2		HPR_{t+1}	0.057	0.076	0.051	0.092	0.213	0.156
(3,549 accounts)		t-stat	0.968	1.196	0.720	1.313	3.178	3.159
Q1 (Low Concentration)		HPR_{t+1}	-0.030	-0.028	0.066	0.164	0.175	0.205
(3,549 accounts)		t-stat	-0.519	-0.424	0.958	2.410	2.898	10.673

Table 9**Abnormal Net Purchases before Good News: Insider Information vs. Stock Picking**

This table reports averages of abnormal net purchases of specific tax haven accounts immediately prior to disclosures of potential good news. Abnormal net purchases are obtained by scaling the dollar amount net purchase by average dollar amount daily trading volume in that calendar year following Kaniel, Saar, and Titman (2012). ‘N’ is number of events that abnormal net purchases of each type exist. Panel A reports the results for positive earnings shocks while panel B presents those for monopoly supply contracts. Those which trade only one stock or multiple stocks that belong to the same business group are classified as potential insider accounts. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009.

Panel A: Positive Earnings Shocks

Event day	Total Tax Haven Accounts			Accounts trading 1 stock or multiple stocks in the same business group			Remaining Accounts		
	N	mean	t-value	N	mean	t-value	N	mean	t-value
-12	631	0.002	0.344	20	-0.010	-1.222	630	0.002	0.433
-11	612	-0.012	-1.089	23	-0.009	-1.007	611	-0.012	-1.048
-10	622	0.011	1.000	23	0.010	2.569	622	0.011	0.992
-9	636	0.001	0.123	13	0.008	1.107	636	0.001	0.121
-8	627	-0.001	-0.203	18	-0.007	-0.528	626	-0.001	-0.124
-7	645	-0.013	-1.424	17	0.007	1.510	645	-0.013	-1.420
-6	632	0.003	0.503	18	0.002	0.500	632	0.003	0.523
-5	635	-0.006	-1.114	15	0.000	-0.020	635	-0.006	-1.085
-4	649	0.007	0.580	22	0.039	2.478	649	0.006	0.485
-3	662	-0.012	-1.440	21	0.009	1.185	662	-0.012	-1.453
-2	651	-0.002	-0.193	19	0.037	0.993	649	-0.002	-0.307
-1	642	0.006	0.891	21	0.007	2.021	641	0.006	0.878
(-12,-1)	747	-0.014	-0.450	105	0.018	1.858	746	-0.015	-0.471
(-12,-7)	720	-0.011	-0.504	62	-0.001	-0.113	719	-0.010	-0.456
(-6,-1)	734	-0.003	-0.169	74	0.026	2.345	734	-0.005	-0.254

Panel B: Monopoly Supply Contract

Event day	Total Tax Haven Accounts			Accounts trading 1 stock or multiple stocks in the same business group			Remaining Accounts		
	N	mean	t-value	N	mean	t-value	N	mean	t-value
-12	360	0.003	0.611	11	0.011	0.732	356	0.001	0.189
-11	356	-0.012	-0.402	8	-1.169	-1.054	353	0.025	1.484
-10	369	0.002	0.454	4	-0.058	-0.801	364	-0.001	-0.126
-9	368	-0.005	-0.671	9	0.006	0.853	363	0.005	0.321
-8	367	-0.014	-2.319	11	-0.014	-1.047	363	-0.008	-1.548
-7	383	-0.006	-0.949	13	0.017	0.513	377	-0.005	-0.859
-6	377	-0.011	-0.962	15	0.012	2.775	372	0.005	0.231
-5	376	-0.010	-1.123	6	0.012	3.695	367	-0.007	-0.868
-4	364	-0.024	-1.720	5	0.010	3.336	356	-0.026	-1.896
-3	373	-0.019	-2.853	6	0.015	1.579	367	-0.010	-1.903
-2	366	0.022	0.755	12	0.026	1.543	358	-0.003	-0.539
-1	376	0.003	0.515	8	0.038	1.007	372	0.015	1.207
(-12,-1)	434	-0.059	-1.192	64	-0.130	-0.929	429	-0.009	-0.251
(-12,-7)	419	-0.027	-0.976	40	-0.234	-1.045	414	0.013	0.677
(-6,-1)	418	-0.034	-1.015	35	0.029	2.006	413	-0.022	-0.778

Table 10

Performance for Two Subsets of Tax Haven Accounts before Good News:
Insider Information vs. Stock Picking

This table reports performance for two subsets of tax haven accounts prior to disclosures of good news; potential insider and stock picker. Accounts that trade before multiple events for specific firm is assigned as potential insider. Accounts that trade before a single event for a specific firm, but do so for multiple firms are classified as potential stock pickers. For each event, we calculate the average signed CAR(0,2) and frequency of correct traders for each subset. Signed CAR(0,2) is defined as CAR(0,2) multiplied by 1 if an account is net buyer of a stock during t-10 and t-1 or multiplied by -1 if an account is net seller. Frequency is the proportion of net buyer of a stock during t-10 and t-1. For both groups, we calculate the averages across all events and test the differences in group means. Panel A reports the results for all events while panel B and C presents those for positive earnings shocks and monopoly supply contracts respectively. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009.

Panel A. Performance for Two Subset of Tax Haven Accounts before All Events

	(1) Potential Insider (Multiple Events for Individual Firm)			(2) Potential Stock Picker (Individual Events for Multiple Firms)			Difference: (1)-(2)	
	N	mean	t-value	N	mean	t-value	mean	t-value
CAR(0,2)%	1,665	1.10	5.63	1,005	0.003	0.01	1.10	3.95
Frequency%	1,665	54.62	4.97	1,005	50.63	0.55	3.99	2.68

Panel B. Performance for Two Subset of Tax Haven Accounts before Good Earning Shocks

	(1) Potential Insider (Multiple Events for Individual Firm)			(2) Potential Stock Picker (Individual Events for Multiple Firms)			Difference: (1)-(2)	
	N	mean	t-value	N	mean	t-value	mean	t-value
CAR(0,2)%	1,265	1.14	5.13	779	0.04	0.20	1.09	3.52
Frequency%	1,265	55.65	5.19	779	50.53	0.40	5.12	2.97

Panel C. Performance for Two Subset of Tax Haven Accounts before Monopoly Supply Contracts

	(1) Potential Insider (Multiple Events for Individual Firm)			(2) Potential Stock Picker (Individual Events for Multiple Firms)			Difference: (1)-(2)	
	N	mean	t-value	N	mean	t-value	mean	t-value
CAR(0,2)%	388	0.98	2.35	226	-0.14	-0.29	1.11	1.77
Frequency%	388	53.81	2.21	226	50.99	0.43	2.82	0.98

Figure 1
Dollar Trading Volume by Country of Origin Scaled by Population

This figure presents the natural log of total dollar trading volume (in KRW) during the sample period by accounts originating from foreign countries. The dollar trading volume is scaled by the population of each country. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009.

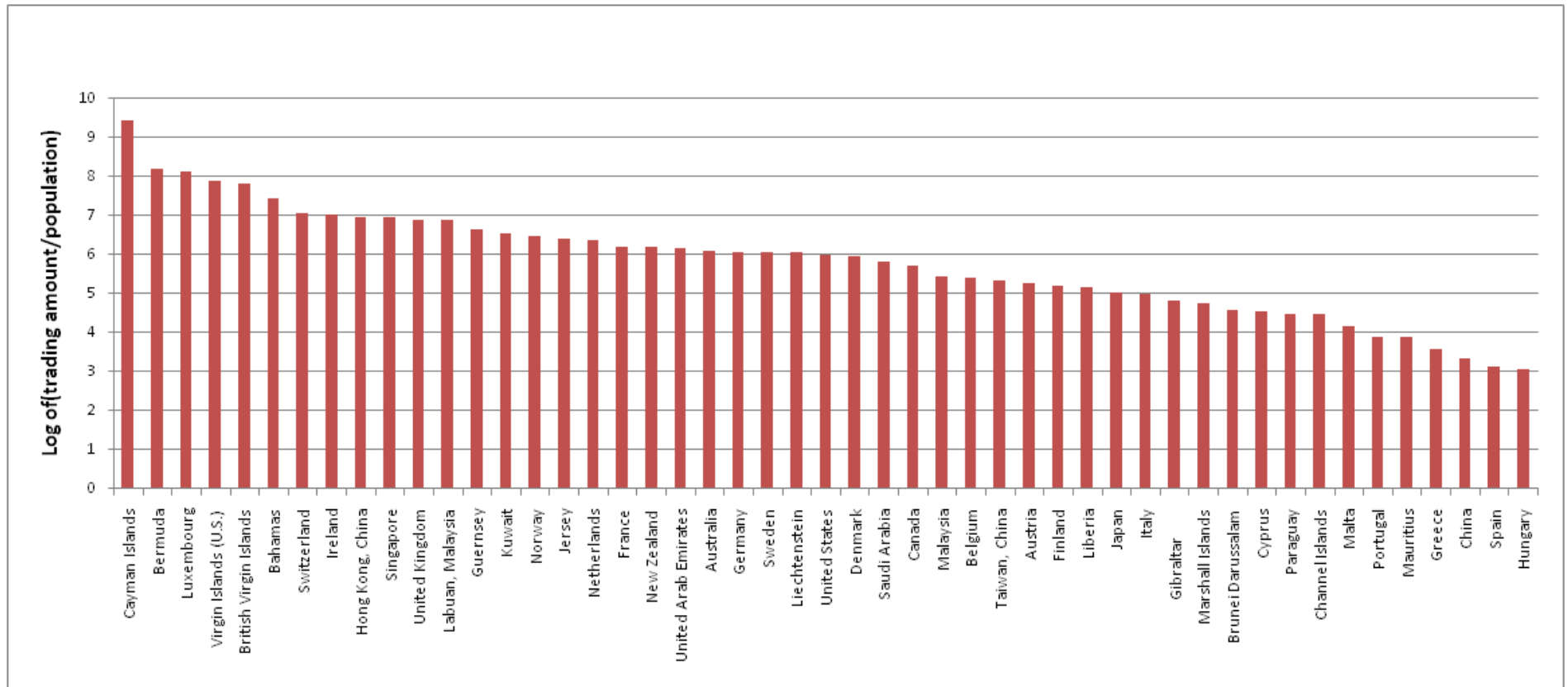


Figure 2. Average Return of Hedged Portfolios: Tax Haven vs. Others

This figure reports portfolio returns (in percentages) based on net purchases. For each trading day, we sort all stocks according to aggregated net purchases of each investor class scaled by the total dollar trading volume of the stock during the same day and group them into quintiles. We consider five investor classes; those from tax haven, U.K., other foreign countries, those of local institutions and local individuals. $t+1$ represents one day hedged portfolio return from buying the highest net buy quintile and selling the lowest quintile. Portfolio is formed just before the market close after observing the net purchase during the whole trading day. Hedged portfolio returns are calculated up to 5 days since the portfolio formation date. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009.

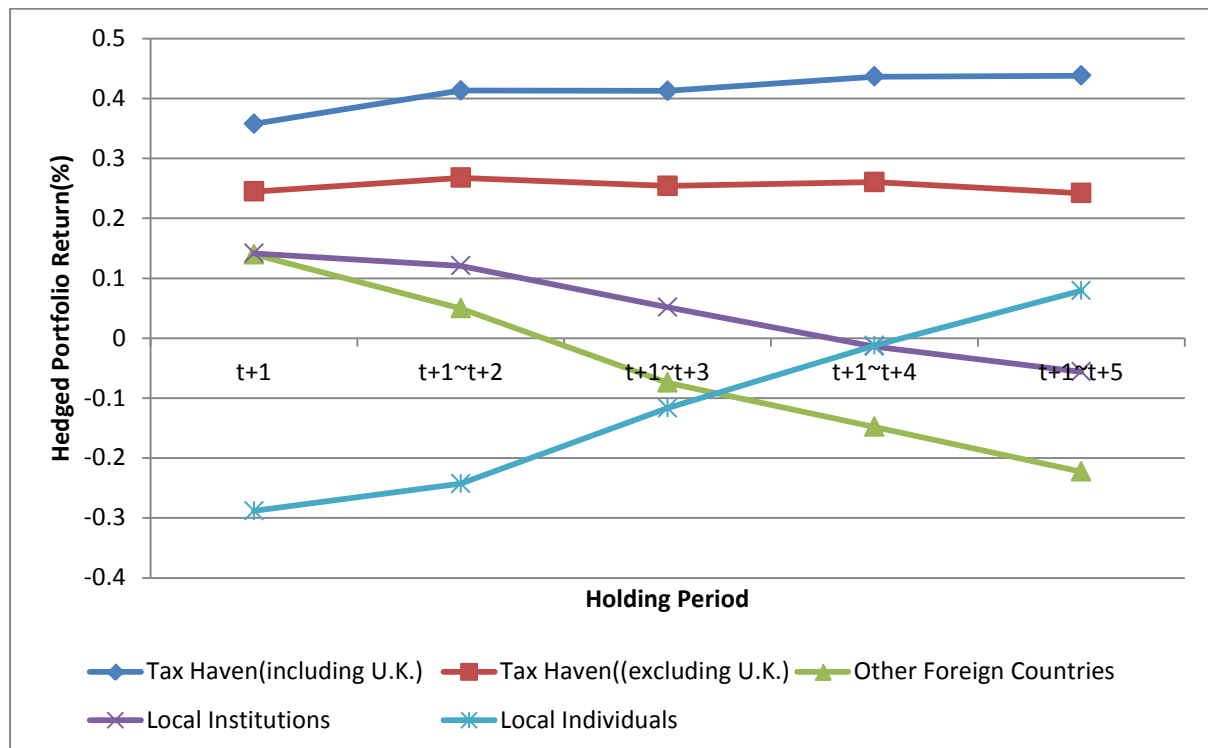


Figure 3
 Time-series Plot of Capital Flows from Tax Havens: Private Information vs. Tax Motivation

This figure shows time-series plot of capital flows from tax haven during 2006~2014. Monthly capital flows(net purchases of stocks) of top 30 countries are reported by the Korean Supervisory Services. We apply a filtering rule of at least 48 months observations, and finally obtain the 10 tax haven countries: Bahamas, British Virgin Islands, Bermuda, Cayman Islands, Hong Kong, Ireland, Luxemburg, Singapore, Switzerland, and Virgin Islands(U.S). This figure reports the monthly sum of net purchases from these tax havens. We also report the cumulative sum of net purchases from tax havens and the Korean tax rate.

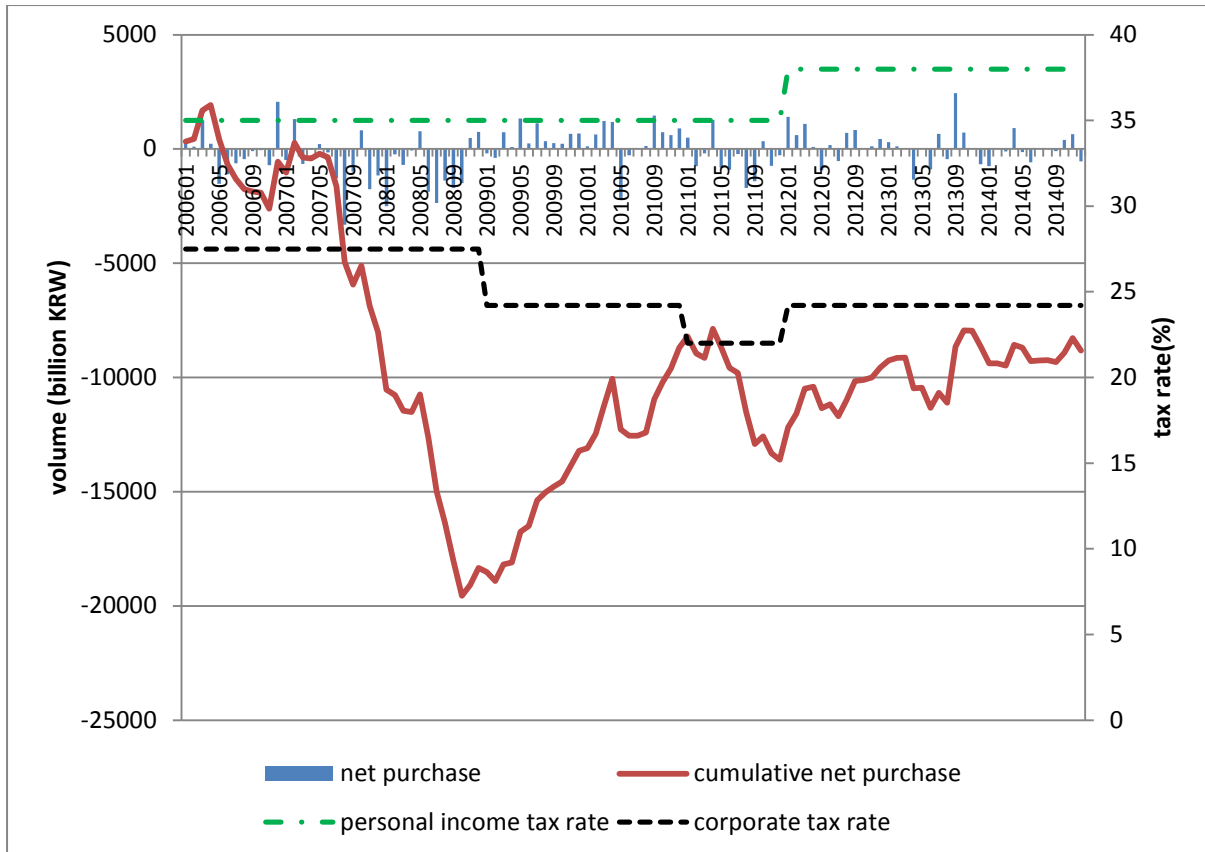
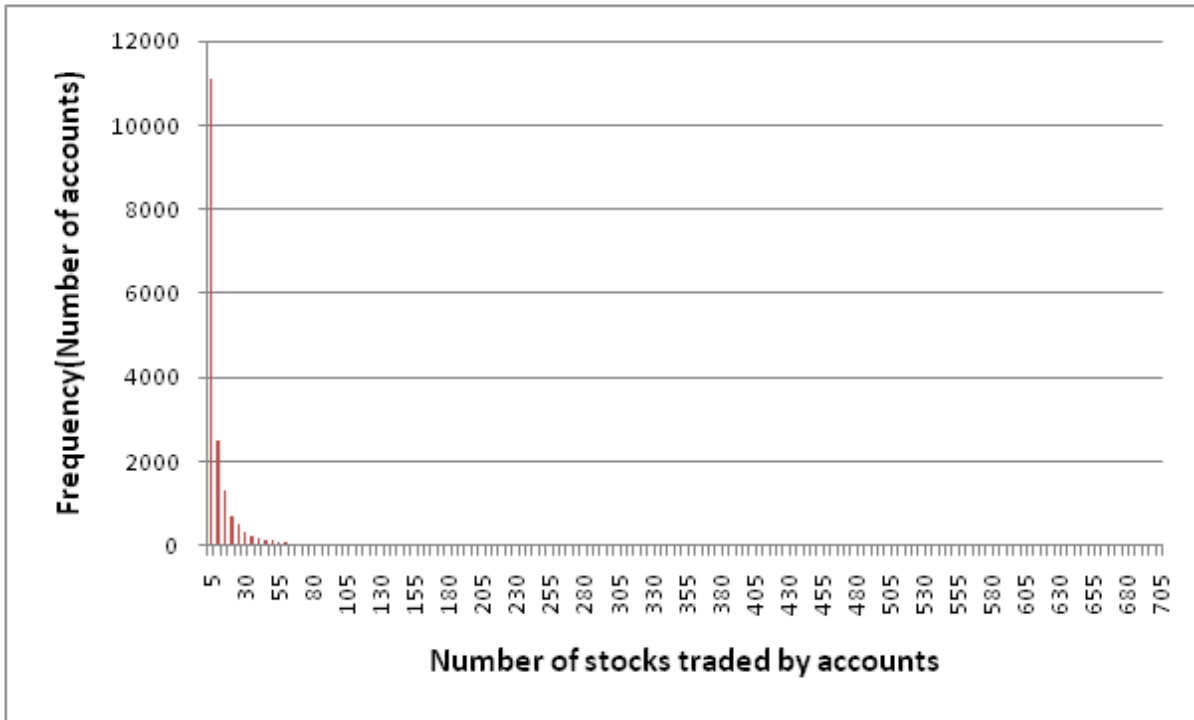


Figure 4
 Number of Stocks Traded by Tax Haven Accounts

This figure presents the distribution of the number of stocks traded by each account originating from tax havens. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009.

Panel A



Panel B

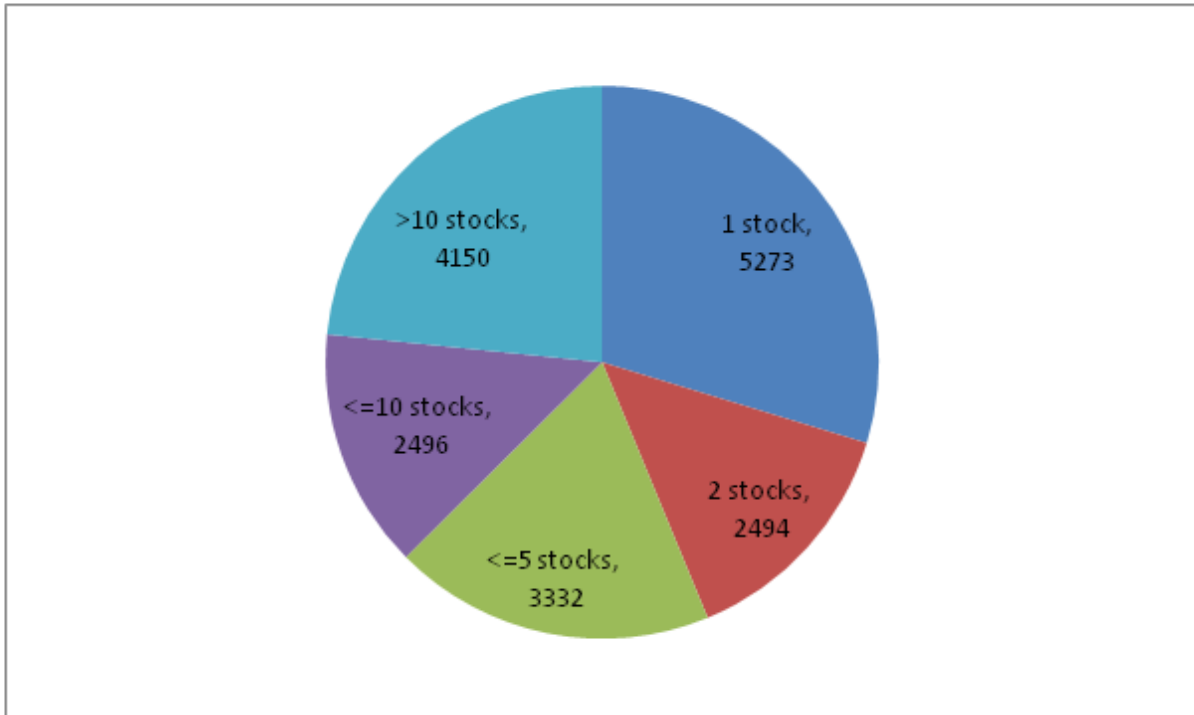
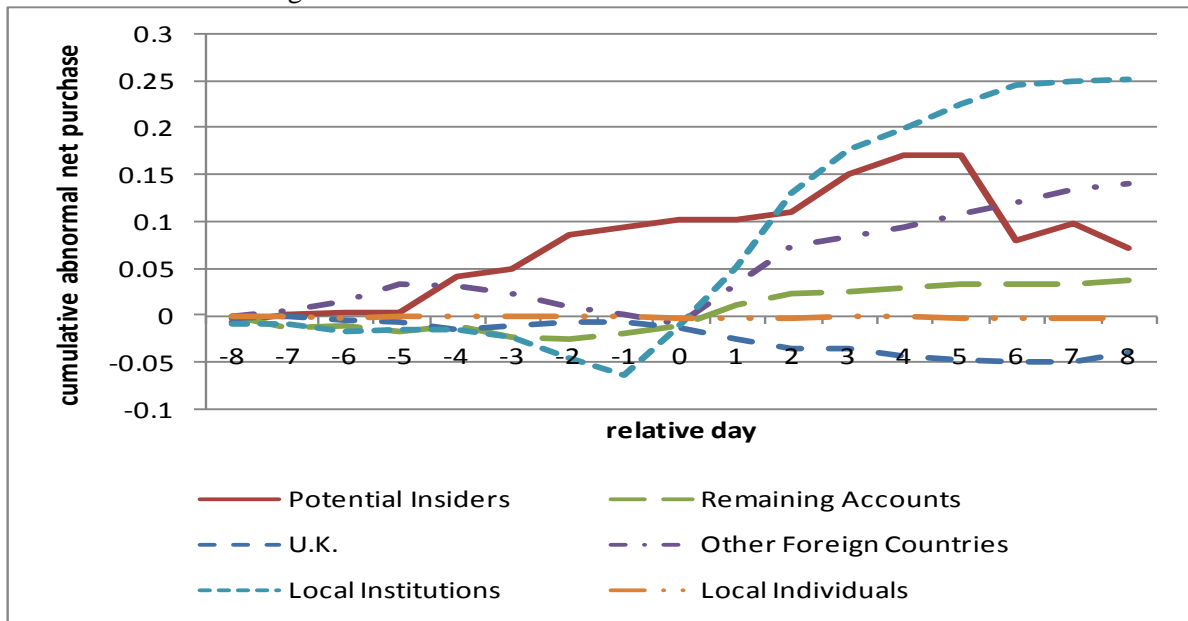


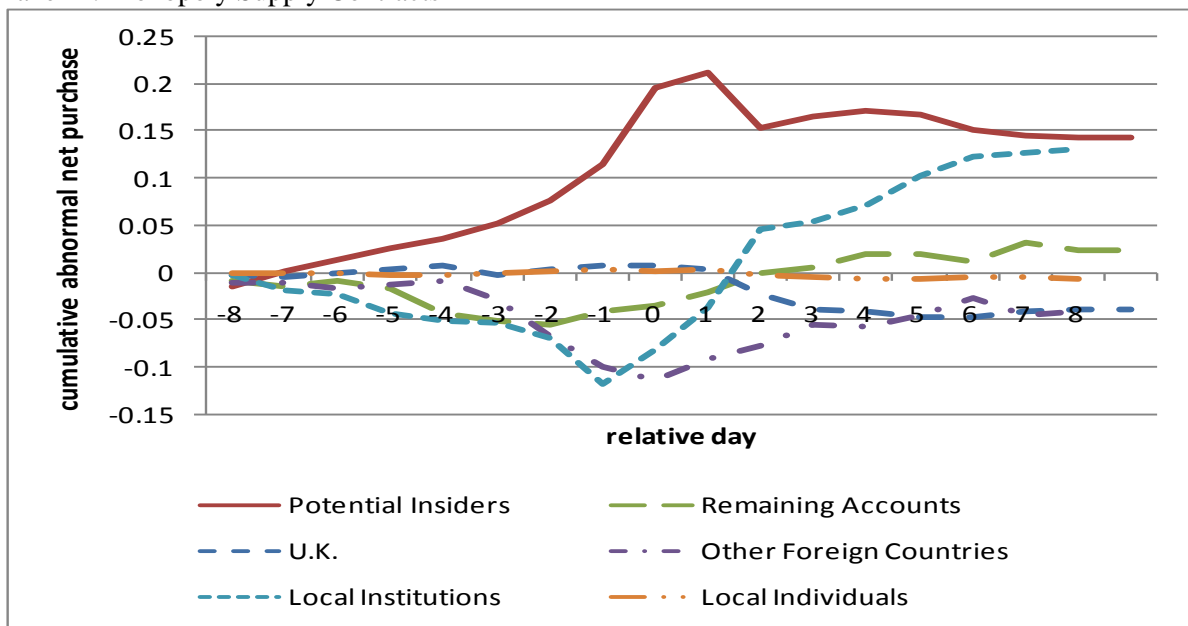
Figure 5
 Cumulative Abnormal Net Purchases around Good News: Insider Information vs. Stock Picking

This figure presents averages of cumulative abnormal net purchases of specific tax haven accounts around disclosures of potential good news. Abnormal net purchases are obtained by scaling the dollar amount net purchase by average dollar amount daily trading volume in that calendar year following Kaniel, Saar, and Titman (2012). Panel A reports the results for positive earnings shocks while panel B presents those for monopoly supply contracts. Those which trade only one stock or multiple stocks that belong to the same business group are classified as potential insider accounts. The dataset covers all accounts in Korea Exchange that traded stocks in KOSPI market from January 2006 to August 2009.

Panel A: Positive Earnings Shocks



Panel B: Monopoly Supply Contracts



Appendix Table 1. Summary of Trading Activity by Origin Country

This table reports the summary of trading activities of each account in our dataset where account holders originate from foreign countries from January 2006 to August 2009. The countries are sorted by the total trading volume. The bold letters indicate tax havens as identified by Hanlon et al. (2015) plus Labuan, Malaysia, a well known tax-haven in Korea.

	Number of Accounts		Average number of stocks traded per account	Trading Volume				
	N	(%)		Aggregate (KRW billion)			Per Account	
				Buys	Sells	Total (%)	Buys	Sells
United Kingdom	6,429	9.9	11.1	254,344	266,520	25.1	39.6	41.5
United States	22,405	34.6	7.1	154,810	166,110	15.5	6.9	7.4
Cayman Islands	6,324	9.8	9.1	76,304	79,831	7.5	12.1	12.6
France	615	0.9	13.8	58,229	52,592	5.3	94.7	85.5
Germany	1,050	1.6	11.9	47,258	48,864	4.6	45.0	46.5
Switzerland	660	1.0	14.8	45,387	45,791	4.4	68.8	69.4
Luxembourg	3,695	5.7	9.6	33,301	37,027	3.4	9.0	10.0
Hong Kong, China	1,480	2.3	10.7	31,310	34,205	3.2	21.2	23.1
Ireland	2,479	3.8	10.0	26,618	25,172	2.5	10.7	10.2
Singapore	1,289	2.0	10.9	21,956	27,549	2.4	17.0	21.4
Netherlands	1,098	1.7	11.9	19,137	20,767	1.9	17.4	18.9
Australia	2,097	3.2	6.4	13,302	14,416	1.3	6.3	6.9
Canada	3,540	5.5	5.7	9,965	9,012	0.9	2.8	2.5
Saudi Arabia	205	0.3	9.5	10,680	7,257	0.9	52.1	35.4
Norway	193	0.3	15.4	8,055	7,101	0.7	41.7	36.8
Japan	1,663	2.6	7.1	7,416	5,860	0.6	4.5	3.5
Bermuda	713	1.1	8.1	5,202	6,263	0.6	7.3	8.8
Sweden	447	0.7	11.8	5,214	6,100	0.5	11.7	13.6
Kuwait	152	0.2	12.4	4,990	4,421	0.5	32.8	29.1
Bahamas	259	0.4	12.0	4,361	4,670	0.4	16.8	18.0
Malaysia	591	0.9	7.7	3,107	5,562	0.4	5.3	9.4
United Arab Emirates	220	0.3	13.9	4,980	3,616	0.4	22.6	16.4
Virgin Islands (U.S.)	441	0.7	7.0	3,707	4,629	0.4	8.4	10.5
New Zealand	153	0.2	16.5	3,761	3,544	0.4	24.6	23.2
Italy	320	0.5	14.4	2,646	3,338	0.3	8.3	10.4
Taiwan, China	1,263	2.0	8.8	2,683	2,625	0.3	2.1	2.1
Denmark	393	0.6	8.7	2,094	3,013	0.2	5.3	7.7
China	1,493	2.3	11.3	1,746	1,155	0.1	1.2	0.8
Belgium	109	0.2	10.4	744	1,915	0.1	6.8	17.6
British Virgin Island	238	0.4	5.0	1,180	1,031	0.1	5.0	4.3
Austria	283	0.4	7.8	772	756	0.1	2.7	2.7
Finland	116	0.2	6.0	343	483	0.0	3.0	4.2
Labuan, Malaysia	23	0.0	5.9	372	318	0.0	16.2	13.8
Liberia	31	0.0	4.6	381	212	0.0	12.3	6.8
Guernsey	26	0.0	4.7	213	93	0.0	8.2	3.6
Jersey	34	0.1	4.0	158	90	0.0	4.6	2.6
Paraguay	12	0.0	32.7	103	103	0.0	8.6	8.6
India	35	0.1	4.8	97	57	0.0	2.8	1.6
Portugal	39	0.1	8.5	50	37	0.0	1.3	1.0
Int'l Organizations	26	0.0	2.6	23	50	0.0	0.9	1.9
Spain	12	0.0	6.5	34.36	30.10	0.0	2.9	2.5
South Africa	33	0.1	1.9	27.66	24.33	0.0	0.8	0.7
Russia	14	0.0	9.4	35.68	14.40	0.0	2.5	1.0
Liechtenstein	21	0.0	2.2	15.59	27.60	0.0	0.7	1.3

Appendix Table 1. - *continued*

	Number of		Average number	Trading Volume				
	Accounts			Aggregate (KRW billion)			Per Account	
	N	(%)	per account	Buys	Sells	Total (%)	Buys	Sells
Greece	27	0.0	11.2	21.65	21.05	0.0	0.8	0.8
Cyprus	5	0.0	2.2	24.43	15.82	0.0	4.9	3.2
Brazil	14	0.0	10.5	14.52	14.29	0.0	1.0	1.0
Thailand	21	0.0	9.3	19.64	8.77	0.0	0.9	0.4
Brunei Darussalam	8	0.0	2.9	10.50	5.34	0.0	1.3	0.7
Philippines	32	0.0	5.3	6.69	8.52	0.0	0.2	0.3
Hungary	3	0.0	1.7	0.04	11.65	0.0	0.0	3.9
Mauritius	7	0.0	7.4	5.81	4.85	0.0	0.8	0.7
Malta	5	0.0	1.0	6.08	0.00	0.0	1.2	0.0
Channel Islands	4	0.0	3.3	2.25	2.68	0.0	0.6	0.7
Israel	4	0.0	6.8	2.11	1.85	0.0	0.5	0.5
Marshall Islands	1	0.0	23.0	1.96	1.99	0.0	2.0	2.0
Vietnam	17	0.0	9.6	1.81	1.44	0.0	0.1	0.1
Mexico	2	0.0	10.0	1.44	1.34	0.0	0.7	0.7
Gibraltar	3	0.0	4.3	1.06	0.98	0.0	0.4	0.3
Poland	1	0.0	19.0	0.98	0.98	0.0	1.0	1.0
Pakistan	6	0.0	3.3	0.44	1.08	0.0	0.1	0.2
Indonesia	6	0.0	3.2	0.44	1.08	0.0	0.1	0.2
Chile	2	0.0	2.0	1.18	0.21	0.0	0.6	0.1
Argentina	4	0.0	4.8	1.00	0.36	0.0	0.2	0.1
Panama	5	0.0	1.4	0.23	0.62	0.0	0.0	0.1
Nigeria	2	0.0	6.0	0.20	0.19	0.0	0.1	0.1
Uzbekistan	6	0.0	4.2	0.17	0.18	0.0	0.0	0.0
Slovenia	2	0.0	6.0	0.10	0.08	0.0	0.0	0.0
Czech Republic	1	0.0	1.0	0.00	0.16	0.0	0.0	0.2
Peru	1	0.0	2.0	0.07	0.06	0.0	0.1	0.1
Sri Lanka	1	0.0	3.0	0.00	0.09	0.0	0.0	0.1
Turkey	2	0.0	1.0	0.00	0.09	0.0	0.0	0.0
Bahrain	1	0.0	1.0	0.00	0.08	0.0	0.0	0.1
Mongolia	4	0.0	3.3	0.03	0.03	0.0	0.0	0.0
Kazakhstan	1	0.0	4.0	0.03	0.03	0.0	0.0	0.0
Egypt	1	0.0	1.0	0.02	0.03	0.0	0.0	0.0
Monaco	1	0.0	1.0	0.01	0.00	0.0	0.0	0.0
Cambodia	1	0.0	1.0	0.00	0.00	0.0	0.0	0.0
Moldova	1	0.0	2.0	0.00	0.00	0.0	0.0	0.0
Unidentified	1,840	2.8	18.3	146,208	159,102	14.7	79.5	86.5
Total	64,761	100.0	8.5	1,013,444	1,061,457	100.0	15.6	16.4